



スリランカにおける降雨による高速長距離土砂流動災害の早期警戒技術の開発
Development of early warning technology for rain-induced rapid and long-travelling landslides in Sri Lanka

◆ Workshop for officers at Aranayake DS Office
March 26, 2024

The National Building Research Organization (NBRO), in collaboration with the International Consortium on Landslides (ICL), organized a workshop for the officers at the Aranayake Divisional Secretariat (DS) office on March 26. Since the local officers are the key persons to connect the developed RRLN prediction technology with local people, knowing how they can utilize Augmented Reality (AR) is essential. The workshop was completed successfully with 39 participants and Mrs. Shamali Piyathissa (Aranayake DS office) (Figure 1).



Figure 1: Local officers talking about AR

Dr Imaya Ariyaratna introduced the SATREPS Project, which helped to familiarise all the participants with the project's ongoing and completed activities. Following the presentation, an AR view showing predicted mountain rains and RRLN occurrences one day in

advance laid over the background Google Satellite map was demonstrated. Then, the audience was split into four to five groups to try out the new system and summarize their impressions and ideas (Figure 2). The workshop was wrapped up with their suggestions on what they felt should be improved in the future.



Figure 2: writing the impression of AR in group work

◆ Workshops at Hathgampala Primary and Secondary Schools

March 27 and 28, 2024

The workshops for the Hathgampala primary and secondary schools were conducted on March 27 and 28 for grades 05 of primary and grade 10 of secondary students. About 60 and 41 participants joined the workshops at the primary and secondary schools, respectively. Dr. Imaya Ariyaratne, Mr. Priyantha Bandara, and Ms. Tania Munasinghe chaired the workshops. The training program for teachers to lead

the pupils' town-watching activities was first carried out. The introductory session (Figure 3) and the roleplay of the Aranayake landslides were presented (Figure 4).



Figure 3: Introductory session at the primary school



Figure 4: Roleplay at the Secondary School

They learned about landslide topography using stereoscopic glasses and anaglyph maps (Figure 5). After getting a general idea about the landslide, four groups of students and their teachers carried out the town-watching field activity (Figure 6). This vital tool allowed students and teachers to identify the risk areas related to the landslides in their surrounding areas. The risk area map from the fieldwork was created with experts in interpreting topography and presented by the four groups at the end of the workshop (Figures 7 and 8).



Figure 5: Recognizing the landslide topography with red-blue glasses



Figure 6: Town Watching led by Prof. Miyagi, an expert of interpreting topography



Figure 7: Presentation after the town watching by each group at the primary school



Figure 8: During the Students' Group Presentations

This workshop provided an excellent opportunity to engage master trainers (teachers) in educating pupils and coaching new trainers less experienced in disaster risk reduction education. All the students who participated in the workshop received participation certificates (Figure 9).



Figure 9: Pupils received certificate of participation at the primary school workshop

◆ Workshop of SATREPS Project RLL for the Community of the Elangapitiya and the Podape

August 09 and 10, 2024

The community workshops were conducted on August 9 and 10 for the community at Elangapitiya and Podape, Arayanke, with 42 and 33 participants respectively. The

workshops were requested by the community leader of Elangapitiya and a development officer of Podape. It was chaired by Dr. Imaya Ariyaratne Mr. Priyantha Bandara, and Ms. Tania Munasinghe. The ICL Japanese experts and Dr. Jayalath Edirisinghe from the University of Peradeniya actively participated throughout the workshop. The workshop started with

the introduction of the landslides and the risk reduction. The stereoscopic glasses and anaglyph maps were used to educate the participating community (Figure 10).

Figure 10: Recognizing the landslide topography with



red-blue glasses – Elangapitiya Community

This introductory session mainly covered the landslides' topography and safer and risky areas in the Elangapitiya and the Podape area (Figure 11).



Figure 11: Introduction session before the Town Watching Activity – Podape Community

After getting a general idea about the landslide, two groups of villagers carried out the town-watching field activity. The NBRO and ICL experts assisted the villagers using the town-watching point sheets to

indicate the safer and riskier regions on the provided maps. This vital tool allowed villagers to identify the risk areas related to the landslides in their surrounding areas, and the risk area map from the fieldwork was created with experts in interpreting topography and presented by the two groups at the end of the workshop. The Safer Area anaglyph A₀ map prepared by Prof. Toyohiko Miyagi was donated to the two communities for village usage (Figures 12, 13, and 14).



Figure 12: During the Town Watching Activity – Elangapitiya Community



Figure 13: During the Final Map Preparation – Podape Community

This workshop gave the excellent opportunity to engage community people in how to identify the safer and risky areas in their village by themselves.



Figure 14: August 11, 2024 – Podape Community Workshop

◆ Greetings from the project leaders

As the project enters its final fiscal year in 2024, it has reached the stage at which community engagement will be promoted further. This last piece of the project's Jigsaw puzzle includes the village-watching activities involving local people and relevant officers with jurisdiction over the area.

Though the developed AR viewing system is superior in that it can transfer crucial information about predicted rain and possible landslide (RRL) disasters one day in advance, residents and the relevant officers must understand the forecast information correctly and take appropriate actions according to the local conditions.

As described in this Newsletter, the village-watching activities have addressed the abovementioned issues. We are delighted that Sri Lanka's human resources have been developed to support these activities.

Village-watching activities are expected to continue even after the project to further promote the steady social implementation of the developed early warning technologies.