

# buletin seadpri

institut kajian bencana asia tenggara  
southeast asia disaster prevention research institute

NEWSLETTER  
JULY 2011

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Visi **SEADPRI**  
Vision

Peneraju penyelidikan dan  
perkongsian ilmu berinovatif  
secara syumul mengenai bencana

Leader in innovative research  
knowledge sharing on holistic  
disaster prevention

[www.ukm.my/seadpri](http://www.ukm.my/seadpri)

## Pengurangan Risiko Bencana Terintegrasi Integrated Disaster Risk Reduction

Ibrahim Komoo



Photo by : Reuters

Asia Tenggara merupakan rantau yang paling terancam oleh bencana alam. Pendedahan terhadap bencana geologi – gempa bumi dan tsunami, letusan gunung berapi, gelinciran tanah; dan bencana iklim – banjir, kemarau, dan ribut, telah menyebabkan jutaan komuniti yang berada di kawasan berisiko terdedah kepada ancaman bencana ini.

Pengalaman dari kejadian bencana yang lepas menunjukkan, apa pun jenis bencana yang melanda, sejumlah kawasan yang luas di Asia Tenggara berhadapan dengan risiko pelbagai (multi) bencana. Tambahan pula, bencana utama seperti gempa bumi, letusan gunung berapi, dan ribut akan mencetuskan bencana sampingan seperti gelinciran tanah, tsunami, dan banjir. Pendekatan semasa melihat risiko bencana secara sektoral, tidak akan mampu mengurangkan risiko bencana terhadap komuniti yang berada pada zon multi-bencana.

Oleh itu, pengurusan bencana secara terintegrasi perlu diarusperdanakan dalam perancangan, pelaksanaan dan pemantauan projek pembangunan. Pendekatan terintegrasi adalah kritikal untuk mengurangkan risiko bencana. Pendekatan terbaik ialah dengan memperkenalkan pengurusan bencana secara holistik dalam semua agenda pembangunan dengan memberikan perhatian kepada hubungan sains dan polisi untuk melaksanakan program dan aktiviti yang boleh mengurangkan risiko bencana.

*Southeast Asia is one of the most vulnerable parts of the world to natural disaster. The region is frequently exposed to geological hazards -earthquake and tsunami, volcano eruption, landslide; and climatic disasters – flood, drought, and storm, which resulted millions of community that in the risky area at threat.*

*Historically, regardless of the type of hazards, whether geological or climatic, the impacts are enormous, and many areas are exposed to multiple disaster risks. Major disasters, such as earthquakes, volcanic eruptions and storms, trigger cascading disasters such as landslides, floods and tsunamis. Currently, the approach for managing disasters in most countries in Southeast Asia is sector-based, and this approach is not the most effective and comprehensive solution for communities located in multiple hazard zones.*

*Therefore, it is critical that an integrated approach is mainstreamed in development planning with emphasis on policy integration, especially in the context of multi-disaster events and linkages between disasters.*



Catatan ini merupakan ringkasan artikel 'Integrated disaster risk reduction in the Southeast Asian region' oleh Ibrahim Komoo dalam *Risk Return* (2011) terbitan International Strategy for Disaster Reduction (ISDR)  
<http://www.unisdr.org/we/inform/publications/20253>

## Climatic Hazards

# Pursuing Regional and International Research and Outreach Activities on Climate Change Adaptation

*Tan Ching Tiong*



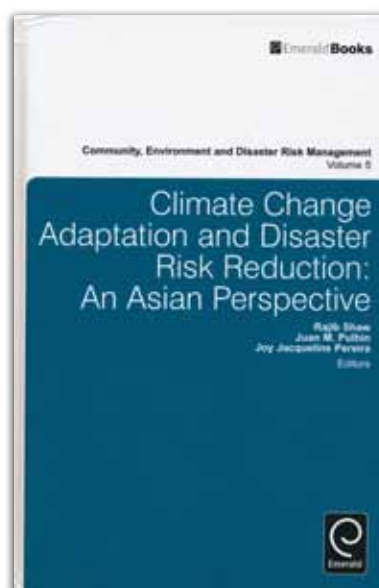
SEADPRI-UKM supported in the Workshop on Development and Implementation of Climate Change Adaptation Strategies in Coastal Areas in Vietnam on 4-6 January 2011 in Vung Tau, Vietnam.

The Climatic Hazards Programme of SEADPRI-UKM has been expanding its research activities in 2011. There are two new projects at the regional level. The first is on Mainstreaming Climate Change into Water Resources Planning and Management in the Citarum River Basin, Indonesia, funded by ADB/AECOM Asia in collaboration with other institutions. SEADPRI-UKM will support the integration of climate change concerns in water resource management of the basin as well as in the design and implementation of pilot adaptation activities on water conservation and climate-proofing water infrastructure. The second project, funded by Kyoto University, is a comparative assessment of the role of state and non-state actors in generating awareness on climate change and urban freshwater scarcity in Chennai and Kuala Lumpur.

In January 2011, the Climatic Hazards Programme collaborated in a workshop for the preparation of the project documents for the Development and Implementation of Climate Change Adaptation Strategies in Coastal Areas in Vietnam (VIETADAPT) Project, held in Vung Tau, Vietnam. The Climatic Hazards Programme will participate in the project in order to learn from its implementation process with a view to further develop an interdisciplinary cooperation in the region.

The participation of the Climatic Hazards Programme in the Intergovernmental Panel on Climate Change is also continuing. As the Coordinating Lead Author to the Asian chapter, Prof. Dr. Joy Jacqueline Pereira attended the First Lead Author Meeting

on 11-14 January 2011 in Tsukuba, Japan, which kicked-off the activities of the Working Group II on Adaptation. Subsequently, she participated in the working group's Asian Regional Expert Meeting on 16-18 March 2011 in Dhaka, Bangladesh. With respect to the Special Report on 'Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation' (SREX), Prof. Pereira attended the SREX Fourth Lead Authors Meeting that aims to review the second order draft report.



*Emerald Book Climate Change Adaptation and Disaster Risk Reduction: An Asian Perspective*  
Editors: Rajib Shaw, Juan M. Pulhin and Joy Jacqueline Pereira

## Geological Hazards

# Fatal Landslide at the Children's Hidayah Madrasah Al-Taqwa Orphanage, Hulu Langat

*Tajul Anuar Jamaluddin & Lim Choun Sian*



A close-knit village on the outskirts of Kuala Lumpur was grieving on Sunday for the death of 16 people, mostly children, after an orphanage was hit by a devastating landslide. Nine other people survived and were rescued under the landslide debris. The incident took place at around 2:30pm, Saturday 21st May 2011, at the Children's Hidayah Madrasah Al-Taqwa orphanage in Hulu Langat, just south of the capital Kuala Lumpur. There were 49 residents at the orphanage, 44 boys and five caretakers. The disaster struck while the children were practicing traditional Malay 'kompang' drums under a tent near a steep slope. The tragedy sparked public outrage. After several fatal landslide incidents in this country, shouldn't we have enough lessons to learn?

Soon after receiving the news about the landslide, Mr. Lim Choun Sian, the Research Officer of SEADPRI-UKM went to the site on that evening. However, nothing much could be done because of heavy downpour, the crowded scene and tight control by the rescue team. With his hand-held GPS, he managed to get the coordinate of the site (Lat: 3° 8'19.14"N, Long: 101°48'52.28"E). The next morning, Mr. Lim Choun Sian and Prof. Madya Dr. Tajul Anuar Jamaluddin, the Coordinator of Geological Hazards Programme of SEADPRI-UKM, set up to visit the site. A pair of Google Earth Images, dated 2004 and 2008, was printed out as a base map. From the 2004 Google image, it revealed that logging activities had already taken place on the top of the hill slope well before 2004. Scars of the land clearing activities are still visible in the 2008 Google Earth's Image. Substantial modifications to the sloping ground

have been causing the water runoff to flow directly towards the failed slope, encouraging infiltration of water into the slope body for years before the slope finally gave way on that fatal Saturday. This was confirmed by a quick field investigation carried out by the SEADPRI's team above the failed slope.

Investigations into the incident have so far revealed that the orphanage, which was built about 15 years ago, did not have any permit or approval from local authorities to be built. The slope was cut too steep, more than 75% and also too high, up to 25 to 30m, without any slope benching, drainage system or slope protection structures. This suggests that the construction of the cut slope was not supervised by professionals. The orphanage was also built too close; only about seven metres away from the cut slope. Though it was not raining when the landslides occurred on Saturday afternoon, wet weather in the past few days was the likely cause. From estimation, about 3,500 cubic metres or 600 lorry loads of soil had slipped and hit the orphanage, leaving a mound of loose soil and core stone boulders of about four metres high and 54 metres wide.

An open report on the landslide incident has been prepared by the SEADPRI-UKM experts based on a quick geoforensic investigation carried out on the scene. The report gives the full insight on the geological aspects and the recommended short, medium and long terms measures to be considered by the stakeholders in dealing with such landslide incidents.

## Technological Hazards

### Recent Disaster in Japan: Cascading Effect from Natural to Technological Disasters

*Lee Yook Heng & Mohamad Ezuan Abdul Jalil*

On 11 March 2011 Japan was hit by natural disasters, an earthquake with 9.0 Richter scale magnitude and subsequent tsunami. No one expected further disaster of technological origin. But the impact of the tsunami caused severe damage to both operating and backup cooling system of Fukushima Daiichi nuclear power plant in Fukushima Prefecture. As a result of the tsunami, all three nuclear reactor cores fail to cool down spreading imminent danger of meltdown and loss of containment of radioactive materials to the environment. The Japanese Government tried their best to curb the incident as it escalated to disaster level (INES Level 7) which was recognized as one of emerging technological risk. This resulted in a more severe impact than that of international concern. Previous similar events are the infamous Three Miles Island, US in 1979 (INES Level 5) and Chernobyl, Ukraine in 1986 (INES Level 7), which sparked concern over nuclear power generation prospect. The Japanese disaster event is a good example of cascading disasters.

Cascading disasters can be interpreted as one event in a disaster that is connected via a causal sequence to the next event. Hence, disaster can be viewed as consisting of inter-related cascading causation sequences, at the initiation of the disaster to its final ending. Although the concept of cascading disasters is often mentioned theoretically in terms of hazard and disaster, not much has been done to develop methods, especially for the application of existing available theories. Occurrence of disaster should be considered in terms of "systems" where disaster events occur within natural systems. However, disaster practitioners rarely adopt systems thinking. Thus, disasters are usually investigated in a fragmented manner, where one aspect of a disaster is considered at a time. These

fragmental approaches may not identify extremely dangerous threats that are hidden within a disaster such as that of nuclear power plant damage following an earthquake and tsunami that had occurred in Japan. Therefore, in disaster assessment, particularly for cascading disasters, assessments should be viewed in terms of component within systems framework rather than list of items to be considered individually. That is to say hazard and disaster analysis should not be studied as selected isolated point threats, without any relation to their constituent cascading threat sequences.

To adopt the "systems thinking" approach for cascading disaster management, cascading disaster modelling (e.g. cascading threat models) has been proposed to serve as the basis for conducting hazard and risk analyses where such analyses can be developed further into action plans. Sometimes such approach is termed as "disaster systematics." The concept is best explained by assuming disasters begin with a single primary threat and later occur as sequences of events and the term "secondary hazards" is used to represent the sequences of events collectively.

Looking into the future, Malaysia plans to complement her energy needs via nuclear power. Before we venture into such form of energy generation, disaster risk analysis will be needed to ensure we obtain the best from such energy source without compromising the safety and health of our Malaysian population. A proper investigation of disaster risk, especially adopting cascading disaster modelling will allow a better decision in adopting nuclear energy source and implementing nuclear energy policy for the country.



## Activities



### Global Platform for Disaster Risk Reduction Third Session, Geneva Switzerland – May

*Mohd Khairul Zain bin Ismail*

The Third Session of the Global Platform for Disaster Risk Reduction (DRR) was held on 8-13 May 2011 in Geneva, Switzerland. UN Secretary-General Ban Ki-moon opened the Third Session of the Global Platform for Disaster Risk Reduction (DRR), which is being attended by approximately 3,000 participants, including representatives from over 170 governments, 20 ministers and 30 mayors, and 100 non-governmental organizations (NGOs). Throughout the day, participants met in high-level plenary sessions, roundtables on preparedness, nuclear emergencies, local action and wildfire risk, as well as a dialogue with parliamentarians and mayors and a briefing on the 2011 Global Assessment Report. Delegates from Malaysia, headed by Hon. Dato' Seri Mohamed Nazri bin Abdul Aziz, Minister at the Prime Minister's Department, comprised of representatives from the National Security Council, Ministry of Health, Malaysian Meteorological Department, Kuala Lumpur City Hall, Perbadanan Putrajaya, Storm Water Management and Road Tunnel (SMART), Universiti Utara Malaysia, and Southeast Asia Disaster Prevention Research Institute (SEADPRI-UKM).

Held under the theme "Invest Today for a Safer Tomorrow – Increased Investment in Local Action," the meeting built on the findings and recommendations of the Global Platform's second session held in 2009, as well as the results of the Midterm Review of the Hyogo Framework for Action and the 2011 Global Assessment Report on DRR. The Global Platform also included the first World Reconstruction Conference (WRC), hosted by the World Bank, creating even further opportunities to highlight and address development challenges in responding to disasters triggered by natural hazards. SEADPRI-UKM looks forward to continuously supporting the National Security Council in providing relevant data on disaster-related and also tracking the implementation of HFA at national, local, and regional level.

### Disaster Awareness Day – February Melaka International Trade Centre, Melaka

*Tan Ching Tiong*

*Hari Kesedaran Bencana 2011* (Disaster Awareness Day 2011) was held for the first time in Malaysia to raise public awareness on disaster risks as well as promote commitment among country leaders, decision makers and local authorities towards government efforts in disaster management and disaster risk reduction (DRR). The programme, themed as "Enhance National Resilience through Disaster Risk Reduction," was organised by the National Security Council (MKN) with cooperation of the Ministry of Education, Ministry of Health and Ministry of Housing and Local Government Malaysia as well as support of United Nations International Strategy for Disaster Reduction (UNISDR) and ASEAN Secretariat. It was held on 18-19 February 2011 at Melaka International Trade Centre. Several activities were carried out during the event, including:

- o Launching of national level campaign on 'One Million Safe Schools and Hospitals' and 'Making Cities Resilient – My City is Getting Ready';
- o ASEAN Knowledge Sharing Workshop on Mainstreaming DRR in Education;
- o National Seminar on Disaster Management and Cities, Hospitals and Schools Safe from Disasters; and
- o 1 Malaysia Exhibition on DRR.

More than 500 participants, mainly from relevant government agencies and state and local authorities attended the program. In addition of the opening and closing plenary sessions, four parallel sessions were organised during the two days, covering Roles of Local Authorities in DRR, ASEAN Knowledge Sharing Workshop on Mainstreaming DRR in Education, Hospitals Safe from Disasters, and National Mechanism on Disaster Management. Southeast Asia Disaster Prevention Research Institute (SEADPRI-UKM) supported



MKN in several roles, including moderating the opening plenary session, rapporteuring the programmes and drafting of declaration.

The programme was closed by the Deputy Prime Minister, Y.A.B. Tan Sri Muhyiddin bin Mohd Yassin, who announced the nomination of Kuala Lumpur City, Melaka and Putrajaya as the Role Models with regard to the country participation in the "Resilient Cities: My City is Getting Ready" as well as YAB Chief Minister of Melaka as the Champion of this campaign. With our participation in the international campaign, the Deputy Prime Minister hoped that other City Mayors and administrators of local governments across the country will be encouraged to learn from the good practice of the Role Model cities.

As a result of the programme, the "Melaka Declaration on Disaster Risk Reduction in Malaysia 2011" was adopted by the participants. The Declaration calls upon national, state and local stakeholders to advocate lead and champion actions on national mechanism for disaster management, role of local authorities for DRR, mainstreaming of DRR in education and keeping schools and hospitals safe from disasters. While reaffirming the country's commitments towards international and regional activities, the need to establish a national platform and comprehensive legal framework for disaster management in Malaysia is underlined. Integration of climate change adaptation, including in implementing the National Policy on Climate Change, is recognised in order to address changing nature of disaster risk brought about by climate variability and change. While being proud to have served MKN in drafting the Melaka Declaration, SEADPRI-UKM will continuously support MKN and other government agencies in the implementation of the declaration as well as state and local authorities in keeping our cities safe from disasters.

## Dialogue of SEADPRI-UKM Fellows UKM Bangi, Selangor December

*Mohd Khairul Zain bin Ismail*

**D**ialogue of SEADPRI-UKM Fellows No.1/2010 was successfully organised by SEADPRI-UKM on 21st December 2010, at SEADPRI-UKM Meeting Room, in conjunction with the visit of the SEADPRI-UKM International Fellow to UKM. For the first time ever, all National and International Fellows were gathered together in a dialogue, which aimed to seek their input to help drive SEADPRI-UKM forward. The Dialogue commenced with a warm welcome from Prof. Dato' Dr. Ibrahim Komoo, the Director of SEADPRI-UKM. It then saw the presentation of the following papers:

- i. Introduction of SEADPRI-UKM – by Prof. Dato' Dr. Ibrahim Komoo, Director of SEADPRI-UKM
- ii. Introduction of the Climatic Hazards Programme, – by Prof. Dr. Joy Jacqueline Pereira, Deputy Director / Coordinator, Climatic Hazards Programme
- iii. Introduction of the Geological Hazards Programme – by Assoc. Prof. Dr. Tajul Anuar Jamaluddin, Coordinator, Geological Hazards Programme
- iv. Introduction of the Technological Hazards Programme – by Prof. Dr. Lee Yook Heng, Coordinator, Technological Hazards Programme

During the discussion, the Dialogue acknowledged that all Fellows are encouraged to join and get involved in the projects at SEADPRI-UKM, so that their experiences, knowledge and expertise in various fields could be fully utilised in order to propel SEADPRI-UKM to move forward. While the vision, mission and objectives of SEADPRI-UKM and its Programmes are well defined, the institute may need to keep looking into the research types and ascertain the research direction it intends to further develop.



Photo by Lim Choun Sian



*Picture 1: Dr. Philipp Schmidt-Thome, International Fellow of SEADPRI-UKM*



*Picture 2: Prof. Dr. Masahiro Chigira, International Fellow of SEADPRI-UKM*

It is also important to support government aspirations to engage practitioners in post-graduate development. As such, research and training programmes should be formulated to achieve the attainment of degrees or certificates by industries.

As a conclusion, although Malaysia is a relatively less disaster prone country, there is a need for incentives, either from government or the private sector, to encourage continuous hazard related basic and focused research in order to ensure sustained capability and preparation. Hopefully, this Dialogue between SEADPRI's Fellows and the Management of SEADPRI-UKM will meet once a year so that this institute could provide data and relevant information to Government and policy makers regarding hazards and disaster risk reduction.

## Retreat of Research Direction and Postgraduate Supervision

–  
**Kuching, Sarawak**  
–  
**April**

*Mohd Khairul Zain bin Ismail*

**A** Retreat of Research Directions and Postgraduate Supervision 2011-2015 was successfully organised by the Southeast Asia Disaster Prevention Research Institute (SEADPRI-UKM) on 26-28 April 2011 at the Grand Margherita Hotel, Kuching, Sarawak. It was attended by all SEADPRI management and academic staff including two of SEADPRI-UKM National Fellows, Prof. Ir. Dr. Zainab Mohamed from UiTM and Dr. Edy Tonnizam Mohamad from UTM. The main objective of the retreat was to discuss the direction of research for each programme at SEADPRI-UKM. Postgraduate supervision was also discussed in detail at the Retreat, for a better postgraduate

management in 2011-2015. The outcome of the Retreat demonstrated that SEADPRI-UKM has gathered enough resources to continue as a centre of excellence through 2015, the focus of which would be in the area of research especially related to disaster issues and disaster risk reduction.



## WELCOME TO THE FELLOWS OF SEADPRI-UKM



### Datuk Che Moin bin Umar

Datuk Che Moin bin Umar is a Deputy Secretary at National Security Council, Prime Minister Department, Malaysia. Datuk Che Moin actively participate in disaster management related field, both national and international level, such as a Member of ASEAN Committee Disaster Management, Secretary to National Disaster Management Committee Malaysia, Chairman of Disaster Management Working Group Malaysia-Thailand, Chairman of Technical Committee on Societal Security, Coordination Group ASEAN Sub Regional Fire Fighting Arrangement for Borneo & Sumatra (SRAFs), and also a Vice Chairman: Working Group on Intergovernmental Coordination Group for The Indian Ocean Tsunami Warning and Mitigation System (ICG-IOTWS).

### Ir. Hj. Ahmad Jamalluddin bin Shaaban

Ir. Hj. Ahmad Jamalluddin bin Shaaban is currently a Director General of National Hydraulic Research Institute of Malaysia (NAHRIM). His area of expertise include hydraulic physical modelling (Bakun Dam), hydraulic numerical modelling for flood mitigation; urban stormwater and drainage modelling and management; impact of climate change on water resources; water resources assessment, development, management and engineering involving hydrologic process and systems modelling; hydrologic design (reservoir storage design, design of data acquisition system and design of flood estimation); rainwater harvesting and utilisation; drought identification; construction sites and catchment erosion and sediment control; and reservoir and river sedimentation.



### Dr. Yap Kok Seng

Dr. Yap Kok Seng currently is a Director-General of the Malaysian Meteorological Department (MMD) and the Permanent Representative of Malaysia with World Meteorological Organization (WMO). Dr. Yap also a Member of the WMO Executive Council. Dr. Yap has authored/co-authored a number of papers in the field of meteorology and climate change. He also has authored documentation notes on weather prediction models for the World Meteorological Organization. His teaching experience includes conducting training laboratories on weather prediction models for the World Meteorological Organization at the Institute for Theoretical Physics at Trieste, Italy in 1990. He also was a lead author for the IPCC Third Assessment Report published in 2001. At the United Nations Framework Convention on Climate Change Conference of Parties and its Subsidiary Bodies meetings, Dr. Yap was a lead negotiator for G77 and China on the issue of development and transfer of technologies from 2003-2005 and co-chair for the negotiations on scientific, technical and socio-economic aspects of mitigation from 2004-2005.

### Mr. Check Shick Pei

Mr. Check Shick Pei previously was a Director General at the Mineral and Geoscience Department Malaysia (JMG), and a Director (CEO) Coordinating Committee for Geoscience Programmes in East and Southeast Asia (CCOP), Bangkok, Thailand. He has conducted lecture series on CCOP and impact of its geoscience activities in the East and Southeast Asia region, during the visits to Member Countries and Cooperating Countries. Mr. Chen also actively participate in high level exchange of views and consultations with Ministers, Deputy Ministers, Under Secretaries of Ministries, Permanent Representatives of Member Countries, Representatives of Cooperating Countries on impact of CCOP and its activities, how CCOP can further assist Member Countries in human resource development, issues of geoscience and strategies for enhancing role of geoscience in contributing to sustainable economic development and human security in Member Countries, and the region.



### Dr. Yonglong Lü

Dr. Yonglong Lü currently is a Director General of Bureau of International Cooperation, Chinese Academy of Sciences (CAS); Professor and Chair in Environmental Management and Policy at Research Center for Eco-Environmental Sciences, CAS. He holds many international and domestic professional posts, including member of ICSU (International Council for Sciences) Committee on Scientific Planning and Review, President of Scientific Committee on the Problems of Environment (SCOPE), council member of PSA (Pacific Science Association). Prof. Lü has a wide range of research interests including sustainability science, ecological impacts of persistent toxic pollutants, systems ecology, environmental management and policy, and strategic planning of science and technology development. He has been invited by UNDP, UNEP, UNESCO, APEC, ICSU, SCOPE, IAC and IIASA many times to make presentations or keynote speeches at international conferences or forums, and to visit some 40 countries for cooperative research and academic exchange. He has been involved in many scientific planning and review activities of ICSU, PSA, IAP and IAC for promoting science and technology capacities in China and the world.

### Prof. Dr. Marcus Jopony

Prof. Dr. Marcus Jopony currently is a Professor in Environmental Chemistry field at Universiti Malaysia Sabah (UMS). Prof. Dr. Marcus main research interests and specialization are in the fields of Analytical Chemistry, Environmental Chemistry and Pollution, and Pollution Control Technology (Wastewater Treatment). He also was a former Associate Member Institute Chemistry (AMIC), Malaysia. Prof. Dr. Marcus also is a Reviewer of manuscripts for World Applied Science Journal and manuscript for Ecological Engineering Journal.



## Gelinciran Tanah Kundasang, Sabah

*Ibrahim Komoo & Lim Choun Sian*



Photo by : EPA

**K**undasang di Sabah, kawasan pergunungan di pinggir Gunung Kinabalu berhadapan dengan risiko gelinciran tanah sejak lebih 20 tahun lampau. Jalan raya dan infrastruktur awam sentiasa mengalami kerosakan dan perlu diperbaiki secara berterusan. Komuniti di beberapa kampung terlibat telah beradaptasi dengan fenomena gelinciran tanah ini, mereka memperbaiki rumah yang rosak secara berkala apabila keadaan keselamatan membimbangkan. Walaupun pergerakan gelinciran berlaku secara perlahan, dari masa ke semasa, apabila curahan hujan melampau keadaan biasa, pergerakan cerun yang pantas boleh berlaku dan memusnahkan harta awam dan persendirian.

Pada bulan April ini, lanjutan hujan yang turun berterusan selama lebih seminggu, beberapa kampung berada dalam keadaan cemas apabila berhadapan dengan gelinciran tanah. Antara kampung yang terlibat ialah Kinasaraban, Mohimboyon, Dumpiring Atas, Dumpiring Bawah, Lembah Permai, Kundasang Lama. Akibat gelinciran tanah, lebih 35

keluarga terpaksa meninggalkan rumah mereka untuk mencari kawasan perumahan baru. Ini merupakan pertama kali, komuniti merasakan rumah mereka sudah tidak selamat dan perlu berpindah.

Kampung Kundasang Lama terjejas paling teruk. Gelinciran yang melibatkan kawasan selebar 200 m dan panjang 450 m, jatuh menegak lebih 10 m dan teranjak puluhan meter menuruni cerun. Akibatnya, lebih 80 unit resort musnah dan rumah kampung di kaki cerun terangkat beberapa meter. Ini pertama kali kesan gelinciran yang serius dirasai oleh penduduk kampung dan pihak berkuasa tempatan.

Kundasang telah menjadi makmal lapangan penyelidikan dari SEADPRI-UKM sejak lebih 10 tahun lepas. Kami telah memahami kelakuan gelinciran tanah berskala besar di cerun tabii. Kami telah mencadangkan pendekatan dasar dan perancangan bagi memastikan Kundasang masih boleh dibangun sambil mengambilkira strategi pengurangan risiko bencana secara jangka panjang.