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The Faculty of Built Environment
University of Malaya
50603 Kuala Lumpur

9TH ASEAN POSTGRADUATE SEMINAR 2015

APGS *organized by* UNIVERSITY OF MALAYA

GLOBAL BUILT ENVIRONMENT IN TRANSITION

8TH DECEMBER 2015 @ **FACULTY OF BUILT ENVIRONMENT**

SEMINAR BOOKLET

Design, landscape and architecture | Planning and development | Construction management | Urban and housing studies | Environmental and sustainable design | Heritage and conservation | Project and facility management | Information technologies and smart cities | Real estate investment and finance | Property valuation

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NOTES

NOTES

TABLE OF CONTENTS

NOTES

NOTES

FOREWORD FROM DEPUTY DEAN (HIGHER DEGREE)
FACULTY OF BUILT ENVIRONMENT, UNIVERSITY OF MALAYA

On behalf of the Faculty of Built Environment, it is with utmost pleasure and honour that I extend to you my warmest invitation to the 9th ASEAN Postgraduate Seminar. We have come a long way since the first APGS Seminar. Expounding from the theme we had last year, which proposes the idea of turning challenges into opportunity, this year, we move forward. With the theme of 'Global Built Environment in Transition', we will be looking ahead on how best to navigate the built environment against upcoming economic obstacles, social decays and also environmental deterioration. Hence, this seminar will cover debates on topics such as project and risk management, heritage and conservation, sustainable design, housing and real estate investment, facilities and building management, land administration, environmental sustainability and last but not least urban planning. This seminar will not only be a platform for research information sharing and network, but also a stage for open debates and instigation of creative ideas with the future of mankind in mind.

With that, I look forward to welcoming you to a vibrant, intellectual yet socially rewarding event at the 9th APGS, to be held at the Faculty of Built Environment, University of Malaya, located in the heart and capital of Malaysia – Kuala Lumpur.

Associate Prof. Dr. Melasutra Binti Md Dali
Deputy Dean (Higher Degree)
Faculty of Built Environment
University of Malaya

FOREWORD FROM APGS 2015 CHAIRPERSON
FACULTY OF BUILT ENVIRONMENT, UNIVERSITY OF MALAYA

First of all, it has been an enlightening experience chairing the 9th ASEAN Postgraduate Seminar (APGS). Every year, a postgraduate student will be chosen by the faculty to lead this seminar under the authority of the Deputy Dean (Higher Degree) whilst supervised by senior lecturers. This year, I took the cake and became - The Chosen One. Together with a bunch of dynamic postgraduate students, I am confident that this year's seminar will be more rewarding in both knowledge acquisition and overall experience. Thus, on behalf of my committee, it is with absolute pleasure that I welcome every one of you to the 9th ASEAN Postgraduate Seminar 2015.

As Assoc Prof. Dr. Melasutra has mentioned in her foreword, this year's seminar encourages forward-looking and innovative planning in ensuring a sustainable and liveable future. The survival of human life and Mother Nature must be prioritised. Policies must not be *just* another written goal we pride ourselves in, but a goal that we strive towards with careful, premeditated planning. It is time we acknowledge that the Earth is heaving in the filth human greed has created, and start working towards remedial measures. Be it personal or impersonal, these problems need to be solved, and as researchers we provide solutions because we *are* part of the think tanks of this world. We are the brilliant minds, the solution to larger resolution, the answer to the plethora of problems happening. However, we are all *just* one person and we can only do so much. Which is why, we are congregated here today, to share bits and pieces of these brilliant minds, to discuss issues, to initiate ideas, and to bring innovation into the equation. We are here to network, to find people with similar research interest so that we are able to leverage ourselves, bringing us closer these resolutions with (hopefully) half amount of work.

So once again, I welcome you to the 9th ASEAN Postgraduate Seminar, be a sponge and absorb what you can, network, win something, and I'll see you then!

Tricia Lim Su Ying
Chairperson
9th ASEAN Postgraduate Seminar 2015
Faculty of Built Environment
University of Malaya

NOTES

NOTES

ORGANISING COMMITTTEE

9TH ASEAN POSTGRADUATE SEMINAR 2015

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Special Thanks to Madam Afidah Binti Adiat, Miss Zurinawati Bte Abdullah, Madam Hasnita Binti Mohd Zhari, Encik Zailan, and other administrative staffs who have directly or indirectly contributed their time and energy to the success of our event.

KEYNOTE SPEAKER

Y. BHG MADAM KHAIRIAH TALHA

Y. Bhg Madam Khairiah Talha is a qualified Town Planner who has had 32 years of experience as a Urban Planner in both government and private sectors. Currently a member of the Town Planners Board Malaysia and member of the Board of Advisors to the Ministry of Federal Territories Malaysia, she is also the General Manager of Malaysian Institute of Planners Training Centre, and Managing Director of KWA Planners.

Madam Khairiah Talha was also the President of the Malaysian Institute of Planners, a Board Member of the Balai Ikhtisas Malaysia (Association of Professional Bodies Malaysia), a council Member of the Malaysian Institute of Planners and International Federation of Housing and Planning (IFHP), the Secretary General of the Eastern Regional Organization for Planning and Human Settlements (EAROPH), and an Honorary President of EAROPH.

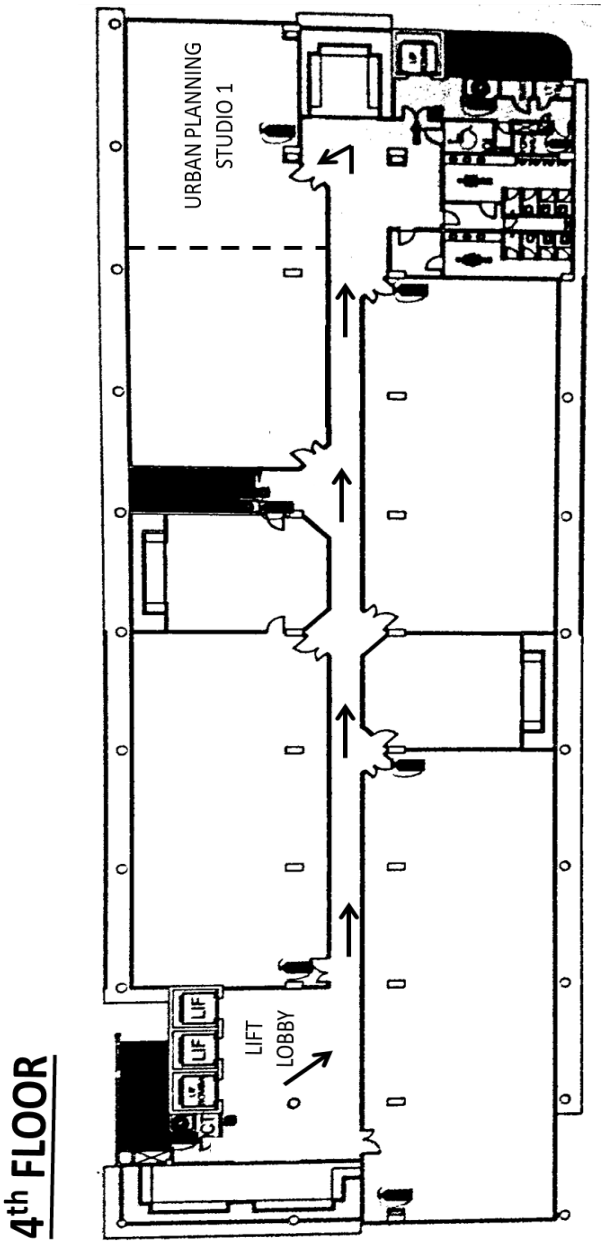
PLENARY SPEAKER

PROF SR DR. HJH WAN MAIMUN BINTI WAN ABDULLAH

Prof. Sr. Dr Wan Maimun obtained her degree in B.Sc. Quantity Surveying at UTM, MBA at Aston University, UK and PhD at the University of Malaya. She is currently the Director of Khalid Ahmad Architects, Associates of AMD Associates and Board of Directors of Ahmad Zaki Sdn Bhd. She was the Former President of RISM, currently a councillor member. She is also a Board member of Chairman of the Accreditation Council and Chairman of Education Council of the Board of Quantity Surveyors Malaysia.

MERCU ALAM BINA - FLOOR PLAN

FOURTH FLOOR PLAN



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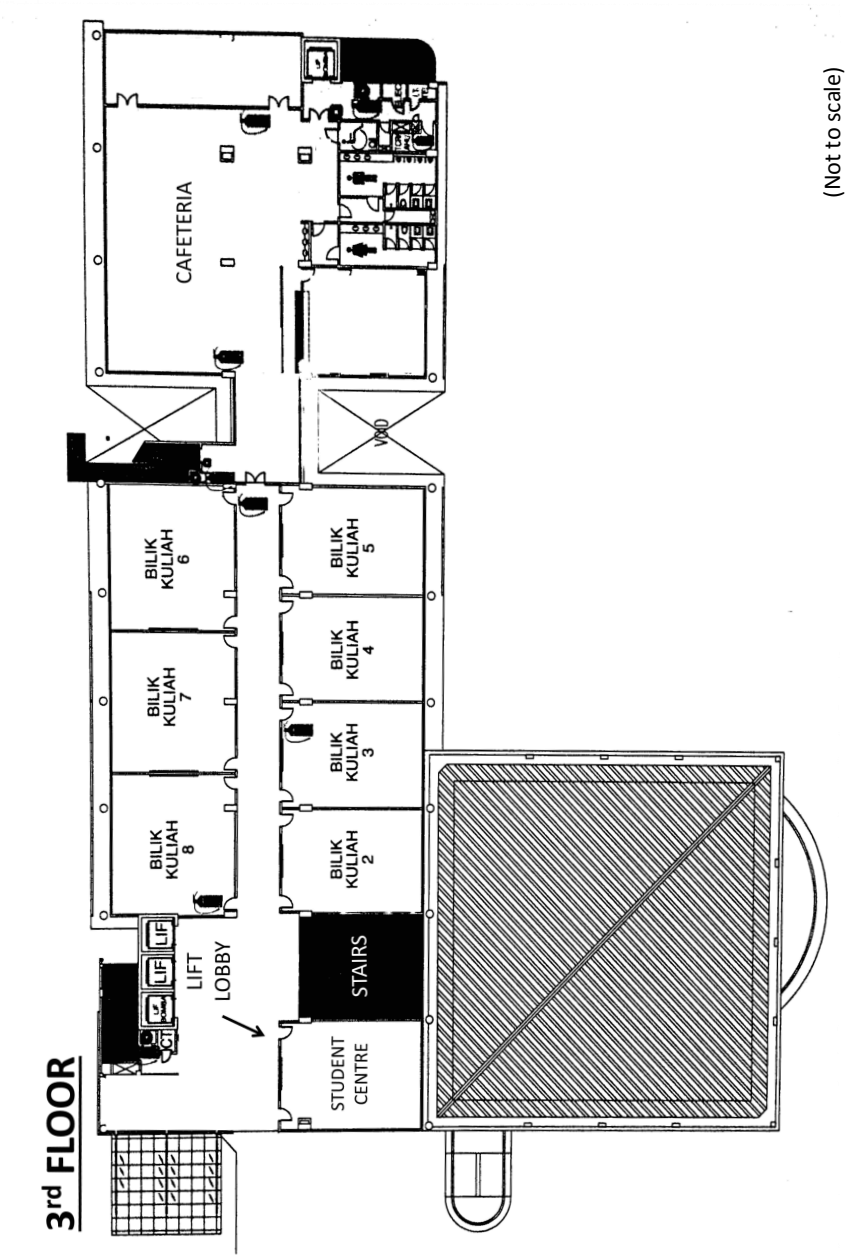
MERCU ALAM BINA - FLOOR PLAN

THIRD FLOOR PLAN



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PROGRAMME SCHEDULE

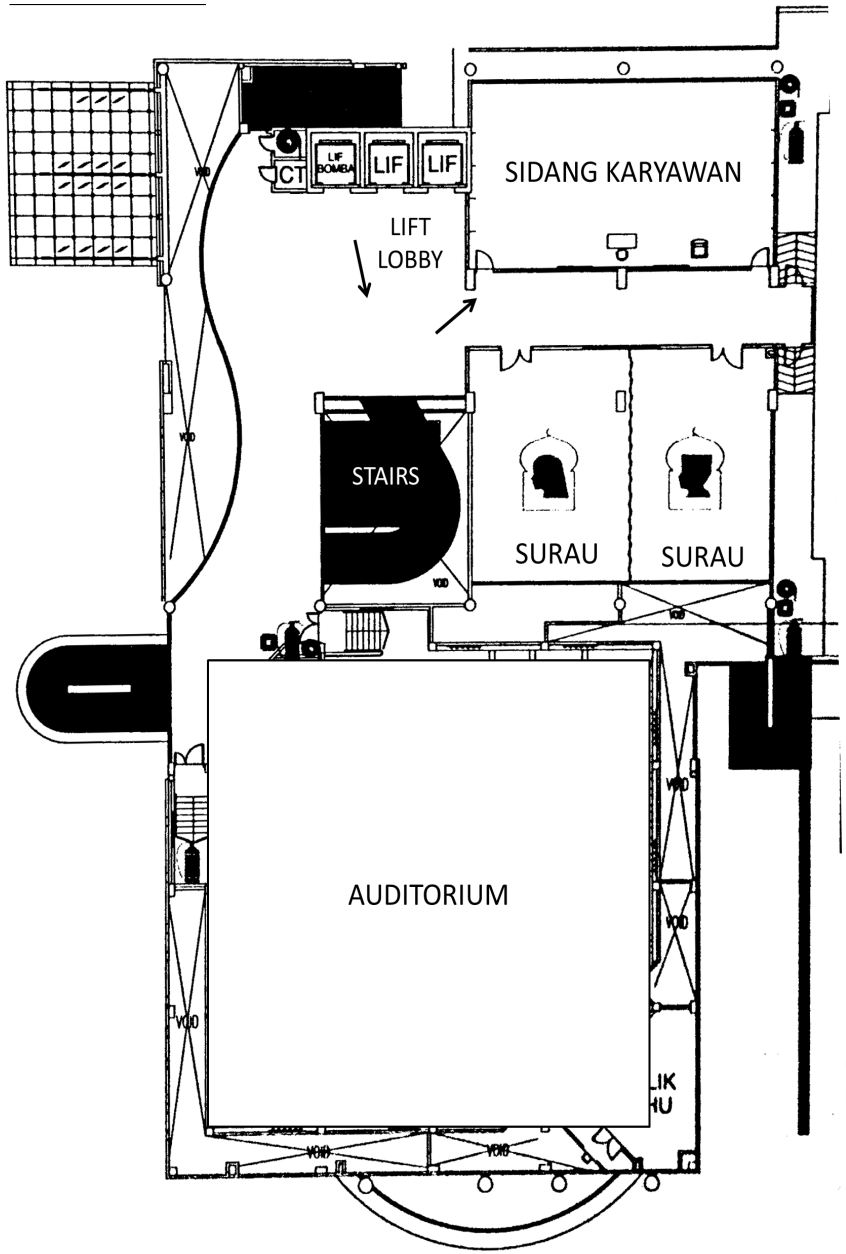
7.30am	**Registration & Breakfast**	Banquet Hall 2, L1
9.00am	**Opening Ceremony** Recitation of Prayer National & University Anthem Opening Address by **Assoc Prof Dr. Yahaya Ahmad ,** Dean, FBE, UM	Banquet Hall 1, L1
9.30am	**Keynote Address** **Speaker: Y.Bhg Madam Khairiah Talha** Past President of Malaysian Institute of Planners (MIP), General Manager of MIP Training Centre, Managing Director of KWA Planners and Member of the Town Planners Board Malaysia	Banquet Hall 1, L1
10.20am	****Transition to parallel session rooms****	
10.30am	**Parallel Session A** (24 presentations) A1. Project and Risk Management A2. Heritage and Conservation A3. Sustainable Design A4. Housing and Real Estate Investment	Banquet Hall 1, L1; Sidang karyawan, L2; Student Centre, L3 ; Urban Planning Studio 1, L4
12.30pm	****Transition to Banquet Hall 2****	
12.35pm	**Lunch & Networking**	Banquet Hall 2, L1
1.55pm	****Transition to Banquet Hall 1****	
2.00pm	**Plenary Session Address** **Speaker: Prof Sr Dr. Hjh Wan Maimun Binti Wan Abdullah** Quantity Surveying Professor of UTM and councillor former President of RISM, Director of Khalid Ahmad Architects, Associates of AMD Associates and Board of Directors of Ahmad Zaki Sdn Bhd **Lucky Draw**	Banquet Hall 1, L1
2.50pm	****Transition to parallel session rooms****	
3.00pm	**Parallel Session B** (16 presentations) B1. Building and Facility Management B2. Land Administration B3. Environmental Management B4. Urban Planning	Banquet Hall 1, L1; Sidang karyawan, L2; Student Centre, L3 ; Urban Planning Studio 1, L4
4.20pm	****Transition to Banquet Hall 1, Level 1****	
4.30pm	**Closing Ceremony** Presentation of Awards Closing Speech by **Assoc Prof Dr Melasutra Md Dali**, Deputy Dean (Higher Degree), FBE, UM	Banquet Hall 1, L1
5.00pm	**Tea & Networking**	Banquet Hall 2, L1
	-END OF SEMINAR-	

** Disclaimer: This seminar schedule is correct at the time of print. The APGS committee reserves the right to make changes at any time.*

- PARALLEL SESSION SCHEDULE -
GLOBAL BUILT ENVIRONMENT IN TRANSITION

MERCU ALAM BINA - FLOOR PLAN

SECOND FLOOR PLAN



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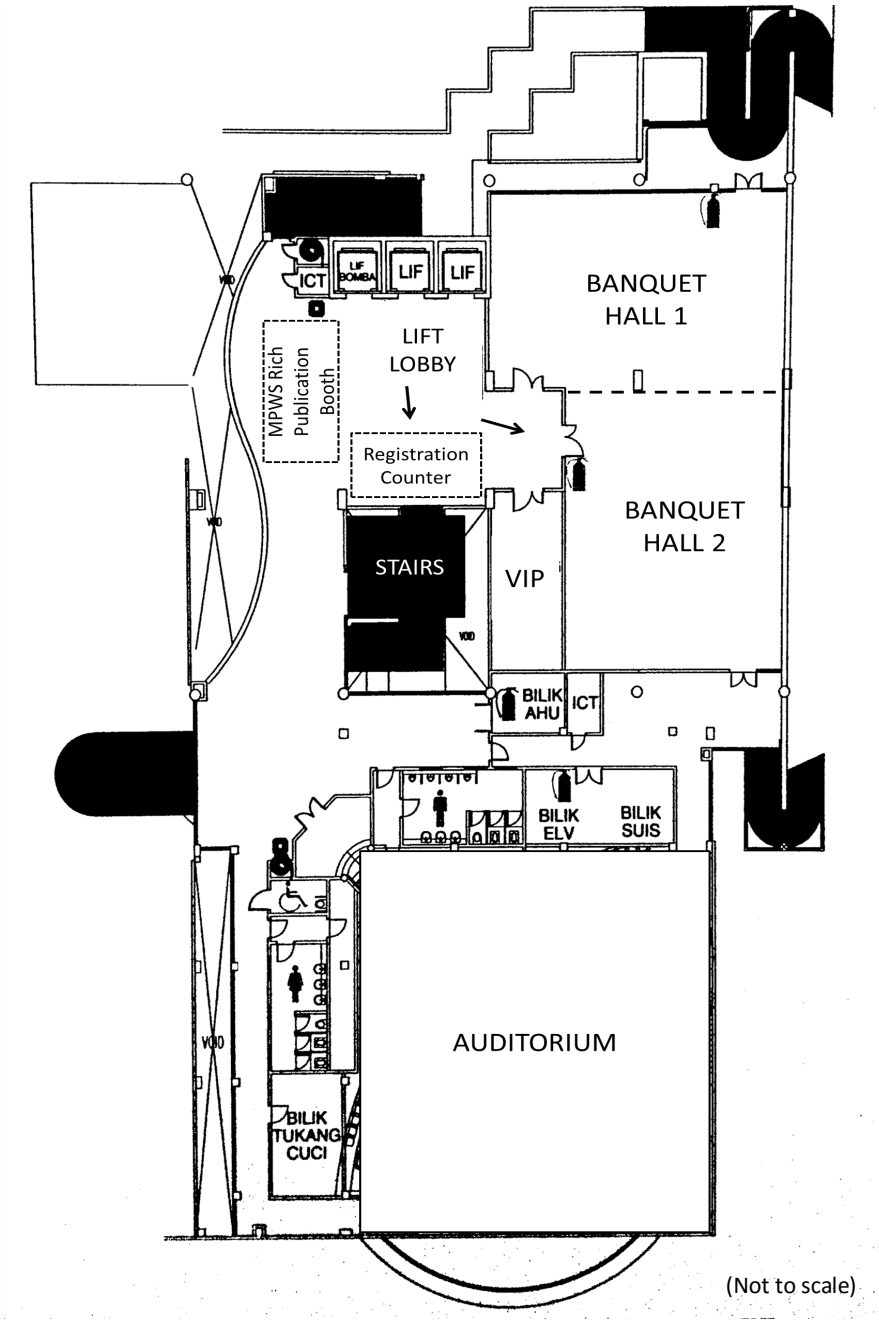
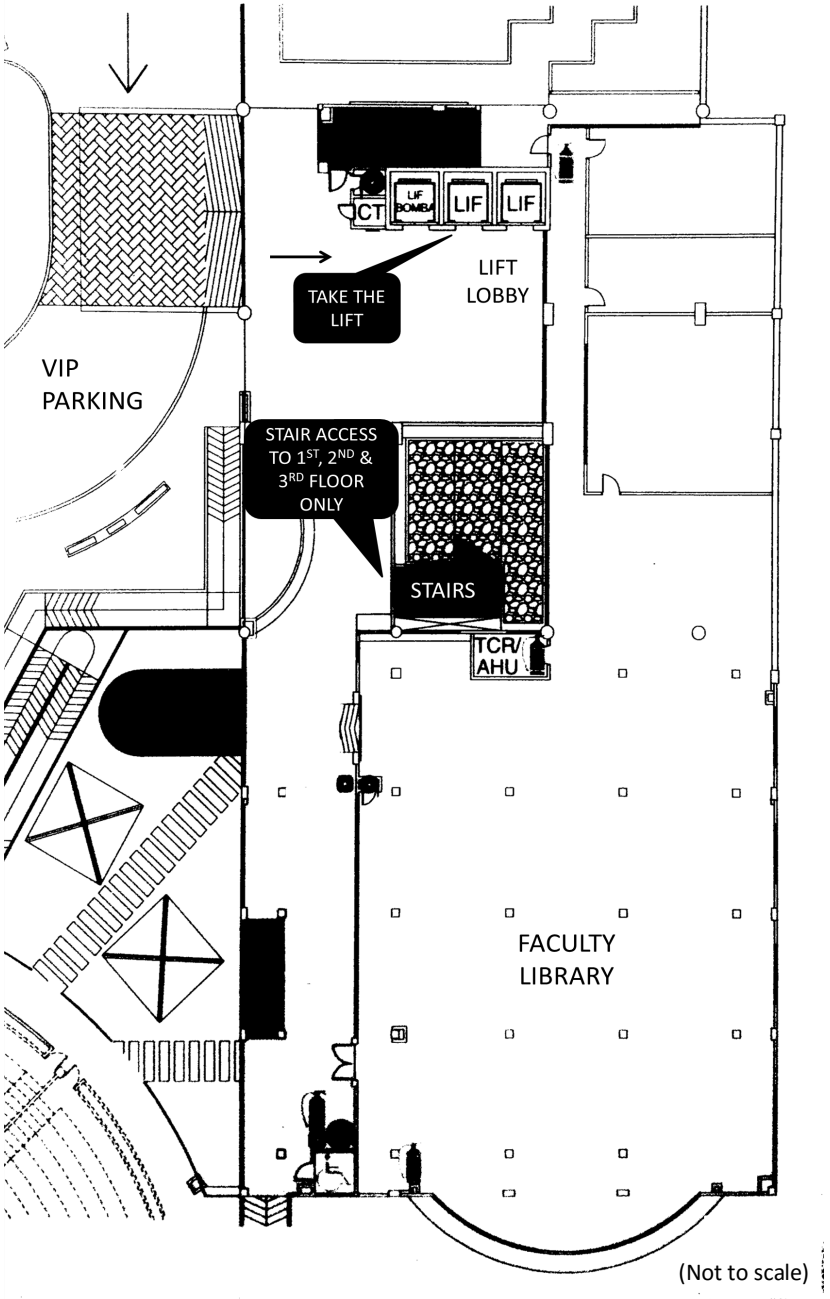
MERCU ALAM BINA - FLOOR PLAN

FIRST FLOOR PLAN



MERCU ALAM BINA - FLOOR PLAN

GROUND FLOOR PLAN



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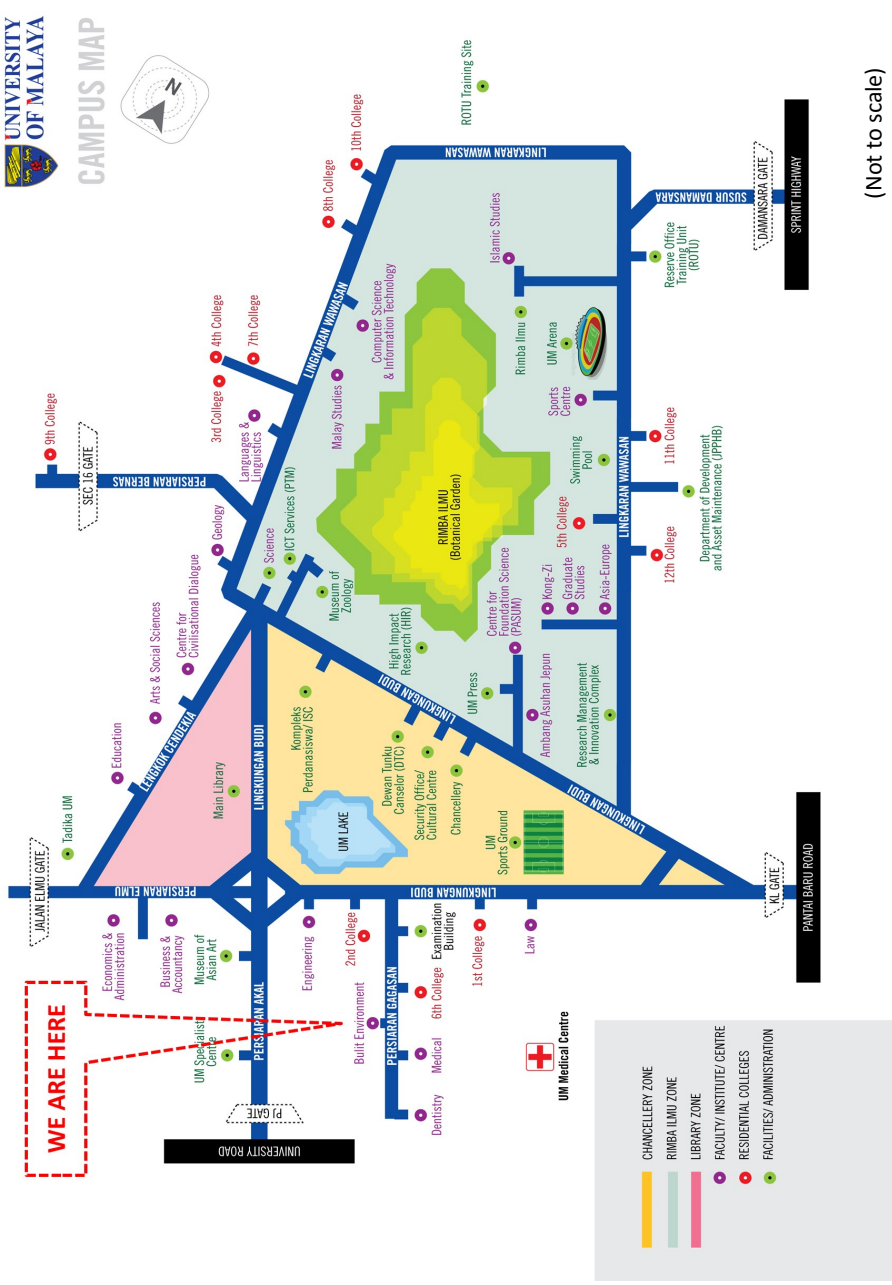
UNIVERSITY OF MALAYA CAMPUS MAP



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SESSION B4: URBAN PLANNING

Venue: Urban Planning Studio 1 (Level 4) Time: 1600-1620

APPLICATION OF SOCIO-ENVIRONMENTAL DESIGN FACTORS (SEDEF) MODEL TO RESIDENTIAL NEIGHBOURHOOD CRIME IN NIGERIA

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ABSTRACT

One of the social ills of urbanization and industrialization is crime and social disorder. However, residential neighbourhoods seem to have been at the receiving end due to the fact that most personal and family valuables are kept within the home and in most times are deserted as residents would go to work, school, market, place of worship and even recreation thereby making their homes a target of attack for prospective offenders. In response to this, most countries of the world have primarily applied the penal system (that is, use of police, court and prison) but studies indicate that this seems not to have yielded expected result in curbing neighbourhood crime. It is therefore the intention of this research to propose Socio-Environmental Design Factors (SEDeF) model as an alternative to the penal option for the benefit of housing sustainability. The research is expected to adopt case study approach with the use of structured questionnaire which is to be analysed through Structural Equation Modeling (SEM). The expected result would be to establish and test hypotheses based on the impact of social and environmental design factors on residential neighbourhood crime. The research is expected to be of great benefit to urban planners, realtors as well as policy makers with a view to maintaining a safe and secure neighbourhood.

Keywords: Environmental Factors, Property values, Residential Neighbourhood crime, SEDeF Model, Social factors.

SESSION B4: URBAN PLANNING

Venue: Urban Planning Studio 1 (Level 4) **Time: 1540-1600**

FACTORS CONTRIBUTING TO STREET CRIMES IN KUALA LUMPUR CITY CENTRE

Md Latif Faizah[1] NordinNikmatul Adha[2] Cheong Peng Au-Yong [3]
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ABSTRACT

In Malaysia, street crime is rapidly becoming a critical problem especially in four states that postthe highest number of cases, namely Kuala Lumpur, Selangor, Penang, and Johor. Currently, the Ministry of Home Affairs emphasises on the initiatives in tackling street crimes. This is in view that street crimes are increasingly traumatising and causing long-term fear on the victims, their family as well as the society. Thus, this research aims to study the link between urban design and the factors that causing street crimes. The research adopts the Space Syntax analysis and observation for data collection. The observation is conducted through the Crime Prevention Through Environmental Design (CPTED) audit checklists. After all, this study discusses on how the factors of streets crimes are related to urban design elements with regard to urban safety in Kuala Lumpur. This study will facilitate the police in enhancing their effective crime monitoring in areas that are exposed to the risk of street crime. In the aspect of urban planning, this study will facilitate in designing a safer town through the physical layout, taking into consideration the risk factors and potential crime in town as a whole.

Keywords: Hotspot, Space Syntax, Urban Design Elements, Street Crime Factors, Crime Prevention

APGS 2015, 8th December 2015, Kuala Lumpur, Malaysia

- ABSTRACTS -

GLOBAL BUILT ENVIRONMENT IN TRANSITION

- ABSTRACTS -

SESSION A1 : PROJECT AND RISK MANAGEMENT

VENUE: BANQUET HALL 1 (LEVEL 1)

TIME: 1030—1230

SESSION B4: URBAN PLANNING

Venue: Urban Planning Studio 1 (Level 4) **Time: 1520-1540**

INTEGRATING SOCIAL CAPITAL OF IMMIGRANT FOR BETTER CITY PLANNING AND DEVELOPMENT: A DISCOURSE ON CITY GOVERNANCE PRACTICE

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ABSTRACT

Social aspect plays important role in influencing the city management. This includes inclusivity as well as exclusivity of certain social group which may comprise immigrant group. As all cities worldwide are affected by the global movement of people and particularly the inevitable inflow of immigrants, the city authorities need to have the awareness and furthermore be progressive in considering all angles and issues of planning and development, which may be influenced by the presence of the immigrants. As the immigrants will share the same space along with the city infrastructures and facilities with the local people, there is high possibility that conflict may occur. Hence the local authorities play an important role in managing all aspects of the good governance practice. Social capital, which is embedded in immigrant network, can be considered as potential resource in seeking better approach in the city planning and development process.

Keywords: immigrants, social capital, governance

SESSION B4: URBAN PLANNING

Venue: Urban Planning Studio 1 (Level 4) Time: 1500-1520

SUSTAINABILITY IN URBAN REGENERATION INITIATIVES : THE CONCEPTUAL APPROACH

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ABSTRACT
As one of the spatial strategies to resolve urban decay and build sustainable cities, the urban regeneration concept has evolved from merely demolition and reconstruction to a much more comprehensive approach. Although urban regeneration is a desired solution for deprived cities, not all are successful in contributing to sustainable development. Thus, this study presents the conceptual idea of linking sustainability in urban regeneration initiatives as the way forward. The relationships between urban regeneration with social, economic and environment sustainability are evaluated from literature review. Findings of the study indicate that planning and social sub-systems in urban regeneration are the crucial components or the enablers to achieve sustainability. It is concluded that urban regeneration could be the solution to resolve urban decay and build sustainable cities if the planning and social sub-system are incorporated appropriately.

Keywords: town planning, sustainable development, urban regeneration, urban re-newal

SESSION A1: PROJECT AND RISK MANAGEMENT

Venue: Banquet Hall 1 (Level 1) Time: 1030-1050

UNDERSTANDING PROJECT COMPLEXITY INFLUENCE ON PROJECT MANAGEMENT PERFORMANCE – MALAYSIAN PERSPECTIVE

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ABSTRACT
Project Complexity has been considered for further investigations because of its negative influence upon the project management process and in particular the performance. The lack of consensus on what project complexity has become a crucial problem as project complexity is closely related to the project management process and the project management performance. Therefore, an understanding of project complexity is of significant importance to address the problem of project management performance. An extensive literature review enlightens the lack of consensus on project complexity and thus provides a broad view and a critical analysis of the underlying concepts. A total of 101 respondents was collected and analyzed, results showed that there is a lack of the usage of complexity models and frameworks. It is considered that the concept of project complexity is worthy of further consideration. The intention of this paper has been to provide a review of project complexity and to stimulate debate on the topic.

Keywords: Project Management; Project Complexity; Project performance; Uncertainty; Modelling

SESSION A1: PROJECT AND RISK MANAGEMENT

Venue: Banquet Hall 1 (Level 1) **Time: 1050-1110**

ASSESSING COMPETENCE ENTREPRENEURSHIP AMONG LARGE CONTRACTORS

[1]Mohamad Adib Bin Abdullah and [2]Md Asrul Nasid Masrom
[1, 2] Department of Construction Management, Faculty of Technology Management and Business , Universiti Tun Hussein Onn Malaysia (UTHM), 86400 Parit Raja, Batu Pahat, Johor, Malaysia.
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ABSTRACT

The key successes of the construction projects including several factors such as rate of supply projects, ability to adapt the new technologies and, most importantly, the performance of contractor. Nowadays, there are several problems faced by contractor that affect their performance particularly a weak financial management, fraud issues, a low quality of work, and highly competitive. Although there are various ways to improve contractor performance, however, entrepreneurship characteristics among contractors are still not widely focused. Entrepreneurship characteristic is one of alternatives for contractor to be more successful in their business. Therefore, this study aims to measure the main competency entrepreneurship characteristics that significant for contractor to improve their performance in construction projects. Preliminary interviews and literature review were used in identifying the effectiveness of entrepreneurship competency that influences contractor performance. The findings show that five main competency entrepreneurship characteristics namely visionary, creative and innovative, facing the challenge, risk taker, and expert in financial management. However, the study on the concept of entrepreneurship is still not done comprehensively in the construction industry especially in Malaysia and involves the study of contractor. Thus, at the end of this study will develop framework that may be helpful for contractors to improve their performance and to be sustained in the construction industry.

Keywords: Entrepreneurship, Contractor, Competency

APGS 2015, 8th December 2015, Kuala Lumpur, Malaysia

- ABSTRACTS -

SESSION B4 : URBAN PLANNING

VENUE: URBAN PLANNING STUDIO 1 (LEVEL 4)

TIME: 1500-1620

SESSION B3: ENVIRONMENTAL MANAGEMENT

Venue: Student Centre (Level 3) Time: 1600-1620

EVALUATING THE ASSESSMENT OF DAYLIGHT PERFORMANCE PARAMETERS OF OFFICE IN THE TROPICS

[1]Lim Gene-Harn [2]Nila Inangda Manyam Keumala [3]Norafida Ad. Ghafar
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ABSTRACT

As the developing countries in tropics start to adopt various green building rating tools, there is also a need to revisit the assessment methodologies of daylight performance of office space. The aim of this paper is to evaluate the current assessment method of daylight performance of office, including the daylight factor, illuminance and luminance, and glare index. This paper will explore whether the various parameters adopted from the temperate climate such as USGBC LEED building rating tool are suitable for the tropics climate. Recognizing that direct and diffuse solar radiation and also cloud cover are significantly different in the topics compared to temperate climate, this paper will also serve as a peer review on the latest daylight research parameters in this region.

The methodology will also include the author's first hand experience on daylighting measurement in several offices in the tropics, which discusses the practicality of daylight assessment methodology on the actual site. It is found that office workers in the tropics are more tolerable to glare and low work plane illuminance level. Also, daylight factor does not necessarily represent the performance of daylight of office as illuminance and luminance ratio are equally important. It is discovered that the measurement of illuminance level of a daylit table space is challenging as there is a huge illuminance ratio over one working table throughout the day, which it's reliability is not discussed in other daylighting literature previously.

Keywords: Daylight, Daylighting, Daylight Factor, Illuminance and Luminance, Glare Index

SESSION A1: PROJECT AND RISK MANAGEMENT

Venue: Banquet Hall 1 (Level 1) Time: 1110-1130

CAUSES AND IMPACTS OF VARIATION IN CONSTRUCTION PROJECTS

Zulhabri Ismail and Hafizah Hussin
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ABSTRACT

Variation in construction projects are inevitable due to the nature and different groups of professionals working together. Variation orders cannot be avoided completely and the existence of variation clauses in the contract is to further confirm that construction projects are prone towards change. This paper discusses a review of literature on the causes and effects of variation in construction projects. Pattern of common causes of variation in construction projects will be discussed, further the effects of such variation will be presented. Uncertainties events in terms of ground condition and weather conditions are among the main factors that contributed to the variation order, it would escalate the project cost, delay the project schedule and degrade the quality of works.

Keywords: Contract, Cost, Delay, Quality, Variation

SESSION A1: PROJECT AND RISK MANAGEMENT

Venue: Banquet Hall 1 (Level 1) **Time: 1130-1150**

EVALUATING ON SAFETY PERFORMANCE IMPLEMENTATION FOR MASS RAPID TRANSIT (MRT) CONSTRUCTION PROJECTS

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ABSTRACT

Contractor performance has always been criticised by several participants in construction projects. Performance of a contractor in the implementation of safety is widely argued. In Malaysia, although various methods have been implemented and introduced, the number of accidents is still keep increasing including Mass Rapid Transit (MRT) projects that act as one of the mega projects that have been suffered by number of accidents and fatality. As for to date, there are limited studies focus on safety performance for MRT projects particularly in developing countries. Owing to that, this study will examines factors that need by the contractor to maintain the level of safety on construction sites of MRT project and also the extent of implementation of the safety that has been implemented by the contractors at the MRT construction site especially in Malaysia. This study was conducted by using literature review and cas study. The results will indicate level of safety performance evaluation implementation at MRT construction site. At the end of this study, a conceptual framework will be developed to assist developers and contractors to improve their safety measures in the construction of MRT.

Keywords: Safety Implementation, Safety Performance Evaluation, Mass Rapid Transit

SESSION B3: ENVIRONMENTAL MANAGEMENT

Venue: Student Centre (Level 3) **Time: 1540-1600**

THERMAL AND RADIATIVE CHARACTERISTICS OF EMBEDDED WASTE TYRES CONCRETE PAVEMENT IN MALAYSIA

Aniza Abdul Aziz[1], Norafida Ab Ghafar[2], Elias Salleh[3]
[1]Postgraduate student, Institute of Graduate Studies, University of Malaya, Malaysia
[2]Senior lecturer, Department of Architecture, University of Malaya, Malaysia
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ABSTRACT

Paved surfaces may consume 30 to 40% of a developed city area and is one of the causes of urban heat island. Typical concrete pavement absorbed heat during the day and may increase their surface temperature from 3 to 25°C higher than the ambient air. Part of the solar energy is reflected and absorbed by the pavement surfaces during the day; while at night the pavement emit heat to the ambient air. Solar energy absorbed by the pavement also increased the subsoil temperature below it. Paved surface is a heat sink from sunrise till the peak temperature of the day before it becomes a heat source in the afternoon and through night time due to the heat release from the underground thus this intensifies the urban heat island temperature.

Increasing the albedo of pavement surfaces by utilizing lighter coloured pavement materials and designing permeable pavement are among the existing strategies to mitigate urban heat island. This research explores the potential of embedded waste tyres as the modulator to the heat absorbed by the pavement. 6 months field work measurement results indicate not only improvement to the pavement surface temperature but also the subsoil temperature.

Keywords: concrete pavement, urban heat island, surface and subsoil temperature, reuse waste tyre

SESSION B3: ENVIRONMENTAL MANAGEMENT

Venue: Student Centre (Level 3) Time: 1520-1540

EDIBLE BIRD NEST CLEANING PROCESSING IN WEST MALAYSIA: QUALITY ENHANCEMENT THROUGH MOISTURE CONTROL

[1]Tan Kok Hong, [2]Chia Fah Choy, [3]Alan Ong Han Kiat
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Email : [1]khtan@utar.edu.my, [2]chiafc@utar.edu.my,[3]ongkh@utar.edu.my

ABSTRACT

Edible bird nest industries have existed for more than a century; however, it has been going through a few revolution cycles. From the natural habitat in the dark and dim limestone caves to the modern purpose-built swiftlet farms, the quality and quantity of the bird nests has risen into a brand new level. This success in changing the habitat of swiftlet colonies was one of revolutions in ease of harvesting the bird nests from life threatening experiences to the safe and conducive environment. With a man-made environment, quality of bird nests improved with decreased levels of pollution and quantity increase as the colonies are achieving better growth with protection from predators.

On the downstream, edible bird nest cleaning processes experienced very little changes since the discovery of edible bird nests. The method of cleaning still remains as status quo. Few machinery have been introduced to replace the human labour but the results are either ineffective or undesirable. In this study we observe and analyse existing practice by identifying the area of opportunity for improvement. A new proposed method has been implemented to enhance the quality and nutrients of the bird nests. Through the experiment, the results show a great improvement of quality on the new proposed cleaning method. The experimental methodology has been employed to analyse a set of samples obtained from both cleaning methods. The results show that edible bird nests processed under the current method has a smaller expansion rate; hence the possibility of nutrients preserved increase by 30% under the new method.

Keywords: Bird nest cleaning, Bird nest processing, Edible bird nest, Swiftlet

SESSION A1: PROJECT AND RISK MANAGEMENT

Venue: Banquet Hall 1 (Level 1) Time: 1150-1210

RISKS IDENTIFICATION FOR BUILDING REFURBISHMENT PROJECTS: COMMERCIAL BUILDINGS

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ABSTRACT

Refurbishment concept has been recognized as an alternative for building that has reach to the end of their service life or failed to perform as required. However, refurbishment projects are identified as more risky and complex than the construction of new projects. This is due to refurbishment projects involve a high level of the uncertainties. As the size and complexity of refurbishment projects have increased, the ability to manage risks throughout the construction process has become one of the challenging management tasks. Considering this scenario, a comprehensive tool to determine risks and uncertainties that involved in refurbishment projects is needed as it can cause cost overrun, schedule delay and lack of quality during the progression of the projects. Although, several risk identification tools are available, unfortunately the tools are rarely used due to lack of knowledge in selecting the suitable techniques for construction projects especially in refurbishment works. Thus, this paper attempt to identify the significant risks in refurbishment projects, particularly for the commercial buildings. The data gathered based on preliminary interviews and an extensive literature reviews then been analyzed by using NVivo 10 software in order to produce a systematic and better structured findings. The proposed model would be beneficial to the developers in developing a better decision-making process by considering the risks that might face in refurbishment projects.

Keywords: Building Refurbishment, Risk Management, Risk in Refurbishment

SESSION A1: PROJECT AND RISK MANAGEMENT

Venue: Banquet Hall 1 (Level 1) Time: 1210-1230

THE SIGNIFICANCE OF COST VARIABLES AND THEIR INFLUENCES ON THE CONCEPTUAL COST ESTIMATION ACCURACY

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ABSTRACT

Cost Estimation (CCE) is fundamental in the initial decision-making processes for construction project. The primary function of CCE is to assist the owner about the anticipated cost of a project for budgeting purposes. In theory, estimating accuracy is indicative of the degree to which the final price outcome of a project may vary from the single point value used as the estimated cost of the project. A review of the literature indicates that it is important to identify critical factors for effective estimation at each project stage. Most cost estimation studies focus on specific estimation methods as generic techniques but little attention been given to the characteristics and requirements of each project stage. Moreover, different projects have different cost factors for consideration; thus, construction cost estimation process required an appreciation of project's evaluation about the factors influencing the accuracy. Realizing this fact, this paper will review the methodology, technique classification towards the improvement of the CCE accuracy. MRA based revised CBR and CBR with Parametric achieved better accuracy than other techniques.

Keywords: Accuracy, Building Construction, Conceptual Cost Estimation, Methodology Review, Technique Classification

SESSION B3: ENVIRONMENTAL MANAGEMENT

Venue: Student Centre (Level 3) Time: 1500-1520

SLIDING RUBBER DAMPER SYSTEM AS EARTHQUAKE ENERGY DISSIPATION DEVICE ON STRUCTURAL BUILDINGS

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ABSTRACT

Structural vibration control system is not a new term for concrete building to reduce wind and earthquake-induced response on structural buildings. Hazard caused by earthquake vibration resulted in massive destruction on infrastructure and human loss. Thus buildings equipped with structural vibrational control system is important in protecting the structures. The awareness on the importance of vibration control systems motivates the production of innovative structural control device, known as sliding rubber damper (SRD) when installed in building structures. Sliding rubber damper is made up of alternating rubber and metal layers where the details of sliding rubber damper with potential applications will be presented. Finite element modelling via ABAQUS is conducted to analyse the capability of sliding rubber damper system in actual application.

Keywords: Rubber, damper, earthquake, fatigue

- **ABSTRACTS -**
- **SESSION B3 : ENVIRONMENTAL MANAGEMENT**

VENUE: STUDENT CENTRE (LEVEL 3)

TIME: 1500-1620

APGS 2015, 8th December 2015, Kuala Lumpur, Malaysia

- ABSTRACTS -

SESSION A2 : HERITAGE AND CONSERVATION

VENUE: SIDANG KARYAWAN (LEVEL 2)

TIME: 1030—1230

SESSION A2: HERITAGE AND CONSERVATION

Venue: Sidang Karyawan (Level 2) Time: 1030-1050

MODERNIZATION OF BUILDING ELEMENTS IN BIDAYUH TRADITIONAL LONGHOUSE

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ABSTRACT
A traditional longhouse is one of the precious heritage that can be found in Sarawak, East Malaysia. The Dayak communities that comprised of the Iban, Bidayuh and Orang Ulu, had lived in longhouse since a long time ago. Melanau, another ethnic in Sarawak also practices longhouse living during the old time, but sadly most of them had left it nowadays. Longhouse is facing the threat of modernization. Not only modernization but the longhouse dwellers tend to abandon and demolish the longhouse to have a more modern type of residential house. Thus, a particular study of the existing traditional building elements of the longhouse is needed which important for future conservation. The study was carried out on Bidayuh traditional longhouse in Serian and Padawan area. Data such as the availability traditional building elements, materials and method of construction will be collected for the purpose. However, as mentioned before, the problem with the existing traditional longhouse is the modernization on some part of the longhouse especially on the use of more modern materials to replace the old one. This paper will discuss on the modernization that had been detected during the study of the existing traditional longhouse. The modernization either major or minor is a significant challenge in conservation and preservation works for the traditional longhouse.

Keywords: Challenge, Conservation, Heritage, Modernization, Longhouse

SESSION B2: LAND ADMINISTRATION

Venue: Sidang Karyawan (Level 2) Time: 1600-1620

A COMPARATIVE STUDY OF THE PERFORMANCES OF LAND ADMINISTRATION MACHINERIES IN NIGERIA AND MALAYSIA

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ABSTRACT
Access to land globally for the purpose of housing development has become an herculean task due to reasons ranging from ineptitude, corrupt and wilful inefficiency, among other several reasons on the part of our land administrators coupled with weak institutional machineries, as the major bane, that has clogged the supposed smoothness with which developable lands would have been accessed, through speedy processing of land allocation and development applications from various categories of applicants. Therefore, it is essentially to advance the way and manner with which our land administration machineries discharge their statutory responsibilities towards easing the delivery of lands in Nigeria, thereby contributing to shelter debate, that is the focus of this paper, by comparing it with what obtains in Malaysia, a transitional economy in the Asian continent, so as to draw lessons and share experiences, to better the lots of Nigeria's land delivery processes. Hence, structured questionnaires were administered on land administration machineries in the two case studies countries, as well as personal interviews were conducted on some allottees of government lands, as well as those who got their lands through other means, but wanted to regularise their ownership titles. Out of 220 questionnaires and interview guides, 165 were retrieved, which formed the basis of analysis for this study, with emphasis on the likert scale measurement usage, via both inferential and descriptive statistical tools, the results showed amongst other things, that lack of incentives and poor remunerative measures from government are the most responsible factors that underlie the inefficiency that surrounds the poor performance of land administration machineries in Nigeria. Among other recommendations that emanated from this study, is total value rebirth and attitudinal change on the part of all stakeholders, towards an improved land delivery process in Nigeria.

Keywords: Comparative study, performances, land administration machineries, Malaysia, Nigeria.

SESSION B2: LAND ADMINISTRATION

Venue: Sidang Karyawan (Level 2) **Time: 1540-1600**

THE INFLUENCE OF INTRA-URBAN MIGRATION ON LAND USE CHANGES

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ABSTRACT

Economists, sociologists, psychologists and ecologists have been interested by the intricacies of intra-urban migration and have studied it severally over the years. Many factors may be attributable to intra-urban migration in one country but may not be applicable in other countries. Additionally, households in developing countries have their own peculiar reasons for relocating within the same city which may be quite different from what is obtainable in developed countries. This issue provided the motivation to undertake a proper research study on the causes of intra-urban migration and the magnitude of its influence on land use changes in Kaduna, a metropolis of a developing country, Nigeria. Simple random sampling technique was employed to select 240 Officials from 6 Government agencies involved with land use matters who were administered questionnaires. Structural Equation Modeling (SEM) AMOS was used for data analysis. Findings showed that people relocated within the metropolis to attain more utility in form of security and safety and avoidance of stifling land use controls. Intra-Urban Migration has a significant influencing relationship to Land Use Change at the level of 15%. The study's findings will serve as invaluable reference points to public and private stakeholders who are involved in one way or another with the manner of human settlement and growth pattern of land uses.

Keywords: Influence, intra-urban migration, land use change, structural equation modeling.

SESSION A2: HERITAGE AND CONSERVATION

Venue: Sidang Karyawan (Level 2) **Time: 1050-1110**

THE STATE OF CONSERVATION FOR MEROITIC ANCIENT PYRAMIDS IN SUDAN

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ABSTRACT

Due to the rapid global changes in technology and more cultural heritage awarness, the philosophy and practice of heritage conservation and restoration needs to be regularly reviewed within an international context. A review of the international charters and best practice have brought the urgent need for best restoration strategies and technical guideline. Nevertheless, the Meroitic Architecture pyramids in Sudan are facing serious deteriorations due to a number of factors. However, the inappropriate restoration treatment and techniques are serious factors that need to be reviewed. The lack of understanding the pyramids design, construction materials and structural approach is an integral element of restoring heritage monuments.

The objective of this paper is to discuss the state of conservation of the pyramids, its values and undertanding the authenticity attributes such as design, construction materials/ structures and setting of the heritage Meroitic pyramids in order to identify the best restoration processes. Studies and fieldwork survey are conducted to anaylise the Meroitic ancient pyramids architectural design, materials, structural approach and observe the old restoration treatment and techniques as well.

Keywords: conservation, restoration treatment, authenticity, heritage monuments, pyramids.

SESSION A2: HERITAGE AND CONSERVATION

Venue: Sidang Karyawan (Level 2) Time: 1110-1130

ENCAPSULATING INCENTIVES SYSTEM IN SAFEGUARDING HERITAGE VILLAGE: THE CASE OF MELAKA AND GEORGE TOWN

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ABSTRACT

In Malaysia, the rapid economic development has caused the future demolitions of some historic districts in order to make way for new development and this has resulted in an alteration of the socio-economic landscape and unsettling communities imbalances. This paper summarizes the main findings derived from the field study held in three heritage villages located in the proximity of Melaka and Georget Town World Heritage Site. This study has employed a mixed method approach by using a questionnaire survey on the residents and interviews involving officials and local village leaders of the Morten Village and the Chitty Village in Melaka as well as the Clan Jetty Village in George Town. This study set out to determine the overarching question, which was whether the incentives programmes formulated for the community have been found to be suitable to the aspirations and 'real' needs of the local residents. This paper analyses the residents' perception on the effectiveness of the current incentives policy by using Bennett's programme evaluation method. It evaluates the findings in relation to the present policy framework for understanding and managing the cultural heritage incentives programme in order to establish the sustainable community in the heritage village. As observed, this study has identified some constraints on the current incentive policy implementation from the viewpoints of the local residents.

Keywords: cultural heritage, incentives system, heritage village, case study.

SESSION B2: LAND ADMINISTRATION

Venue: Sidang Karyawan (Level 2) Time: 1520-1540

REVIEW OF FORMAL ACCESSIBILITY OF URBAN LANDS FOR SUSTAINABLE DEVELOPMENT OF RESIDENTIAL FACILITIES IN NIGERIA

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ABSTRACT

Notwithstanding the relevance of housing to human existence being ranked next to food in the hierarchy of human needs, acquiring developable land in reasonable quantum for residential facilities development, especially within urban milieu in Nigeria, as the case globally, is almost a mirage, especially as uncontrolled urbanization and natural population growth rates continue to soar. Hence, it is within the above analytical context, that an expository and insightful review of the formalised windows of accessing developable urban lands for sustainable development of residential facilities in Nigeria, was extensively conducted through a critical review of relevant literature. Amongst other suggestions that were made towards addressing this ugly trend, which were provided at the end of this review exercise, include, taking a bold constitutional amendment towards reconsidering and deep-looking at the primacy of state governors in respect of urban lands; as well as checking the finality of the decisions of Land Use and Allocation Committee on matters of land acquisition in Nigeria.

Keywords: Formal accessibility, residential facilities, review, sustainable development, urban lands

SESSION B2: LAND ADMINISTRATION

Venue: Sidang Karyawan (Level 2) Time: 1500-1520

EXAMINING THE ADMINISTRATION STRUCTURE OF WAQF SOLE TRUSTEES IN MALAYSIA

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ABSTRACT

Waqf land in Malaysia records more than 11,000 hectares and worth approximately at RM1.2 billion. Waqf land is scattered all over Malaysia and being taken care by fourteen State Islamic Religious Councils (SIRCs) who act as a sole trustee at every state. Many literature and reports have pointed out that the development of waqf lands are not being optimised, and many of them are idle. The loss of opportunity from undeveloped waqf land is huge, and the intentions of good deeds by the donors are also being delayed. The concerned publics become frustrated and blame SIRCs as less capable to manage waqf assets under their custody. Although the critics are sound, it seems unfair to SIRCs because some problems are not easily rectified such as governance inefficiency, lack of resources, red tapes and non-supportive legislative provisions. However, not all problems seem to create a hindrance to the SIRCs to manage waqf assets. Still, there are many remarkable waqf asset developments have been materialised but being less highlighted in the media, reports or literature. Using the information gathered from the unstructured interview session and secondary data such as SIRCs official website, this conceptual paper is showcasing the administration structure and the hierarchy of waqf unit. Hence, this paper revealed that waqf unit in SIRCs were positioned to six different hierarchy structure and have resulted a mixed observable achievements in managing waqf properties.

Keywords: Administration Structure, Sole Trustees, Waqf Institution, Waqf Land

SESSION A2: HERITAGE AND CONSERVATION

Venue: Sidang Karyawan (Level 2) Time: 1130-1150

GREEN MAINTENANCE: A REVIEW ON SUSTAINABLE REPAIR APPROACH IMPACT ON EMBODIED CARBON EXPENDITURE FOR HERITAGE BUILDINGS

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ABSTRACT

Essentially, historical and architectural values of heritage buildings require continuous care and planned maintenance i.e fundamental process of buildings conservation. Subsequently, good maintenance intervention is seen as a tenet of sustainable repair approach for heritage buildings, through the emerging concept and methodology of Green Maintenance model. The emergence of this model entails nobel understanding on the cumulative effect of routine maintenance interventions i.e repairs, not only in terms of cost and philosophy, but also from the environmental impact perspective. This paper gives insight on how sustainable repair approach of Green Maintenance stimulates the usage of low carbon materials and reduction of CO2 emissions in heritage buildings repair. This was expressed based on the quantification of embodied carbon expenditure expended from repair within 'cradle-to-site' boundary of Life Cycle Assessment (LCA). This review shows that CO2 emissions from heritage buildings repair is increasingly become the prime concern. Substantially, sustainable repair approach of Green Maintenance model relays the 'true' CO2 emissions.

Keywords: Embodied Carbon Expenditure, Green Maintenance, Heritage Building, Sustainable Repair Approach

SESSION A2: HERITAGE AND CONSERVATION

Venue: Sidang Karyawan (Level 2) **Time: 1150-1210**

EXAMINING PUBLIC AWARENESS IN CONSERVING HERITAGE BUILDINGS AT MELAKA WORLD HERITAGE SITE USING COGNITIVE EVALUATION THEORY

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ABSTRACT

The inscription of Melaka as a UNESCO World Heritage Site (WHS) can largely be attributed to its unique stock of Heritage Buildings (HB) among other heritage items of cultural significance. Forming the broadest category of cultural heritage items, HB's in Melaka have been imposed to legal protection which is termed to as conservation. Despite all the resource consuming efforts by organisations to improve awareness on conservation of HB's in Melaka, studies sadly consistently show that public awareness still persists which several authors attribute to insufficient motivation of the public. Findings from studies in the domain of healthcare and sport among others show that Cognitive Evaluation Theory (CET) has been used to establish that public awareness can be driven by intrinsic motivation so long as the three basic human psychological needs of autonomy, competency and relatedness are satisfied. This research thus proposes a set of hypothesis to investigate factors that facilitate and those that undermine intrinsic motivation to awareness in Melaka WHS using CET. Using stratified random sampling, this study intends to fetch data from the public of Melaka WHS by means of a survey with the aid of a structured questionnaire. The hypothesis is built around the three phases of the conservation process that lead to best practice which are: conservation planning, conservation monitoring and conservation evaluation. This study concludes by stating that this research is ongoing and results later derived from the survey will be used to design a community engagement model for the sustainable conservation of HB's.

Keywords: Cognitive Evaluation Theory; Heritage Buildings; Melaka World Heritage Site; Public Awareness;

APGS 2015, 8th December 2015, Kuala Lumpur, Malaysia

- ABSTRACTS -

SESSION B2 : LAND ADMINISTRATION

VENUE: SIDANG KARYAWAN (LEVEL 2)

TIME: 1500-1620

SESSION B1: BUILDING AND FACILITY MANAGEMENT

Venue: Banquet Hall 1 (Level 1) Time: 1600-1620

PERCEPTION OF COMPUTER AIDED FACILITIES MANAGEMENT (CAFM) AMONG FACILITY MANAGERS IN MALAYSIA

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ABSTRACT

There are many communication gaps in construction and development projects between the various participants such as architects, designers, engineers, surveyors, contractors and sub-contractors. During the operation and maintenance phase of the project, these gaps are much more evident. After construction, the building owner doesn't obtain just a new building, but it comes with wide range of information and data in paper and electronic form which need to be used by Facility Manager (FM). Many FM Service providers face problem due to difference between the FM contract amount awarded by the client and the actual cost of the project during the contract, which can be from one year up to fifteen years.

By adopting a three dimensional (3D) capabilities and advantage of integration of BIM model into CAFM, the way of facilities management information system (FMIS) will be optimized. This research is to study on perception of CAFM among FM in Malaysia and importance of CAFM implementation in FM organization, which shall increase the efficiency and reduce the FM project cost. Descriptive data analysis shows less than one quarter of respondents have the medium knowledge required for having efficient use of CAFM system. However three quarter of respondent has the minimum knowledge required to run CAFM system by having training and using system manual. This result is also proven by quantitative data analysis that shows the overall efficiency of CAFM system used in organization is in "Adequate" level.

Keywords: Building Information Modelling (BIM), Computer Aided Facilities Management (CAFM), Facilities Management (FM), Facilities Management Information System (FMIS).

SESSION A2: HERITAGE AND CONSERVATION

Venue: Sidang Karyawan (Level 2) Time: 1210-1230

HERITAGE IMPACT ASSESSMENT (HIA) AS THE PLATFORM TO PROTECT NATION'S HERITAGE

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ABSTRACT

The pressures on world's heritage properties that caused by the threats from modern development enlightening the heritage conservators about the importance to produce a rigid assessment that able to predict and evaluate the impact of modern development on the world's heritage properties, called as Heritage Impact Assessment or HIA (the terminology used along this paper) and its role as a part of heritage conservation's processes. In Malaysia, the implementation of HIA is mandatory only when it comes to developing the UNESCO World Heritage Sites; Malacca and Georgetown in Penang and their buffer zones which comply with the ICOMOS's guidance of HIA under its publication in 2011 where implementation of HIA is mandate on Outstanding Universal Value (OUV) properties.

ICOMOS did tabulate the possible methodologies to conduct HIA in details but the suitability of its implementation is totally depending on the existing situation of heritage properties. Nevertheless, it is interesting that HIA is mandate to secure the world heritage properties but it does not barred from being implemented to secure heritage properties in nation or local level. However, does the implementation of HIA on OUV is applicable to protect Malaysia's heritage properties especially the one that is at risk or at lost and complying with the national standards? Which expertise or professional sector has the right to conduct HIA? This whole research is expected not only to answer these questions, but also to discover the contributions of HIA to protect and preserve Malaysia's heritage properties from the threats of natural disaster.

Keywords: Heritage Impact Assessment, Conservation, Heritage, Modern Development Impact

- ABSTRACTS -

SESSION A3 : SUSTAINABLE DESIGN

VENUE: STUDENT CENTRE (LEVEL 3)

TIME: 1030—1230

SESSION B1: BUILDING AND FACILITY MANAGEMENT

Venue: Banquet Hall 1 (Level 1) Time: 1540-1600

CHALLENGES FOR DEVELOPERS IMPLEMENTING IBS IN MALAYSIAN HOUSING PROJECTS

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ABSTRACT

Housing projects has become one of the contributors to Malaysian construction industry and there is always significant demand for housing as Malaysian economic has spurs positively. However, reports from National Housing Policy (2012) has revealed that current housing projects must transform from issues of low quality, delay, lack of skilled labour and slow adaptation of technology. Therefore the government has enforced prefabrication concept to be implemented in Malaysian housing sector to overcome these issues. Housing should be the sector that most suitable implementing IBS due to its construction nature where repetitious drawings and similar layout and specification are used for every unit. Recent study shows that IBS adoption in housing projects still behind the target. There are many challenges that discourage housing developers to adopt this prefabrication technology. This paper aims to discuss the challenges that housing developer encounter which discourage them from implementing IBS and at the end of this paper, some suggestions to overcome the challenges are proposed. This paper is based on previous research, journals and government reports as evidence. It can be concluded that Malaysian housing market still facing many barriers on IBS and needs a radical transformation that requires much more effort particularly on procurement system, supply chain and skill workers. In order to sustain the IBS usage, all parties must put great attention where this technology becomes priority, and not only as an alternative method.

Keywords: IBS, housing developers, housing project Malaysia, construction project.

SESSION B1: BUILDING AND FACILITY MANAGEMENT

Venue: Banquet Hall 1 (Level 1) Time: 1520-1540

MAKING HOSPITAL MORE RESILIENT: A CASE STUDY OF DISASTER RISK REDUCTION WORKSHOP AT KUALA KRAI HOSPITAL

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ABSTRACT

End of December 2014, Kelantan has severely experienced extreme flooding whereby most health facilities in major towns of the state were heavily affected. The flooding has submerged some hospitals and at some places the flood has turned other hospitals into islands. The extraordinary flood was unexpected and many hospitals were inadequately prepared, thus making relief efforts such a demanding challenge. Flood situation has the potential to affect utilities that are vital for health care and patient management, such as power and water supply thus affecting the overall hospital services. Hospitals and health facilities play a crucial role in providing health services to the communities, in particular during disasters and emergencies. Disaster preparedness and risk management are therefore essential to ensure the increasing demands are met during any disaster situation, including continuation of services and surge capacity and ultimately creating a more resilient hospital. In response to that, a workshop called "Making hospitals more resilient: My hospital is getting ready!" has taken place in Kuala Krai Hospital, Kelantan. The workshop aims to increase understanding and awareness on disaster preparedness and further develop expertise and skills in hospital disaster management. Disaster risk reduction is a conceptual tool to develop Hospital Disaster Action Plan through capacity building, participation-oriented workshop, field observation and table-top simulation exercise. This holistic approach shall increase the capacity and competency of hospital staff, hospital infrastructures and the built environment to ensure effective coordination for more immediate response in hazard situation and shall bounce back faster.

Keywords: Disaster Risk Reduction, Hospital Watching, Resilient Hospital

SESSION A3: SUSTAINABLE DESIGN

Venue: Student Centre (Level 3) Time: 1030-1050

A STUDY ON KNOWLEDGE AND AWARENESS OF HEALTHCARE FACILITIES STAKEHOLDERS ON MOLD RISK

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ABSTRACT

In today's demanding healthcare environment, healthcare facilities building were adopted with best available techniques in building design, construction techniques, new materials, energy efficient building systems, sophisticated medical equipment and maintenance-friendly approach. However, modern techniques does not fully guaranteed mold risk-free building as they may inadvertently resulted in various indoor environmental issues due to faulty services, building dampness, unacquainted building operations, unattended building defects and others, besides poor maintenance and operations. The risk of mold growth is significant in modern hospital as more than 90% of the spaces are air-conditioned, thus makes mold spores easily cultivated and spread into the indoor air. Human factors such as insufficient experience, inadequate knowledge and attitude of indifference among building designers, builders and building end-users on mold risk matters unfortunately has been the cause for the persistence of mold indoors. This study was conducted to acquire level of awareness and knowledge among hospital building designers, users and operators on the effects of mold on human health, building physics and hospital operation in order to keep the building sustainable. Survey questionnaires were distributed to building designers, consultants, contractors and hospital end-users to delineate their knowledge and awareness on mold and its factors, effects on hospital design, operations and maintenance, parameters for mold growth as well as remediation and prevention of mold. Results shows that the awareness and knowledge of those involved are exceptional. However, more concern on mold risk control and mitigation effort during hospital early operation should be doubled up to increase knowledge and awareness among hospital building stakeholders.

Keywords: Hospital Operational and Maintenance, Indoor Environment Quality, Mold Risk Awareness

SESSION A3: SUSTAINABLE DESIGN

Venue: Student Centre (Level 3) Time: 1050-1110

INTEGRATION OF UNIVERSAL DESIGN APPROACH INTO NIGERIAN INCLUSIVE POLICIES: PROGRESS AND POTENTIALS

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ABSTRACT

With the exception of few developing countries, there is a global convergence of affording access and accessibility to persons with disabilities (PWD). Utilizing examples from the best practices, the study explores the concept of Universal Design to discuss how disablement is reduced and curtails at the policy, physical, social and individual level of environmental influences. The focus is to offer evidence-based recommendations to mitigate exclusionary tendencies in and within the built environment of Nigeria. Extensive literature review of infrastructure accessibility requirement is at par with qualitative content review of Nigerian disability policies and national building code related to PWD access and accessibility in the built environment. Using social ecological model the paper put forward a compelling alternative to the charity based Nigerian disability policies and standards. Findings revealed that the seven principles of Universal Design (UD) have a potential of mitigating socio-spatial inequality in the developing world at four levels of environmental impacts. Recommendations for the individual, social, physical and policy levels include resiliency, improving disability awareness, bottom up approach to Universal Design, and including communication and social support respectively.

Keywords: Built environment, developing countries, PWD, Socio-spatial inequality, Universal Design

SESSION B1: BUILDING AND FACILITY MANAGEMENT

Venue: Banquet Hall 1 (Level 1) Time: 1500-1520

A REVIEW OF REPLACEMENT COST MODELLING FOR HVAC ASSET

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ABSTRACT

This paper presents development of a model to be use to select the best option for building replacement in public ownership such as public library, stadium, hospital and school buildings. Buildings life cycle management should be transparent and cost efficient. Hence, decisions taken during the life cycle of the buildings should be based on clear justification. One of the major issues in facility planning is to determine whether to rebuild or restore the existing facility. In fact, for government assets, they have to be economically managed by knowing the holding cost, so that it is viable to be retained in long run. The objectives of this paper were to establish relationship between replacement cost and cost decision making factors through the development of replacement cost model towards an economic efficiency for government buildings. Three stages of process were involved in this study. They are, stage 1, which explain on the significance factors of Cost Decision Making (CDM) and Replacement Cost (RC). It followed by exploration of the relationship between CDM and RC in Stage 2. Finally, the development of replacement cost model that expected to increase economic efficiency and transparency of building replacement. The results expected to provide a raw evidences to support a concept that refurbishment of existing building would be more benefit than replacement to the new ones. It is also expected that the results could be used by organizations especially for the decision makers as a guideline or tool to make a wise decision in building replacement related activities.

Keywords: Asset Modeling, Replacement Cost, Cost Decision Making, Government Building

- **ABSTRACTS -**
- **SESSION B1 : BUILDING AND FACILITY MANAGEMENT**

VENUE: BANQUET HALL 1 (LEVEL 1)

TIME: 1500-1620

SESSION A3: SUSTAINABLE DESIGN

Venue: Student Centre (Level 3) **Time: 1110-1130**

PRELIMINARY STUDY OF BUIIDING CONFIGURATION FOR DAYLIGHTING ASSESSMENT AND HEAT GAIN ANALYSIS IN HIGH-RISE RESIDENTIAL BUILDING

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ABSTRACT

High-rise building is exposed to overheating in the tropical climate or equatorial region, such as Malaysia. Daylighting is one of the potential passive strategies to improve energy performance and building occupants' visual and thermal comfort in residential building. Design compliance to orientation improved energy efficiency in new housing construction. The aim of this paper is to orient building layout in order to maximise passive solar benefits while minimize solar exposure on heat gain. The objectives of this research are to find the optimum building layout design for domestic building and to assess daylighting performance and heat gain in the building. The computer programme "Ecotect V5.2" was applied to simulate the concern variable. The simulation results reveal that building layout with U-shape has better performance in optimizing both daylighting and heat gain in high-rise residential building.

Keywords: Building Configuration, Daylighting, Heat Gain, Residential Building

SESSION A3: SUSTAINABLE DESIGN

Venue: Student Centre (Level 3) Time: 1130-1150

SUSTAINABLE DEVELOPMENT BY IMPLEMENTATION OF GREEN ROOF IN BUILDINGS: A REVIEW

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ABSTRACT

Today's, buildings consume a significant amount of energy in order to provide comfortable indoor environment. However, high amount of energy consumption especially in the developing countries causes such environmental issues like global warming or air and water pollutions. As results, many studies have been conducted in order to achieve sustainable environment without compromising occupant's satisfaction within built environment. As an effective energy efficiency strategy, green roof is considered as a successful practice to attain sustainable development recently. The green roof is an applicable practice that not only provides environmental recuperation and occupant's thermal comfort but also mitigates energy consumption of buildings. Previous studies ascertained that there are many advantages on implementation of green roof such as noise reduction, increase of water run off quality. With regard to human interaction, green roofs provide recreational opportunities, add aesthetical values and improve the urban quality. Green roofs also decrease the ambient air temperature during daytime and nighttime, saves energy due to the enhancement of shading. The current study aims to review the application of green roof strategy in the built environment to identify several effects of the green roof on cooling load, heat flux, and heat island. The results of study explored the seasonal performance of green roof as well as effects of growing medium's characteristics. Based on previous studies, the study recommends further studies on characteristics and energy aspects of intensive and extensive green roof to evaluate the benefits of green roof that could be applied in the tropical climate.

Keywords: Green roof, passive design strategy, thermal comfort, energy consumption, air pollution

SESSION A4: HOUSING AND REAL ESTATE INVESTMENT

Venue: Urban Planning Studio 1 (Level 4) Time: 1210-1230

THE SECURITISATION OF MALAYSIAN HOUSING FINANCE AND ITS IMPACT ON THE HOUSING MARKET

Yong Chea Chee[1,] Rosli Said[2]
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ABSTRACT

The key aspect of this paper is to identify the relationship between securitisation of Housing Finance and the housing market in Malaysia-. This paper employs Vector Autoregressive Approach to identify the empirical relationship between securitisation and housing market variables. The key finding shows that there is a certain level of relationship between the housing market and securitisation in Malaysia. A long run relationship as found in the variance decomposition shows that the shock in securitisation will not cause a big impact on the robustness of the housing market.

Keywords: **Securitisation; Housing Finance System; Secondary Mortgage Market; Housing market; VAR**

SESSION A4: HOUSING AND REAL ESTATE INVESTMENT

Venue: Urban Planning Studio 1 (Level 4) Time: 1150-1210

THE ROLE OF HOUSING AND SOCIAL SUSTAINABILITY: A REVIEW

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ABSTRACT

Social sustainability, being one of three main domains of the overarching concept of sustainable development has only come into light of academicians and policy makers in recent decade. Since the onslaught of interest, a myriad of researchers had attempted to define and characterise social sustainability from the both academic and policy point of view. However, the intention to construe an all-encompassing designation was never reached. This paper aims to review various literatures to better understand the characterised definition of social sustainability and its association with urban housing attributes via desk research. As this paper is part of an ongoing doctoral research to develop a social sustainability framework for high density housing in Kuala Lumpur, housing related articles and documents including those of the urban development, housing sociology and urban sustainability fields, restricted to year 1993 to 2014 were identified. This review revealed that social sustainability in the context of communities is implicitly connected to the physical environment, in this case human housing. However, there is a lack of empirical studies that provides quantifiable evidence, thus more effort should be put into associating social sustainability and the built environment, especially in numeric forms. As what we can measure, we value, and what we value affects how we behave. By altering the behaviours of public and private entities involved in the housing development industry, only then we are able to induce change in society.

Keywords: Sustainable Communities, Social Capital, Malaysia

SESSION A3: SUSTAINABLE DESIGN

Venue: Student Centre (Level 3) Time: 1150-1210

THE MISSING DESIGN FEATURE

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ABSTRACT

A hot and humid climate condition are always been a challenge to building designer in tropical region countries. Mouldy façade can emerge within a few days due to heavy rain and room can easily become hot and musty are among the major issues due to the improper ventilation. As a strategy towards solving the problems, ventilation block is an ingenious building element that has a long history and widely used in tropical buildings. It provides comfort through cross ventilation, permitting daylight, protection from heavy rainfall and, served as an aesthetic architecture pattern. The purpose of this paper is to identify the ventilation blocks design on the existing primary school buildings in Kuala Lumpur territory, Malaysia. From 201 listed primary schools in Kuala Lumpur, a sample of 80 schools has been visited and observation on finding out the conditions of the school design has been carried out. The schools were selected according to the years it was formed or founded and categorised based on the findings of their architectural design influences. There are at least 10 different ventilation block designs were found in schools that were built in the 1950s and 1960s. This element can be found in various location however, the purpose is clear, to provide a good ventilation and comfort to the occupants. By combining architecture and cross ventilation as a design feature, the implication of ventilation block is not only to solve the problems, it is also adding value to the building and a convincing strategy towards sustainable design approach.

Keywords: architectural feature, passive design strategy, school building, ventilation block

SESSION A3: SUSTAINABLE DESIGN

Venue: Student Centre (Level 3) Time: 1210-1230

THE CAPSULE LIVING UNIT: A UTOPIA TRANSFORMED REALITY

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ABSTRACT

The concept of the capsule emerged in the architectural discourse with the Metabolist movement launched in Japan in the early 60's. While the Metabolist's project is to be understood in the context of Japan's post-war 'miraculous' recovery, its theory also devoted a great deal of energy to the subject of technology. Because of this the space capsule unit became and remains a strong symbol of progress associated to avant-garde visions and experimental inventions.

The aim of this paper is to examine the characteristics of the capsule concept by re-reading its theories and realized projects, and to search for a possible re-interpretation of its fundamental ideologies as it is yet perceived a radical utopia. This article is divided into four parts. The first section offers a possible history of the capsule, a subject mostly still presented ahistorically. Using this history as a background, the second section investigates in more details the works created by the main protagonists of the Metabolist group in order to establish the main characteristics of their concept. Subsequently, the third section examines the evolution of this typology and its applications since. The fourth section concludes with final thoughts on the significance of the capsule living unit, a model that has eventually proved to be a suitable reality.

Keywords: Housing typology, Metabolism, capsule architecture, capsule living unit.

SESSION A4: HOUSING AND REAL ESTATE INVESTMENT

Venue: Urban Planning Studio 1 (Level 4) Time: 1130-1150

REIT FINANCING REAL ESTATE DEVELOPMENT PROJECT: A REWARDING INVESTMENT OPTION

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ABSTRACT

This study appraised the possibility of REITs directly financing real estate developments within the REIT investment guidelines. The focus is to grow the real estate sector of the emerging REIT markets especially where there exist a low stock of real estate assets. Asset allocation strategy of the modern portfolio theory anchored on the Markowitz's efficient frontier model, mean – variance analysis, was adopted taking into consideration the REIT law, regulations and guidelines in Nigeria. The study found a diversifier benefit in real estate development financing to N-REIT and found a model of 80% real estate acquisition and 20% real estate development financing asset allocation strategy, yielding a return 7.5%, 83% higher than the 4.1% maximum return if 100% of REIT fund is invested on property acquisition. The study provides an insight to the developing Nigeria REIT market and recommend a review of REIT law to encourage REIT investment in direct real estate development financing toward increasing the property stock of emerging real estate markets to a sustainable level.

Keywords: Efficient Frontier, Real Estate Asset, Real Estate Finance, REIT, Return.

SESSION A4: HOUSING AND REAL ESTATE INVESTMENT

Venue: Urban Planning Studio 1 (Level 4) Time: 1110-1130

ADEQUACY OF BUILDING FACILITIES AS A DETERMINANT FACTOR FOR RESIDENTIAL HOUSE RENTAL VALUES IN MINNA METROPOLIS, NIGERIA

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ABSTRACT

Determination of residential house rental values in recent times has become a global phenomenon. This trend continues to put a challenge to Real Estate practitioners. This study aims at examining the impact of adequacy of building facilities and locational attributes as it affect residential house rental values in Minna metropolis, Nigeria. Standard multiple regression technique was employed in estimating the degree of the impact of the adequacy of building facilities and locational attributes on house rental value in both the high density, medium density and low density residential neighborhoods of Minna metropolis. Data on building facilities and locational attributes as well as data on rental values of residential houses in the category of 1-bedroom, 2-bedroom and 3-bedroom apartments were obtained from the field survey conducted in Kpakungu, Tudun Fulani and London Street representing high density, medium density and low density residential neighborhoods of the metropolis respectively. The results from the analysis revealed that the adequacy of building facilities and locational attributes are strong determinants of residential house rental value in the metropolis. The study's findings will be useful to real estate practitioners and all relevant stakeholders in real estate investment and marketing.

Keywords: **Building facilities, locational attributes, house, multiple regression, rental values.**

APGS 2015, 8th December 2015, Kuala Lumpur, Malaysia

- ABSTRACTS -
SESSION A4 : HOUSING AND REAL ESTATE INVESTMENT
VENUE: URBAN PLANNING STUDIO 1 (LEVEL 4)
TIME: 1030—1230

SESSION A4: HOUSING AND REAL ESTATE INVESTMENT

Venue: Urban Planning Studio 1 (Level 4) Time: 1030-1050

PERFORMANCE OF ISLAMIC REITs VERSUS CONVENTIONAL REITs IN MALAYSIA

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ABSTRACT

Islamic REITs have been established about ten years ago. It is very interesting to compare the performance of Islamic REIT compare to Conventional REITs. This study empirically assesses the risk-adjusted performance analysis and dynamic of volatility of Islamic REIT and other assets classes for the sample period between November 2008 and December 2014. The performance of Islamic REIT as well other asset classes in a mixed-asset portfolio will be evaluated by using risk-adjusted performance analysis using Sharpe ratio. The analysis enhance with correlation matrix to estimate the diversification benefit. Asset allocation diagram and efficient frontiers were developed to investigate the importance of Islamic REIT and Conventional REIT in efficient portfolio. Granger causality test was conduct to determine the dynamic of volatility of Islamic REIT with other asset class. Market capital-weighted total return series were constructed to determine the relative importance of each group of company. Islamic REIT show better risk-adjusted performance, give more return, have more allocation compares Conventional REITs. Additionally, Islamic REITs give more diversification benefits rather than Conventional REITs. Granger causality tests show that Islamic REIT and Conventional REIT have influence on the stock market movement only. The use of risk adjusted performance analysis, asset allocation, efficient frontiers and Granger causality test will add value to property investment knowledge particular to Islamic REIT market in Malaysia.

Keywords: **Islamic REITs, mixed-asset portfolio, risk-adjusted performance analysis, efficient frontier, Malaysia**

SESSION A4: HOUSING AND REAL ESTATE INVESTMENT

Venue: Urban Planning Studio 1 (Level 4) Time: 1050-1110

PORTFOLIO PERFORMANCE ANALYSIS OF LISTED PROPERTY COMPANIES IN ASEAN COUNTRIES

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ABSTRACT

Malaysian listed property companies is one of the property investment vehicle that interesting to be explored. This paper examines the significance and performance of listed property companies in Malaysia compare to Indonesia, Philippines, Thailand, Singapore and Vietnam. This study conducted over the period of January 1994 to December 2014. This research seek for the property portfolio investment performance using statistical methods such as risk adjusted performance analysis, correlation analysis, efficient frontier and portfolio optimization. Malaysia listed property companies underperformed the Philippines, Singapore and Vietnam. High diversification potential is offered between property and bond sector resulted from low correlation analysis in Malaysia market. There is a little allocation for the property companies in a mixed asset portfolio of Malaysian market. Then the 3-year rolling correlation suggested low and volatile correlations of property companies and bonds indicate the dynamic correlations between these two asset classes in Malaysia market. Risk level for property in Malaysia over this period showed a stable risk level at approximately 29% using 3-year rolling risk analysis. Therefore for the past 20 years experienced, listed property companies in Malaysia result a moderate low risk level. This research has highlighted some interesting and important outcome contributed to the ongoing property investment issues and enhance the knowledge of international fund manager with better understanding of the potential implication of investing in ASEAN property market.

Keywords: Listed Property Companies, Malaysia Property Market, Performance Analysis, Portfolio Diversification.