

**PROCEEDINGS OF NAROTAMA INTERNATIONAL CONFERENCE
ON CIVIL ENGINEERING (NICCE) 2015**

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Sustainable Construction, Engineering And Infrastructure Management

Edited by:

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PREFACE

This book reports the proceedings of the Narotama International Conference on Civil Engineering held at Narotama University from November 6 to November 7, 2015. The purpose of this conference was to explore sustainable construction, engineering, and infrastructure management that integrates the immediate and long-term, local and global needs, and regards social, economic and environmental needs. The participants included engineers, researchers, economists, development planners, and national and international administrators.

Papers and discussion focused on the challenges of sustainable construction, engineering, and infrastructure management, and the most feasible means of addressing the challenges. But not limited to the following topics: (1) Infrastructure for sustainable future; (2) Sustainable transportation system and engineering; (3) Sustainable construction/project management; (4) Sustainable water engineering and management; (5) Sustainable city and property management; (6) Sustainable structure and materials; (7) Sustainable geotechnical engineering; (8) Renewable energy and environment; (9) Sustainable waste management; (10) Sustainable surveying and mapping.

The participants included from the United States, the United Kingdom, Japan, Thailand, Phillipine, Malaysia, East Timor, and Indonesia. An attempt was made to represent as many as possible of the groups and institutions working in areas related to the conference theme. The best selected papers will be offered to be published in Journal of Construction in Developing Countries (Scopus Indexed), ISSN: 18236499 (print), 21804222 (online). The Editors also wish to thank all the organizing committee for their valuable assistance.

Surabaya, 5 November 2015

Editor

WELCOME ADDRESS BY CHAIRMAN OF ORGANIZING COMMITTEE

The honourable distinguished guests

Ir. Mochamad Basoeki Hadimoeljono, M.Sc., Ph.D, Minister of Public Work and Housing.

Dr. Ir. Soekarwo, Gouvernor of East Java Province,

The honourable keynote speakers

Prof. Stephen Ogunlana, from Heriot-Watt University, United Kingdom

Dr. Richelle G. Zafra, from University of The Philippines Los Banos, Philippines

Prof. Dr. Mohd Hamdan Ahmad, from Universiti Teknologi Malaysia

The honourable

HR Joko Soemadijo, SH, President of Gita Patria Foundation

Hj. Rr. Iswachyu Dhaniarti DS, ST, M.HP, Rektor of Universitas Narotama,

Dr. Ir. Koespiadi, Dean of Engineering Faculty,

And Ladies and Gentlemen, the participants of Narotama International Conference on Civil Engineering 2015.

It is my great pleasure and honour to welcome you to the opening of the first Narotama International Conference on Civil Engineering 2015, NICCE 2015 for short. Let me begin my speech by extending a very warm welcome to all our Engineers and friends who have come from the ASEAN region and beyond to participate in this Conference.

Your presence today has demonstrated a united commitment of the engineering profession towards sustainable development in the region.

Meeting the Sustainability Challenge. The shift towards sustainable development is the most important and challenging task that the world has ever taken on.

Sustainable development offers a vision of progress that integrates the immediate and long-term, local and global needs, and regards social, economic and environmental needs as inseparable and independent components of human progress.

Unless we begin to take decisive action now towards sustainable development, we will be unable to realise that beautiful vision. Instead we will face a future which is less certain and secure.

We are currently faced with a multitude of challenges caused by climate change, energy issues, aging population and increasing urbanization. More than ever, engineers are being called upon to provide creative solutions to everyday problems and global challenges confronting humanity today.

For instance, we are asked the questions: How can we delay global warming and mitigate its effects? How can we tap renewable

sources of energy in a cost-effective manner? These and many more of such questions are unresolved issues which need to be addressed urgently.

In the words of Abraham Lincoln “You cannot escape the responsibility of tomorrow by evading it today”. How then can we meet the sustainability challenge?

The answer lies in collaborative innovation. Collaboration is the key to fuelling innovation. In exchanging ideas, knowledge and the latest technologies through relevant platforms, cities will be able to tackle their individual unique challenges in the areas of construction, engineering, and infrastructure management sustainability.

NICCE is one such platform which has been adopted by the engineers within the ASEAN region to share best practices and explore innovative solutions through joint research, training, capacity-building initiatives and project development. I wish you a fruitful Conference ahead. Thank you.

Surabaya, 5 November 2015
Chairman of Organizing Committee

Fredy Kurniawan, ST, MT, M.Eng., Ph.D



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