GEOSENSE

Geohazards

CRiP, Sri Lanka

PROJECT SUMMARY

PROJECT NAME: CRiP (Climate Resilience Improvement Project)

PROJECT DATE: 2021

CLIENT: Ministry of Irrigation and Water Resources Management

CONTRACTOR : ELS Construction (Pvte) Ltd

INSTRUMENTATION SPECIALIST: ELS Construction (Pvte) Ltd

OVERVIEW

Climate Resilience Improvement Project (CRIP) was commenced in 2014 and implemented under Ministry of Irrigation and Water Resources Management with the financial facility of the World Bank. key implementation agencies include the Department of Irrigation (ID), Road Development Authority (RDA), Mahaweli Authority of Sri Lanka (MASL), National Building Research Organisation(NBRO) and Provincial Road Development Department (PRDD). Project Management Unit (PMU) of the CRIP is located in premises of the Ministry.

In this phase of the project, 5 strategic landslides have been identified as posing a significant risk to local inhabitants and / or main public highways. The sites are located around the periphery of the Central Plateau at Hunnasgiriya, Hakgala, Beragala, Kithulgala, and Ginigathena.

MONITORING

Monitoring of ground movements, groundwater levels and pore water pressures was necessary for long-term monitoring to establish any impending instability.

Each site was instrumented with specially designed GEO- XW100 Long Wire Rotary Wire Extensometers, high-volume Rain Gauges and SGP-3400 Strain Gauge piezometers for observation wells and piezometers. In addition, several In-Place Inclinometers with up to 20 sensors were also installed in high risk locations complemented by and manual monitoring with Portable Inclinometers in other locations.

All instruments are individually equipped with radio-enabled CR Series dataloggers and each site has a GSM connected Radio Gateway to provide remote data gathering and processing. The Gateways have the capacity to analyse the incoming local instrument data and trigger local alarm posts by SMS as well as sending alarm messages to specific key personnel.

PRODUCTS USED

GEO-XW100 Rotary Wire Extensometer
To monitor large surface movements

SGP-3400 Strain Gauge Piezometer
Monitors groundwater levels and porewater pressures

In-Place Inclinometer
Automatically monitor sub-surface lateral movements in slopes

Portable Inclinometer
To monitor sub-surface lateral movements in slopes

CR Series Data logger
Automatically stores and transfers data from all instruments

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