

# Slope Stabilisation and Flood Mitigation

WOMEN ENGINEERS SECTION, PENANG BRANCH



reported by  
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**W**omen Engineers (WE) of Penang Branch, in collaboration with WE at HQ, organised a half-day technical seminar on Engineering Challenges for Slope Stabilisation and Flood Mitigation in July, 2016, at IEM Penang branch office. The case study sharing was indeed a good experiences exchanged between branch members.

The first speaker was the Immediate Past Chairman of WE Section, Ir. Raftah Mahfar, who is currently Director in a Structural, Civil, Infrastructure, Geotechnical and Railway engineering consultant firm; she has more than 29 years of experience in Geotechnical Engineering design and construction.

Slope stabilisation is a significant challenge for geotechnical engineers. Slope stability decreases when slope angle increases. Underground water plays a major role in slope failure as it will increase the driving force by filling previously empty pore spaces and fractures, adding to the total weight of the subsoil. Increased pore water pressure in slopes can also decrease the shear strength of the slope material. Chemical weathering slowly weakens slope material, reducing its shear strength, thus reducing resisting forces. During the case study sharing session on the Slope Stability chronological event, Ir. Raftah thoroughly interpreted the sequences of slope failure and solutions to slope stability. The presentation was very comprehensive, complete with the information on the findings, design and construction phase.

The second speaker was Ir. Suhana Abdul Majid, Vice Chairman of the WE Section and managing director of an engineering consultant firm. She has 25 years of experience in various fields of Civil and Structural Engineering Services, such as feasibility study, infrastructure design, project management and asset management services in transportation sector as well as mixed development projects.

Ir. Suhana shared her experience on flood mitigation and its challenges during the construction of the On-Site Detention

Pond at Sg. Rasau Toll Plaza. Flood mitigation involves the management and control of flood water movement, such as redirecting flood run-off and methods used to reduce or prevent the detrimental effects of flood waters. Challenges from flood mitigation, such as rapid urbanisation, climate change and construction activities due to population growth, will intensify the risk of the flood. Ir. Suhana focused her case study sharing on the complexity of solutions for design and assessment, problems faced at the construction stage as well as public protests during the execution of the project.

The half-day seminar was an interactive and informative session that benefitted the participants greatly. ■



*Ir. Heng presented a token of appreciation to Ir. Suhana*



*Ir. Raftah's presentation on Slope Stabilisation*