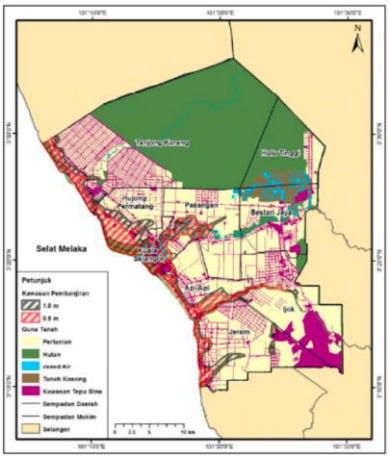
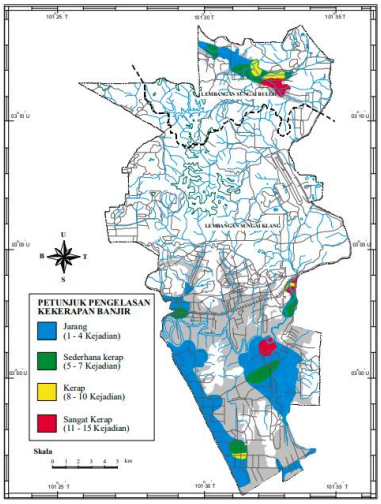
Scientific Findings of Climatic Hazards in Selangor, Malaysia

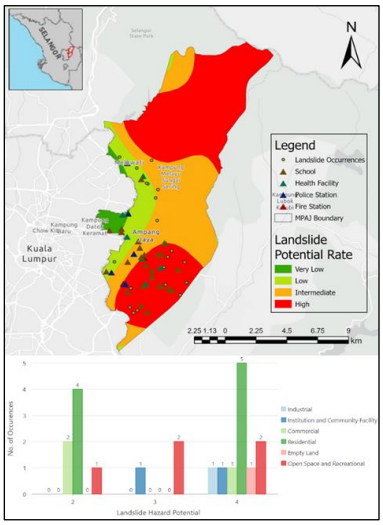
Hazard susceptibility areas have been delineated for the three pilots in Selangor, Malaysia namely Kuala Selangor, Shah Alam and Ampang Jaya. Kuala Selangor is found to be highly prone to coastal hazards, which may intensify under the influence of sea level rise. Flood vulnerability analysis was conducted for two scenarios in Kuala Selangor for sea level rise of 0.5 m and 1.0 m. Elements that are exposed to emerging coastal hazards in the area include agricultural areas for oil palm and paddy, and mangrove swamps. In Shah Alam, the floodplains areas are prone to periodic floods and flash floods with increased risk due to urbanization that alter their physical surface properties. Generally, flood control problems become more serious with increased development in floodplains. In Ampang Jaya, the highland areas prone to landslide hazards were delineated. A total of 21 landslide occurrences have been recorded in the area between 2015 and 2017, based on reports by the local authority inventoried by the Selangor Disaster Management Unit (SDMU). The elements at risk identified comprise health facilities, schools, police stations and fire stations. Further investigations would be conducted to refine the findings including potential extent of impacts, as well as to provide recommendations for long-term community resilience within the susceptible areas.



1. The coastal inundation scenario for 0.5 m and 1.0 m sea level rise in Kuala Selangor based on land elevation.



2. The physiography of Shah Alam was compared against recorded flood occurrences (1990-1998).



3. The elements at risk were overlayed on the landslide hazard map of Ampang Jaya to identify their level of exposure.

Progress on DRR Crowdsourcing Platform

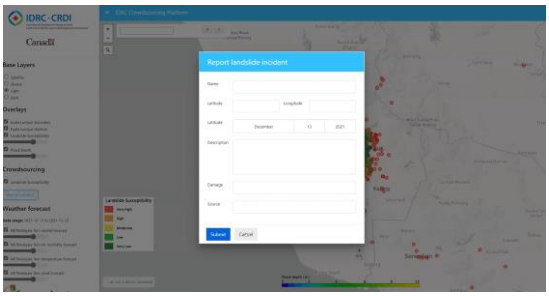
To promote long-term community resilience to disasters, community awareness of their susceptibility to hazards is crucial. An open-source digital platform for DRR is an essential technological component being developed under the project to inform communities of the area's susceptibility and their exposure to the hazards. The platform also serves as a medium for users to take part in managing the risk of the hazards by contributing data. A meeting was held on 13 December 2021 via Zoom to discuss the progress of the digital crowdsourcing platform for DRR that is now being developed under the project. An early design of the web-based crowdsourcing platform has recently been integrated onto the digital platform prototype. Along with the new development, the web-based digital platform has also been migrated to a new cloud storage and server hosted at SEADPRI-UKM.

To ensure better usability and attract a wider range of users, the project will develop a simple mobile application by which reporting of events will be made easier. Automatic location discovery and photo upload via the mobile application will facilitate data input by users and verification of reported incidents by data manager for the system. Promotion of the crowdsourcing platform will be prioritized at the three pilot areas in Selangor, Malaysia, where hazards susceptibility layers will be uploaded onto the platform to create awareness among the community. Social entrepreneurs will also play a vital role for the platform outreach to the communities on the ground. Moving forward, the project will explore the possibility to provide early warning or hazard alert to community via the web-based digital platform and the mobile application. As the digital platform gain its traction over time, it may also serve as an ecosystem of learning and educating among users/communities on the issue of disasters. Social entrepreneurs could play the role of moderators to facilitate in bridging or narrowing the professionals-laymen gap among the users and ensure the orchestration of the digital community.

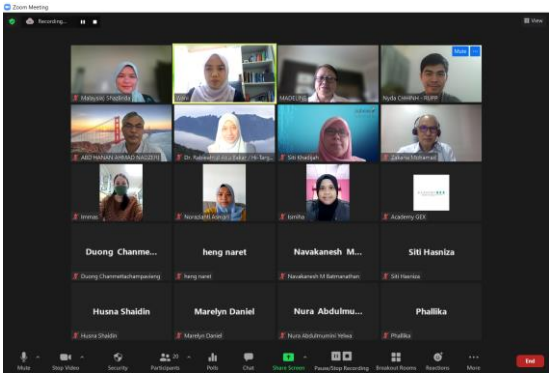
Capacity Building of Social Entrepreneurs in DRR

The second capacity building session of social entrepreneurs in DRR was conducted on 14 December 2021, following the previous one-to-one session in August. A "Shark Tank" style was emulated where Ms. Azianti and her team pitched a business idea to the Project Advisor, Dato Dr. Madeline Berma (FASc) and the subject matter expert, Ms. Shazlinda Md. Yusof, who played the role of Sharks (potential investors). The idea pitched by the team follows cross-compensation business models where one group of customers will pay for the service and in turn the product (disaster awareness video) as well as the profit will be shared among larger group of communities in the disaster-prone areas. The session was part of the grooming process of the demonstrative social enterprise, which was performed in front of a wider audience. The event was attended by about 20 participants, including members of the GSM and the RUPP. During the session, participants were trained to formulate their social business ideas, emphasizing on the philosophy of social entrepreneurship. They were also coached on how to effectively communicate their ideas to convince potential investors.

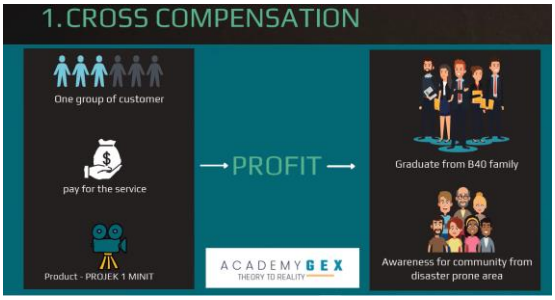
4. The bilateral meeting was attended by Project Advisor, YM Tengku Dr. Mohd Azzman Shariffadeen (top row, left) and team members.



5. The window to input crowdsourced data will appear on the interface of the web-based digital platform when users click the "Report Incident" button on the left panel.



6. Ms. Azianti (third row, second from left) pitched a business idea during the "Shark Tank" style session on 14 December 2021.



7. The cross-compensation business model proposed by the demonstrative social enterprise during the pitching session.