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## Crowdsourced Landslide Tracking – Lessons from Field Experiences of Landslide Tracker Mobile App

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With the *Landslide Tracker* mobile app's launch to track landslides through a crowdsourcing model during the monsoon season of 2020, we learned several important lessons that may help us improve the data quality, volunteer participation, and participation from institutions. The '*Landslide Tracker*' mobile application allows tracking the landslides and details such as GPS location, date & time of occurrence, images, type, material, size, impact, area, geology, geomorphology, and comments. This app is available on Google Play Store for free, and at <http://landslides.amrita.edu>, with software conceived and developed by Amrita University in the context of the UK NERC/FCDO funded LANDSLIP research project (<http://www.landslip.org/>). The *Landslide tracker* app was released during the 2020 monsoon season, and more than 250 landslides were recorded through the app across India and the world.

Due to the nature of crowdsourcing, we have seen test entries, duplicate entries, entries with apparent mistakes such as the wrong location. In many cases, these entries were deleted by the administrator through proactive verification. To sustain the removal of invalid entries with continued usage, we can allow users to mark a landslide for verification. The administrator can remove invalid entries or approach the original contributor to update the data with minimum effort. Currently it takes under three minutes to record a landslide. To reduce the time further, it is requested to make a single page form to record date, location, images and few questions. To improve volunteer participation for contributing and validating landslide entries, we can implement digital rewards such as points, badges, titles, leader boards, etc. Additionally, allow users to like, comment, and share the landslide entries to improve the engagement. To improve the participation of universities, disaster management authorities, district authorities, and other governmental and non-governmental agencies for contributing and using landslide information, we can implement the institutional management functionality. It allows the institution to configure the staff and manager user. The manager can review, update, delete entries from the team, get reports on the contribution of the staff, and download and share the landslides contributed by the whole institution.