

IPA Booklet Series



International Press-in Association

Disaster Countermeasures



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Preface

As of mid-2023, natural disasters worldwide have already amounted to over \$190 billion globally. In the first half of 2023 alone, these disasters cost roughly \$194 billion. In 2022, the economic loss due to natural disaster events worldwide reached approximately \$313 billion. A disaster encompasses various events, such as drought, floods, volcanic activity, earthquakes, extreme weather, extreme temperature, landslides, dry mass movements, and wildfires. These events cause significant damage and disruption to normal life. Therefore, disaster countermeasures are crucial for safeguarding lives, property, and communities in the face of natural or man-made calamities. In response to the needs, International Press-in Association was motivated to publish this IPA Booklet Series on Disaster Countermeasures.

On behalf of the IPA Publicity Committee and International Press-in Association, I would like to express my thank you to all contributors to the articles. For this booklet, several past disaster experiences such as from 2011 Great East Japan Earthquake and tsunami and sinkholes in Florida had been highlighted. Important aspects such as damage and effectiveness of coastal structures, new policies, challenges for earthquake and tsunami resilience enhancement, sinkhole detection and characterization and safety index for natural disasters will be a central discussion for this booklet.

This booklet is suitable for engineers, professionals, academicians, policymakers, research students, technologists and those who are interested to embark on a journey of newer technology and potential applications for disaster countermeasure activities all over the world. Hopefully, the publication will supplement the readiness of engineering society in facing future environmental disruptions, natural disasters, and new coming challenging situations. Thank you and do enjoy your reading.

Nor Azizi Bin Yusoff

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Note: Minor modifications have been applied to the original articles.

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