

# PRE-AGM TALK ON

## The Engineering Approach to Disaster Rescue Operations: Mitigation, Preparedness, and Innovation

Organised by:  
Project Management Technical Division, IEM

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7 OCTOBER 2023, SATURDAY



9.00AM - 11.00AM



WISMA IEM, PETALING JAYA

**SPEAKER:**

**DR HJ NORHAFIFI BIN HJ ISMAIL**

**REGISTRATION FEE :**

**IEM STUDENT : FOC**

**IEM MEMBERS: RM15**

**NON IEM MEMBERS: RM70**



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# SYNOPSIS

The effective management of disaster rescue operations is a complex endeavor that demands a systematic engineering perspective. This technical talk delves into the key considerations that underpin the successful orchestration of rescue efforts, emphasizing how engineering principles play a pivotal role in mitigating the impact of disasters and safeguarding affected populations. Preparedness stands as the cornerstone of disaster management. Engineering not only contributes to the construction of resilient buildings but also involves the development of comprehensive plans, procedures, and infrastructure that anticipate and counteract the catastrophic effects of disasters. By designing critical lifeline systems capable of withstanding natural hazards, engineers empower rescue and recovery missions to function efficiently.

Central to this process is the meticulous assessment of risks. Engineers evaluate the potential impact of diverse disasters on both communities and infrastructure. By pinpointing vulnerabilities and identifying high-risk zones, they enable the prioritization of resources and the formulation of strategic rescue and response strategies. Engineering expertise extends to the creation of emergency response plans that dictate actions during crises. Collaborating with emergency management agencies and first responders, engineers develop protocols for evacuation, medical aid, communication systems, and stakeholder coordination. Furthermore, the establishment of robust communication and information networks proves vital, facilitating real-time data collection, analysis, and dissemination.

Logistical intricacies and infrastructure support are also integral. Engineers assess the need for temporary shelters, field hospitals, and essential resources such as clean water and sanitation facilities. Their role in infrastructure restoration expedites recovery processes. Yet, engineering's impact is not confined to the physical realm. Technological innovations push the boundaries of disaster response. From drones for search and rescue to advanced imaging for damage assessment and robotics for hazardous environments, engineers catalyze innovation for more effective operations.

The talk also delves into the crucial role of training and capacity building. Engineering professionals nurture the skills of emergency responders and community members through workshops and simulations. Their commitment to collaboration and knowledge exchange platforms bolsters capacity building. The collapse of Highland Tower in 1993 is used as an illustrative example in this talk.

In essence, the management of disaster rescue operations from an engineering standpoint necessitates interdisciplinary collaboration. By intertwining engineering principles with planning, coordination, and innovative technology, the dire consequences of disasters can be curtailed, ultimately saving lives and building a more resilient future. This talk is a testament to the transformative potential of engineering in the face of adversity.

# SPEAKER'S PROFILE

**Dr. Haji Norhafifi** boasts a rich 35-year background in adeptly managing disasters at both local and international levels. With a distinguished senior management tenure at prominent institutions including the Malaysia Civil Defence Force (MCDF/JPAM), National Security Council (NSC/MKN), and the National Disaster Management Agency (APBN/NADMA), he possesses extensive theoretical and practical expertise encompassing civilian preparedness, community resilience, and emergency and disaster readiness. Notably, his culminating role at MCDF was Deputy Chief Commissioner (Operation).

In the realm of academia, Dr. Haji Norhafifi's credentials are impressive, as follows:

- PhD in Policy and Disaster Management from Universiti Kebangsaan Malaysia (UKM)
- MSc in Disaster Management from Cranfield University, United Kingdom
- BSc in Mass Communication (Public Relations) from UiTM, Malaysia

Presently, he assumes the position of Dean for the School of Leadership & Resilience at Enforcement & Leadership Management University (ELMU). Additionally, he holds the role of Adjunct Professor at the Disaster Preparedness and Prevention Centre within the Malaysia-Japan International Institute of Technology (MJIT), University of Technology Malaysia (UTM).