

Date of Submission	
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**World Centre of Excellence (WCoE-XX) 2017-2020
Progress Report Form 2019**

1 January 2018 to 31 December 2018

1. Short Title of WCoE - NBRO
2. Name of Institution - National Building Research Organisation
Name of Leader : Eng. (Dr.) Asiri Karunawardena
3. List of core members

Name	Affiliations
Geol. R. M. S. Bandara	Director, Landslide Research & Risk Management Division
Geol. K.N. Bandara	Director, Geotechnical Engineering Division
Eng. S.H.S. Jayakody	Geotechnical Engineer, Geotechnical Engineering Division
Ms. Imaya Ariyaratne	Geologist, Landslide Research & Risk Management Division

4. Progress report of activities up to 31 December 2018 (up to 30 lines)

SATREPS Project

Rain induced rapid and long-travelling landslides are one of the biggest challenges faced by Sri Lanka as a nation. Predicting the probability of occurrence of such an event is a contemporary need and hence, necessary steps can be taken to minimize the social and economic losses. NBRO, together with ICL submitted a proposal named “Rain-Induced, Rapid and Long-Traveling Landslides” and received the approval from SATREPS. This project is based on two pilot sites, namely Aranayaka and Athwelthota.

Establishment of End to End landslide Early warning systems

NBRO has successfully completed installation of 250 rain gauges by year 2018 covering most catchment areas. Based on the real time data received via automated rain gauges and local community early warning program, issuance of early warning is made possible.

Landslide Mitigation (Structural)

During 2018, NBRO has completed many landslide mitigation projects under different sources of funding.

1. CRIP – Climate Resilience Improvement Program – funded by The World Bank
 - a. Mitigation of landslide and unstable slopes in and around 18 schools in Kandy District
 - b. Mitigation of unstable slopes & landslides in major highways in hilly area (26 sites)

- c. Under CRIP UVA - mitigation of unstable slopes & landslides in provincial road network
 2. LDPP – Landslide Disaster Protection Project Funded by JICA
 3. Landslide Mitigation Program funded by the Government.
5. Plan of future activities (up to 30 lines)

SATREPS Project

The capacity for “RRLL” early warning is strengthened by integrating newly developed individual technologies at two pilot sites. The Project “RRLL” has main three activities to achieve the above-mentioned overall goal of the project. They are 1) site prediction of landslide initiation and motion, 2) time prediction of heavy rainfalls and pore water pressure build-up, and 3) effective risk communication and public education. This project is carried out as a pilot project and application of technologies and the experience will be used to develop countermeasures for other major landslides in country.

SABO Project

NBRO Continued the project, “Structural and non-structural measures for effective mitigation of landslides and associated hazards and related capacity strengthening” with the assistance of JICA

RLVMMP Project

NBRO has taken the initiative to carry out structural measures to reduce the landslide vulnerability at 147 sites in landslide prone areas in Sri Lanka under Reduction of Landslide Vulnerability by Mitigation Project funded by Asian Infrastructure Investment Bank.

Nature Based Landslide Risk Management Project

NBRO continued this project with the technical assistance of ADPC and financial support of The World Bank for the application of nature-based and hybrid (engineering and nature based) approaches in landslide risk management.

6. Publication (in Landslides, proceedings, meeting reports, or WEB)
- Khang Dang, Kyoji Sassa, Kazuo Konagai, Asiri Karunawardena, R. M. S. Bandara, Kiyoharu Hirota, Qinwen Tan, Nguyen Duc Ha, “Recent rainfall-induced rapid and long-traveling landslide on 17 May 2016 in Aranayaka, Kagelle District, Sri Lanka”, Landslides (2019) 16: 155-164

9th NBRO Symposium Proceedings – 2018 under theme of Innovation for Build Back Better