Department of Mines and Geology

G.E.O.S. | INGENIEUR-GESELLSCHAFT MBH

Implementation of countrywide landslide warning system for geotechnical emergency and risk prediction in Nepal

Department of Mines and Geology
Contact: Ram Prasad Ghimire
Email: rnksghimire@gmail.com
Phone: +977 9841279196

G.E.O.S. Ingenieurgesellschaft mbH
Contact: Dr. René Kahnt
Email: r.kahnt@geosfreiberg.de
Phone: +49 3731369407

Dimap HK Pty Limited
Contact: Dr. Holger Eichstädt
Email: holger.eichstaedt@dimap-spectral.com
Phone: +852 22678385

Geo 3D Modelling Pvt Ltd
Contact: Suman Sharma
Email: info@geo3dmodelling.com.np
Phone: +977 9842520354

KFW DEG

develoPPP
Where business meets development.

The project will be implemented within the develoPPP programme of the Federal Ministry for Economic Cooperation and Development (BMZ) and co-financed by DEG Impulse.

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dimap

GM GEO 3D MODELLING

Nepal has a Sustainable Development Strategy, which puts human beings in the centre of development. The development focus is on a harmonic combination of economic growth with social development and environmental protection; taking into account national security and social order and safety.

This project intends to establish a country-wide landslide warning system additionally to the existing warning for flooding and earthquakes in Nepal. The warning system will use modern Artificial Intelligence components to predict risks based on different scenarios. The implementation of the GeoSmart system and the extensive training of local experts with the handling of the system will reduce the number of annual victims and helps to develop the infrastructure in a sustainable considering the regions with high landslide risks.

The following steps will lead to the country wide landslide warning system, managed by DMG

WP 1: Establishment of hardware and existent basic data for GeoSmart Database
WP 2: Collection and analysis of high-resolution remote sensing data and historic satellite data to setup the specific AI for Nepal
WP 3: Improvement of the accuracy of GeoSmart through integration of weather data
WP 4: Development of early warning cell phone app and testing and operation of the early warning system

The following capacity building activities are planned in collaboration between German and Nepalese specialists:

• Mapping of historic landslides combined with local data and training of a risk prediction system based on AI for the GeoSmart warning system
• Information and training of the Department of Mines and Geology (DMG) and other staff from provincial authorities
• Training of Lectures at Tribhuvan University to continue the lectures delivered by GEOS during the project term

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