



Understanding Global Adoption Potentials for Healthy Building Rating Systems - an International Perspective

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Background

Incorporating health and well-being in building design and operation is gaining international interest. Countries in Southeast Asia are among the fastest-growing construction markets in the world. This is largely due to rapid modernization and rising living standards that require more electricity. Until now, the focus on sustainable building has been on the widespread implementation of energy efficient designs, operations, and conservation strategies.

Objective and Opportunity

The study objective is to identify the awareness and perception about healthy building standards in the context of developing countries.

Our study in Indonesia is especially timely given the country's goal to making 100% of new buildings and 60% of existing buildings compliant with green building standards¹ in 2030. As the second largest market for energy efficiency implementation in Southeast Asia, Indonesia could save up to 30% of energy in the industry, transport, household and commercial sector.

¹Green Building compliance include Jakarta Governor Decree 38/2012 and other related code and regulations (Reference: www.greenbuilding.jakarta.go.id)

New buildings require consideration of building envelope, ventilation, air quality, lighting system, transportation system, electrical system, water efficiency and management, indoor air quality, land management, supporting facilities, waste management and safety management. Existing buildings require consideration of energy and water conservation, indoor air quality and management of operational and maintenance. There is prospective for accelerated adoption of wellness elements in buildings through integration with related sustainability regulations for comprehensive policies.

Methodology

Survey 1 pre-seminar

- Demographics
 - Employment status
 - Area of study/ expertise
 - Age
- Awareness about healthy building
 - Knowledge about healthy building

10 minutes

Intervention Healthy Building Seminar

- Why healthy buildings
- Relevant rating systems
- Measurement and verification
- Project examples
 - Human-centric lighting,
 - Indoor air quality,
 - Certification process

60 minutes

Survey 2 post-seminar

- Perception about healthy building
 - Encouraging factors to pursuing healthy building certification
 - Discouraging factors to pursue healthy building certification

10 minutes

Time



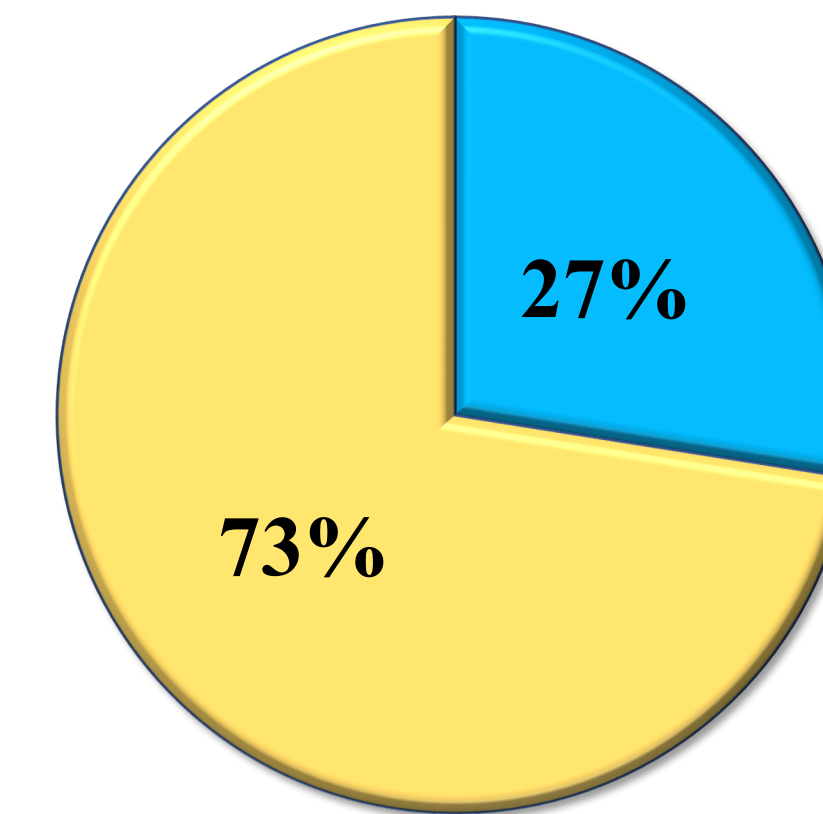
Seminar participants filled out the paper-based survey before and after the healthy building seminar.



Dr. Kim presented the "Better Health through Healthy Building" seminar that was moderated by Dr. Berawi

Pre-seminar Results

Awareness about Healthy Buildings



- No, have *not* heard about healthy building
- Yes, have heard about healthy building concept

Perception about Healthy Building

- Occupant health
- Occupant work performance
- Indoor environmental quality
- Healthcare building
- Green building
- Energy and water use

Post-seminar Results

Factors that would encourage healthy building certification # mention

Maintain physical and mental health	24
Increase productivity	13
Improve comfort	10
Good for the environment	6
Water and Energy efficiency	4
Branding	2
Safety	2
Healthcare building design practice	1
Happiness	1
Easiness to maintain	1
Supporting regulation	1

Factors that would discourage healthy building certification # mention

Additional cost of certification	28
Lack of knowledge	9
Complex procedure	9
Different climate and culture	7
No regulation	5
Unclear investment justification	3
Extra time	3

Recommendations and Next Steps

- This exploratory study draws inference from 40 participants, conducted at the University of Indonesia's College of Engineering seminar series, attended by students, faculty, staffs, researchers and practitioners from civil and environmental engineering, earth science, and oil and gas industry. These participants are representative and considered to have the first knowledge or expertise about green and healthy building implementation.
- While health risks and disparities are national priorities in developing countries, stakeholders believed that there are limited research about the impacts of individual building conditions and environment that can impact human health in any drastic way. This result indicates important knowledge gap about the relationship between healthy buildings and occupant health.
- Survey participants believed that the rating system should be flexible enough to account for vastly different culture and climate.
- Survey participants saw the urgency to build public awareness to attract people to join the green and healthy building movement that is not only good for the environment but also for the occupants' wellbeing.
- Other methods to accelerate the integration of green and healthy building movement included investigating a combination of policy support, tax benefits, and educational and awareness programs.
- Stakeholder engagement was identified as a critical success factor. Commitment by all players in the construction sectors are required to achieve sustainable construction in Southeast Asia. Government can work with the green building organization with public and private institutions to refine the regulation to meet the need.

Acknowledgment

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