

# HOUSING NEWS

HOUSING RESEARCH CENTRE • Sustainable Human Settlement

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## CONFERENCE ON AFFORDABLE QUALITY HOUSING 2013

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# THE CONFERENCE ON AFFORDABLE QUALITY HOUSING (CAQH2013)



Prof. Dr. Thamer Ahmad Mohammad  
Conference Chairman

Under the theme of “Sustainable Planning and Development”, Conference on Affordable Quality Housing (CAQH2013) was conducted at the Marriott Hotel, Putrajaya from 11-13 of March 2013. The Conference was jointly

organised by Housing Research Centre (HRC), Universiti Putra Malaysia, the Malaysian Society for Engineering and Technology (MySET) and the Federation of Engineering Institutions of Islamic Countries (FEIIC).

Two keynote papers were delivered; the first on Malaysian housing program while the second on the role of architects in affordable housing. There were also two invited papers and these papers focused on affordable housing in Malaysia. A total number of 20 technical papers were also presented in the conference. These papers covered interesting topics such as policy and finance of housing, construction technology in housing, housing planning and social development, and sustainable development. The conference ended with a panel discussion, under the theme of Affordable Quality Housing - Way Forward. The panelists represent various related agencies in affordable housing such as academicians, NGOs and Ministry of Housing.

The Conference attracted both local and international participants. The international participants include officers from the Ministry of Housing and Construction, Iraq. The local participants were from housing industry, postgraduate students, academicians and government agencies.

A positive note from Iraq's delegates, “the Conference was interesting and provided good opportunity to share experiences and establish networking”. The local participants saw the Conference as a good platform to discuss on sustainable, affordable and quality housing in Malaysia and building networking.

The conference is considered as a successful event since most of the delegates requested to make this event as an annual event or to be held once every two years. As the chairman of the Conference, I can relate the success of the conference to the support and cooperation that the conference gets from both the organising committee and secretariat. It was a challenge to succeed in organising a very specialised Conference on specific topic such as affordable quality housing.



The Editorial Board would like to wish all Muslims

*Salam Aidilfitri 1434H*

May this Aidilfitri brings happiness & barakah

## SusTED 2013 (18 & 19 December 2013)

Organised by: Faculty of Design & Architecture, Universiti Putra Malaysia

Theme: INNOVATION IN THE BUILT ENVIRONMENT

Important Dates:

Abstract Submission : 10 August 2013  
First Paper Submission : 01 October 2013  
Final Paper Submission : 15 November 2013

Registration Fees:

Early Bird (By September 30, 2013) : RM450.00/person (USD150.00)  
After September 30, 2013 : RM550.00/person (USD180.00)  
Postgraduate Students : RM50.00/person\* (USD15.00)  
Undergraduate Students : RM30.00/Person\* (USD10.00)

For more information, please visit [www.frsb.upm.edu.my/susted/](http://www.frsb.upm.edu.my/susted/)

## Putra Architectural Exhibition (PAX) 2013

10 September - 8 November 2013

DRIVEN BY IDEAS:  
Works of TR. Hamzah & Yeang Architects

Galeri Serdang, Faculty of Design & Architecture  
Organised by: Department of Architecture,  
Universiti Putra Malaysia

## STEdex 2013

19 December 2013 - 14 February 2014  
Galeri Serdang, Faculty of Design & Architecture  
Organised by: Department of Architecture, UPM



# Affordable Quality Housing

## Role and Responsibility of Architects



Reported by:  
Mr. Ruhaizin Sulaiman  
Universiti Putra Malaysia

Presented by:  
Ar. Chan Seong Aun  
(Deputy President of Pertubuhan Akitek Malaysia)

The followings are key points presented by Ar. Chan Seong Aun during the Conference On Affordable Quality Housing 2013.

### Key Stake Holders

Key stake holders in Affordable Quality Housing are House Buyers, Developers, Banks, Contractors or Builders, Consultants and finally the Government. The term 'Affordable' refers to the house buyer income level with house prices and loan policies. 'Quality Housing' would refer to house buyers preferences with building quality produced by contractors or builders and design and innovation from the consultants that involve architects, engineers and quantity surveyors. The government involves in land matters, land use and planning, housing policies and plans, and loan policies.

### Issues of Affordable Housing

The issues of affordable housing are within the domain of developers and banks.

Providing affordable housing often considered as the responsibility of the government.

If housing is treated as a commodity, it would be priced beyond the reach of most Malaysians.

The architect role is mainly in designing within the allocated construction budget with the quantity surveyor.

Design and quality of a house is often sacrificed at the expense of achieving the lowest cost.

### Roles of Bank

Houses are the Highest Cost item in the lifetime of an average Malaysian.

Median household income is not rising as fast as median house prices. (Source: Zainal Abidin Hashim, 2010)

Affordability is very dependent on interest rates, more so than price of the houses.

If left on their own, many banks would only lend to high end housing and fund speculative housing with toxic loans.

### Role of Developers and Government List Company (GLC)

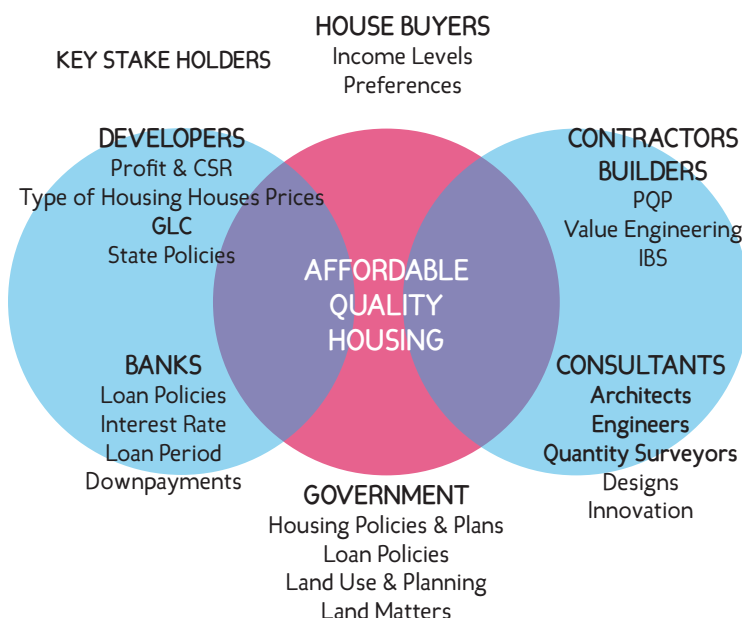
Most would prefer to build High Cost Houses with high profit margins and project their images as "High End Premier Developers".

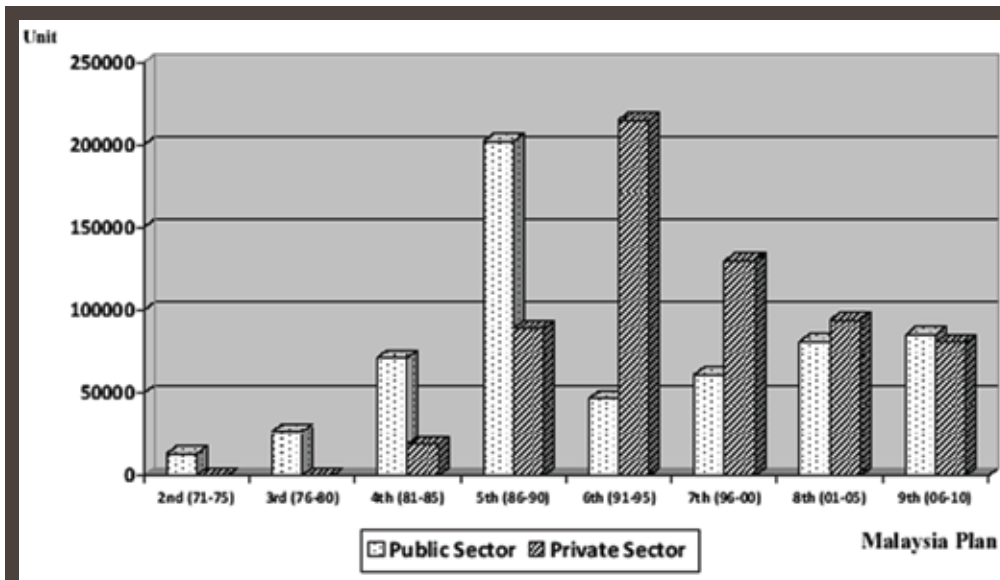
Sky high prices are beyond the reach of the low income bracket and not socially sustainable. Risk of "Housing Bubble" is high.

Developers build Low Cost Houses only under State Policies and contribute 49% of housing under 9th Malaysian Plan.

### Cost, Time and Quality

Building houses involved many parties mainly developers, contractors and house buyers. Each party has its own priorities. Developers are more concerned on lowest cost and on time delivery. Contractors also wants lowest cost and delivering projects in shortest time possible. While developers and contractors are looking for better profit margin, house buyers on the other hand want lowest cost and best quality houses.





Private Sector Developers built approximately 50% of the Low Cost houses under 9th Malaysia Plan

Source: Various Malaysia Five Years Development

### Building Quality

Building quality must comply with six criteria/specifications below:

- 1 Standard Sales & Purchase (S&P) Agreement for Housing
- 2 Certificate of Completion & Compliance (CCC)
- 3 Uniform Building by-law 1984
- 4 PAM 98 Contract
- 5 PAM 2006 Contract, and
- 6 JKR 203 Contract

### Factors Affecting Quality of Construction

According to BRE (UK), there are three factors affecting the quality of construction. The major factor is Design which contributed 50% of the affected quality, followed by Construction (workmanship) 40% and finally Materials (product failure) which is 10%.

### Improving Quality of Architectural Elements

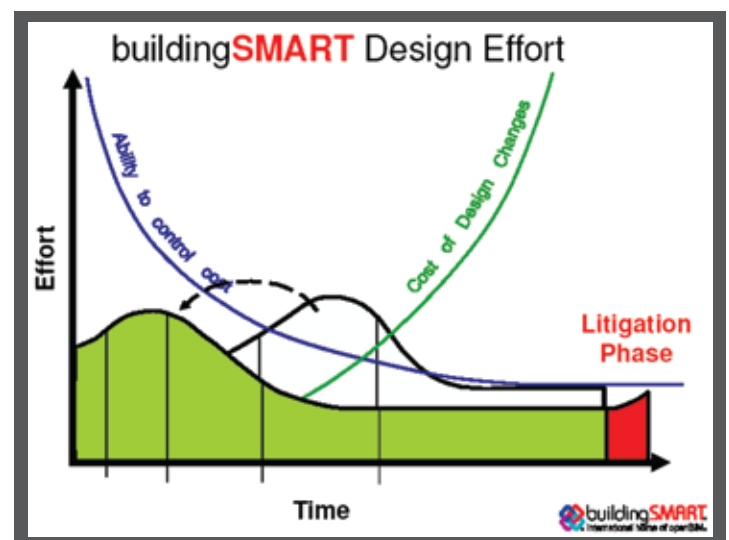
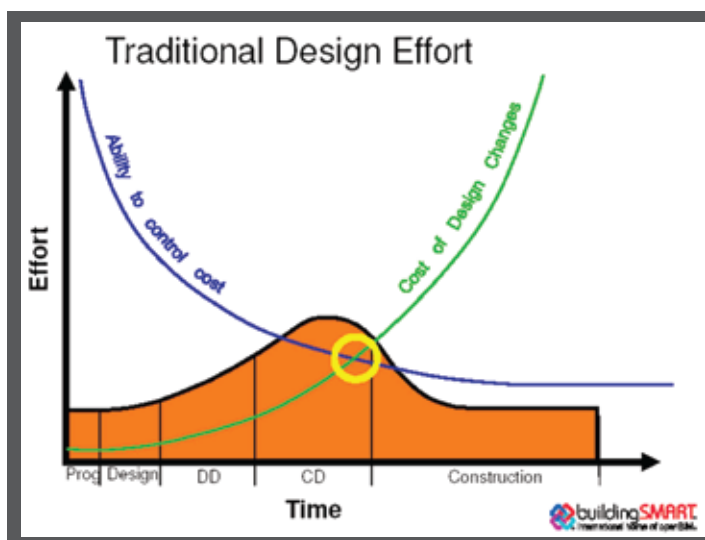
To improve the quality of architectural elements emphasis should be given during the 'Design and Documentation Stage'.

Four items below should be taken care-off during this stage.

- 1 Checking Drawings ISO9001
- 2 Benchmarking Quality in Specifications
- 3 Benchmarking by Reference to Standards, and
- 4 Adoption of BIM

The other approach to improve the quality of architectural elements is during 'Tender and Construction Stage' where five items below should be put into consideration.

- 1 Change Procurement away from award to lowest cost
- 2 Showrooms and Sample Units as Quality Benchmark
- 3 Materials Sample Approval
- 4 ISO:9001 Adoption and Project Quality Plan, and
- 5 Industrialised Building System (IBS)



# SUSTAINABLE AFFORDABLE QUALITY HOUSING

## *Housing Community and Affordability*

Reported by:  
Assoc. Prof. Dr. Kamariah Dola  
Department of Landscape Architecture  
Universiti Putra Malaysia

Presented by:  
Prof. Dato' Dr. Sr. Kamarul Rashdan Salleh,  
Managing Director of SPNB



**Owning a home** is considered as the ultimate goal for every family. For Malaysian, the choices vary, from prices, sizes and locations. However, not all are lucky to get their homes, according to their needs and budget. This issue of guaranteeing home for every family has also been politically debated and a must topic to be discussed in any urban development project.

The PR1MA Act 2012 established PR1MA Agency to deliver affordable homes throughout Malaysia with affordable fixed price ranging from RM100,000 to RM400,000. In this act, the government agencies have power to negotiate incentives in relation to taxes, customs and excise duties, to act as principal coordinating agent and to recommend reviews of existing policies, laws and actions. For property developers, among their roles are to plan, supervise and execute design, construction and maintenance of houses and facilitate economic, social and commercial infrastructure. The finance agencies are to provide funding assistance to eligible persons, use funds to provide monetary support for grants and subsidies as well as to promote investment in housing industry.

It was reported that by 2013, 15,060 units of affordable houses have been completed while 10,123 are under construction with total cost of RM 1.3 Billion. In addition, the effort to house the population includes reviving abandoned housing projects (24,945 completed and 3,094 under construction) that involve more than RM1.7 Billion.

Another form of housing: citizen-friendly housing or Rumah Mesra Rakyat was reported to cost RM1.2 Billion for the completion of 17,790 units and another RM 649 Million to construct or supply additional 10,000 units. 21,000 units of single storey detached house (1,000 square feet with 3 bedrooms and 2 bathrooms) under RMR1M to be build by Syarikat Perumahan Negara Berhad (SPNB, a company wholly owned by the Ministry of Finance) throughout Malaysia as indicated in the Budget 2013 particularly in the sub urban and rural areas. This controlled price community house is fixed at RM65,000 per unit including RM20,000 subsidy by the government excluding site preparation and basic infrastructure.

Apart from the above allocation, housing for disaster victims cost RM 88.6 Million for 776 units. The government servant quarters cost RM 1.5 Billion for 62,917 units.

One important criteria stressed is location, as Prof. Dato' Dr. Sr. Kamarul Rashdan Salleh said, "I would categorise homes as affordable based on the number of majority of potential

purchasers within that location who can afford these particular homes". This is due to the fact that location could also incur additional cost if it is far from work or school. On a positive note, the strategy for affordable housing, both low or medium cost should adhere to sustainable development concept as outlined.

### ISSUES AND CHALLENGES

Some of the issues and challenges discussed are development regulations, gross development cost and credit risk. In term of regulations there are the issues of low percentage of maximising land, cross subsidising of low cost units and land alienated for basic infra and requirement to build 30% low cost housing for projects covered more than 5 acres. In term of gross development cost, there are issues of lack of standardisation, and delay in approval time as well as lack of scale in materials supply and increase GDC due to longer loan tenure. Credit risk as always being debated includes uncertain future income flows and inability to pay mortgage.

### THE CONCEPT OF SUSTAINABLE AFFORDABLE QUALITY HOUSING

The diagram below illustrates that contrary to the general believe that majority of low cost housings are set to be located at inaccessible and unwanted location, it is clear that the current trend of mixed-development put stress on location as the prime factor to fulfill the needs of the mass. In addition, economic, social and physical needs are also being considered.





Some of factors for success outlined are:

- Government partnership to encourage private sector involvement
- Hybrid framework for agencies and companies to work together to provide affordable housing including empowerment
- Flexibility in size, format and structure of ownership through flexible mortgage and shared ownership scheme as options due to potential rising incomes
- Combination of incentives, subsidies and contributions by beneficiaries where they can typically contribute 20% to 40% of monthly income
- Zoning strategy in planning to locate affordable housing in the city centre by making available public lands or by attaching mandates to planning permits for new development.

## NEW CONCEPT IN AFFORDABLE HOUSING

Some new concepts integrated in new PR1MA housing are self-contained development to increase the sustainability of the population within; rooftop landscaped podium deck, amenities such as health, community and sport centre, to encourage socialisation and sense of place; child care centre and retail for population convenience as well as to generate income to assist in maintenance cost.



*The concept of sky garden at Bandar Tun Razak PR1MA Housing intended for high rise community socialisation and leisure activities.*



*PR1MA housing at Seremban Central features courtyard style central park which acts as green lung and socialisation area for the community.*



*PR1MA housing located at Bukit Gelugor, Penang. An area of similar property time valued between RM450,000 to RM550,000. The housing complex includes neighbourhood community hall to give the area a sense of place and further enhancing the lifestyle of the population.*

*PR1MA housing at Glenmarie Station, Kuala Lumpur with key development components of sports facilities, Community Hall, integrated public transportation hub with LRT and bus station.*



*Images source:  
SPNB's Powerpoint Presentation*

# Affordable Quality Housing: Sustainable Planning and Development



Reported by:  
Dr. Izian Abd. Karim  
Department of Civil Engineering  
Faculty of Engineering  
Universiti Putra Malaysia

Presented by:  
Mr. Lee Seng Fong  
Master Builders Association Malaysia (MBAM)

The affordable housing problems in Malaysia are not new. With the price of the house keeps increasing, the people are now having less purchasing power to own a home. Obviously, the housing price increased because of the increase of the construction cost. The construction cost depends on few factors:

- Nature of land, where the constructions will be more expensive on the hilly or swampy land.
- Building materials price escalation not only on the structural materials such as cement, aggregates or steel bar, the architectural finishes like tiles, ceilings, doors, etc. also show the price movement.
- Manpower and resources. Manpower or human resource labor play an important role in construction project. Large numbers of skilled manpower are required for the project to finish within the timeframe. Good machineries and equipment are also important. There is also increase of the maintenance costs of the equipment to be considered.
- Construction Method. Although the method is uneconomical, the conventional construction method still widely being practiced. The Industrial Building System (IBS) technology such as precast, tunnel formwork, table formwork and etc. can be used as an alternative to the conventional construction method where it can also improve the efficiency of the construction flow.

Master Builders Association Malaysia (MBAM) is very committed towards the affordable housing and has been instrumental in championing the usage of IBS technology in the construction industry. Working with Bina Puri Holdings Bhd., MBAM has successfully constructed many affordable housing projects in Thailand in which more than 30 000 units have been built. The projects include 4-storey flats and 2-storey semi-D houses. They had also completed 2000 units of the Brunei Darussalam housing scheme under Brunei Economic Development Board (BEDB). All those projects are mass production of high volume of units by fast track mode applying the IBS technology. The projects in Thailand used Tunnel Form System Formwork where they became the pioneer Malaysian company who introduced the system.

The innovative method of the Tunnel Form that has been introduced eliminates the conventional post and beam structures by using shear walls system. The construction using this method will be done monolithically. This reduces shuttering time and increases the speed of construction which later provides the cost

effectiveness. The accurate dimensions allow the prefabrication of the finishing materials. Consequently, the quality of the construction will also be controlled. The repetitive crane-handled operation is utilized which will reduce the use of skilled manpower. The tunnel form system not only applicable for double-storey terrace units, but can also be used for high end condominium units. In overall, this system produces organized, systematic and safety working environment and in the same time reduces the cost and completion time.

MBAM had also used the Precast System in Brunei BEDB housing scheme and one of the projects was in Krasaeon, Thailand. The Precast System provides better site management and logistic with drastic reduction in safety hazards. This system reduces abortive and defect works especially where skilled manpower are in shortage hence providing high quality finishing. ■



*BEDB Housing Scheme*



*Innovative method of Tunnel Form*



# PR1MA

## PERUMAHAN RAKYAT 1MALAYSIA - INITIATIVE FOR THE MIDDLE INCOME GROUP

Reported by:  
Mrs. Haidaliza Masram  
Department of Construction & Property Management  
Faculty of Technology Management & Business  
Universiti Tun Hussein Onn Malaysia

Presented by:  
Dr. Mohamad Fakri Zaky Ja'afar  
Department of Architecture  
Faculty of Design & Architecture  
Universiti Putra Malaysia



**T**he present property market scenario in Malaysia witnessed a significant increase in the price of housing. Malaysia registers an average 6.6% jump in home prices in the fourth quarter of 2011. This has put strain particularly for the middle income group, especially those residing within prime city areas. Issues on the affordability of the middle income group are constantly debated where there is a segment of buyers that has problem in acquiring houses especially in market-oriented cities. This is the market segment that is not eligible for any subsidies by government as compared to those in the lower income group. Housing provision for medium-cost housing is significant as it constitutes towards the biggest bulk in the projected housing needs 1996 – 2020 where it forms 90.1% from the overall projected housing needs in 2011-2015 Malaysia Plan. The Sun Daily, dated April 20th, 2012 reported that Dr Yeah Kim Leng, RAM Holdings Bhd's Group Chief Economist in his presentation at the 22nd National Real Estate Convention mentioned that undersupply of housing on the affordable end is the result of the actions by private housing and finance market in maximising profits.

According to Dr Yeah Kim Leng, RAM Holdings Bhd's Group Chief Economist, in the Sun Daily dated Friday, April 20th 2012, in order to address the high residential prices, a well-functioning housing and land markets are necessary. However, as this is difficult to create and maintain in both developing and developed country, this has to be supplemented with interventions. Interventions, in the context of this article, could very well be in the form of initiative to encourage house ownership among the middle income earners.

The housing delivery system in Malaysia is somewhat unique – practicing mixed-economy system, there are several aspects of housing that is regulated. Housing provision for the middle income group are constructed and sold in the open market by developers and is subject to the rules of supply and demand. However, there are certain economic factors that intervene in free market operation of market forces in the provision of housing that resulted to imperfections in the property market (Ahmad, K. 2009).

A gap in the provision of medium cost housing within the price range of RM100,000 to RM400,000 especially in main city centre like Kuala Lumpur, Johor Bahru and Pulau Pinang resulted to inequality in terms of affordability of public to purchase a house. A survey by Berita Harian, Malaysia's Malay leading newspaper which was published in September 19th, 2012 on the people's wish for the 2013 budget resulted to some popular proposal being forwarded – more than 50% of the request is for government to control the escalating house price especially in prime areas that's making it difficult for the middle income group to own a house. They regard themselves as trapped as they are ineligible for low cost incentives from government but could not afford to buy a house in the open market.

### INTRODUCTION OF PR1MA : PERUMAHAN RAKYAT 1MALAYSIA

PR1MA is a strategic initiative by the government to provide for affordable houses for households with a combined income bracket under RM7,500.00. It is introduced to fill the gap in the housing market and to ensure that the private sector plays their role in fulfilling the projected housing needs. PR1MA was introduced by Dato' Seri Najib Tun Abd Razak, Malaysia Prime Minister in the budget 2012. It was further emphasised in the recent 2013 national budget. Introduction of PR1MA is timely to address the issue of affordable housing in prime areas. In the housing delivery system, the availability of land in the development stage is crucial to ensure that housing is provided for all market segments. PR1MA is implemented through a collaboration effort with the private sectors – with the government identifying suitable land to be developed with affordable houses. This will be carried out by the private sector via the conventional housing delivery process presently practiced.





## PR1MA CONCEPT, OBJECTIVES AND CRITERIAS

Table 1.0 : PR1MA Objectives and Criterias

CRITERIA	DETAILS	COMMENTS
Location	<ul style="list-style-type: none"> <li>+ PR1MA will be developed in urban and its peripheries throughout Malaysia.</li> <li>+ High rise residential units will be developed in urban areas.</li> <li>+ In sub-urban areas where the land size is bigger and the land cost is lower, landed properties will be developed.</li> <li>+ PR1MA will starts in Klang Valley because of the high demand. It is also encouraged by the high property price especially in urban areas Kuala Lumpur, Johor Bahru and Pulau Pinang. PR1MA will eventually be implemented to other states.</li> </ul>	<ul style="list-style-type: none"> <li>+ Ideally, this will help the middle income group residing in urban areas to own a house.</li> <li>+ Left to the open market, lower cost housing might be developed in undesirable areas.</li> </ul>
Development Model	<ul style="list-style-type: none"> <li>+ PR1MA projek will be implemented through a mixed development concept with construction of commercial lots in the development area.</li> <li>+ Projects will also be developed in location nearby Mass Rapid Transit (MRT)/Light Rail Transit (LRT)/KTM Komuter and Bus Expressway Transit (BET) to reduce dependency on private transportation.</li> <li>+ Eventually, this will reduce transportation cost to the community.</li> <li>+ Developers are encouraged to adopt the Industrialised Building Systems-IBS) in its construction to speed up the project implementation.</li> <li>+ Developers are also encouraged to apply green technology concept in every housing development.</li> </ul>	<ul style="list-style-type: none"> <li>+ The identification of land for PR1MA must be done in line with the physical long term planning via development plans system.</li> <li>+ Local authority would have to play a more significant role to monitor the implementation of PR1MA.</li> </ul>
Units Type	Residential units developed are of strata units or landed property depending on the size and the location of land.	Applicable during the approval process at local level.
Unit Size	800 ft2 to 1,400 ft2 with 3 bedrooms and 2 bathrooms.	Applicable during the approval process at local level.
Pricing	RM100,000 to RM400,000 depending on its size and location.	Monitoring during the allocation stage.
Eligibility	<ul style="list-style-type: none"> <li>+ Malaysian</li> <li>+ Combined gross household income of up to RM7,500 per month.</li> <li>+ Must be a first time buyer.</li> <li>+ They must occupy the units (owner occupied).</li> <li>+ Commitments must not exceed 65% from the gross income (including financing for PR1MA).</li> </ul>	<ul style="list-style-type: none"> <li>+ <a href="http://www.pr1ma.my.html">http://www.pr1ma.my.html</a></li> <li>+ Efficient processing procedures and system will greatly improve the effectiveness of the allocation process.</li> </ul>
Allocation	<ul style="list-style-type: none"> <li>+ PR1MA homes would be allocated through a transparent balloting process that would be fair to all eligible applicants.</li> <li>+ Every balloting exercise will be monitored by a certified public accounting firm, who would also conduct regular audits to ensure that the application process is transparent and fully in accordance with the relevant standards and procedures.</li> </ul>	<ul style="list-style-type: none"> <li>+ Establishment of special organisation will greatly enhance the implementation of PR1MA project.</li> <li>+ As at present, PR1MA Bhd will manage all aspects regarding PR1MA projects.</li> </ul>
Government Subsidy	<ul style="list-style-type: none"> <li>+ A public-private partnership with the private sectors as the developer PR1MA is developed either on the developer's land or on government's owned land.</li> <li>+ Assistance/subsidy from government in the form of facilitation fund.</li> <li>+ Green lane for developers who participate in PR1MA to simplify and expedite the approval process by the local authorities and related agencies.</li> </ul>	<ul style="list-style-type: none"> <li>+ Establishment of special organisation will greatly enhance the implementation of PR1MA project.</li> <li>+ As at present, PR1MA Bhd will manage all aspects regarding PR1MA projects.</li> </ul>
Amortisation	+ Owners of PR1MA is not allowed to sell their purchased units for a period of 10 years	As at present, PR1MA Bhd will manage all aspects regarding PR1MA projects.
Financing Package	<ul style="list-style-type: none"> <li>+ PR1MA does not provide loans for buyers.</li> <li>+ Applicants are to arrange for their own financing.</li> <li>+ Developer will provide applicants with a list of panel bankers/financiers.</li> <li>+ Up to 105% financing with respective financial institutions.</li> <li>+ Repayment period of up to a maximum of 30 years. The amount will include house price, legal fees and mortgage reducing term assurance (MRTA).</li> <li>+ Stamp duties are also exempted.</li> <li>+ A flexible repayment method is also introduced based on interest servicing for the first 5 years or conventional monthly payment.</li> <li>+ Purchaser will have the option to use part of their EPF in account 2 as part of the payment to the financier or to get higher financing through ring-fencing mechanism.</li> </ul>	<ul style="list-style-type: none"> <li>+ Establishment of special organisation will greatly enhance the implementation of PR1MA project.</li> <li>+ As at present, PR1MA Bhd will manage all aspects regarding PR1MA projects.</li> </ul>

As at present, this initiative is being managed by PR1MA Bhd which was established under the PR1MA Act 2012 to plan, develop, construct and maintain the affordable lifestyle housing for middle-income households in key urban centres. PR1MA Bhd establishment is significant to implement the government's aspiration to provide affordable housing for all. The establishment of PR1MA Bhd is seen as a positive measure to manage the implementation of PR1MA projects. Through a distinctive organisation, dissemination of information on the programs of PR1MA can be done effectively to ensure that the targeted group is well informed and aware of the initiative available for them to have equal opportunity to affordable housing and assist them in purchasing a residential property.

A study by Ahmad Zakki Yahya, in Government Housing Policies and Incentives : The Government Viewpoint – Housing A Nation (Year 1997) indicated three measures that can be associated to the concept of PR1MA.

**[1] A public-private sector collaboration in affordable housing stated as an approach to ensure that the low income earners have access to decent and affordable housing**

The concept of PR1MA is seen as a direct involvement of public sector in complementing the private sector's efforts. Participation might include provision of subsidised interest rates, alienation of state lands at nominal terms, supply of building materials and loan facilities in its programmes.

**[2] Sustaining Housing Prices for Affordability**

PR1MA is seen as a specific initiative introduced by government with specific amortisation terms.

**[3] Price Regulation**

PR1MA puts a fixed price range of between RM100,000 to RM400,000.

In conclusion, PR1MA is seen as a potential initiative to ensure that the middle income group have access to affordable housing. As reported in The Sun, dated 17th March 2012, Choy Yue Kwong, President of the Association of Valuers/Property Managers, Estate Agents and Property Consultants in the private sector Malaysia (PEPS) cited that PR1MA has a similar intention with what Singapore's Housing and Development Board is practicing (a dual housing model) – that is provision of affordable homes for the poorer segment of the market. PR1MA is able to fulfill the gap in the provision of affordable housing in the urban areas. It has outlined the necessary criteria need to be fulfilled by the developer to provide for a comfortable, quality and affordable houses. However, there are certain issues in its institutional framework that need to be addressed. Therefore, there are areas that are suggested to be emphasized for the implementation of PR1MA. They are as follow :

**PLANNING STAGE**

The current practice of development plan system in Malaysia is carried out by allocation of land use based on forecasts and current issues. Ideally, the PR1MA projects should be planned at the planning stage to ensure allocation of land for affordable housing.



**PROMOTION**

A comprehensive promotion on the proposed PR1MA programmes is essential to ensure it reaches the targeted market segment.



**EXECUTION**

Most outstanding is the establishment of a special organization to manage and monitor the implementation. This is crucial to specifically demarcate and identification of scope of work within authorities involved in the housing delivery system. Implementation of PR1MA, therefore has to be done comprehensively and consistent with the existing development planning and planning system practiced to ensure that it achieved its objective of affordable housing for all. ■

**GRIN DESIGN ©**

*It's haze time in Malaysia.....*





# SKYCOURTS FOR AFFORDABLE APARTMENTS: APPLYING THE HONEYCOMB CONCEPT TO THE DESIGN OF HIGH-RISE APARTMENTS



Reported by:  
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Presented by :  
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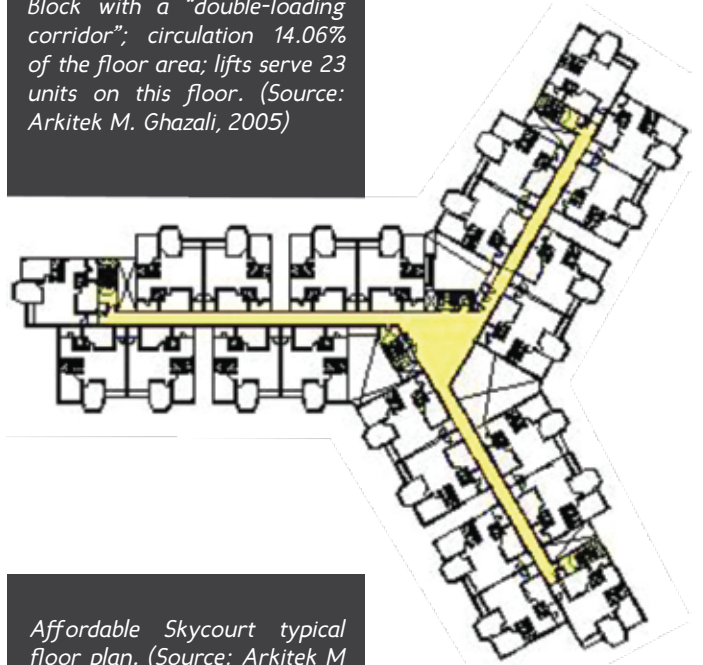
**CAQH 2013** was held recently on 11 and 12 March 2013 in Putrajaya Marriott Hotel. One of the papers presented a conceptual idea on personalised outdoor courtyards in high-rise residential buildings or better known as 'skycourts'. Ken Yeang defines 'skycourt' as a public place that brings trees and nature to the higher levels of multi-story buildings as one of the key components in the vertical city concept.

The idea of skycourts was made popular in commercial and office buildings such as Mesiniaga, Subang Jaya and Editt Tower, Singapore. The concept offers apartments grouped around large covered courtyards normally double storey apartments are stacked one on top of the other with either on the access level or one level removed from it.

This concept has the social and environmental benefits whereby the amount of floor area is reduced and apartments are organized around communal green courtyards. Due to height of the skycourt which is about three-story high, it allows sun and ventilation to penetrate, hence promoting certain types of plants to grow. The skycourt space provided also encourages social and recreational use for smaller groups of apartment households surrounding a communal courtyard to get to know each other.

A few examples were taken from international and national as case studies on understanding on the access and arrangement of apartment units. Dataran Mantin Apartments at Mantin, Negeri Sembilan has a Y-Block design with a double-loading corridor. This design allows 14.06% circulation of the floor area with lifts serving 23 units per floor. Blues Point Tower by Harry Seidler in Sydney allows a circulation of 11.9% of the floor area and a lift serving 7 units per floor. While Unite Habitation in Marseilles by Le Corbusier gives 8.12% circulation of the three floors that it serves with the lifts serving 58 units per floor, and Robin Hood Gardens in London provides about 12.58% circulation of the floor area with access floor known as "street in the sky" serving 39 units per floor.

*Dataran Mantin Apartments at Mantin, Negeri Sembilan, Y-Block with a "double-loading corridor"; circulation 14.06% of the floor area; lifts serve 23 units on this floor. (Source: Arkitek M. Ghazali, 2005)*



*Affordable Skycourt typical floor plan. (Source: Arkitek M Ghazali, 2012)*

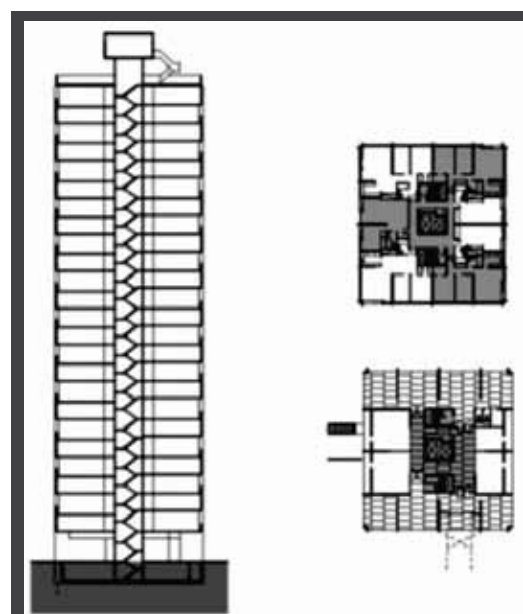


Type of Apartment Access	Example	% circulation and services on each access floor		% sellable apartment Built Up Area each access floor		Units accessed on each access floor
External corridor or balcony access	Balfon and Trellick Towers, London	21.06%		78.94%		14
Central corridor	Binapuri, Puchong, Selangor	16.03%		83.97%		8
Central corridor	Dataran Mantin, Mantin, Negeri Sembilan	14.06%		85.94%		23
Scissors external corridor	Robin Hood Gardens	12.58%		87.42%		39
Central lobby	Blues Point Tower, Sydney	11.9%		88.1%		7
Scissors internal corridor	Unite D'Habitation, Marseilles	8.12%		91.88%		58
Affordable <i>Skycourt</i> concept example	Circulation and services	3.8%	11.0%	83.8% internal	89%	42
	Public portion of courtyard green	7.2%		5.2% front yard		

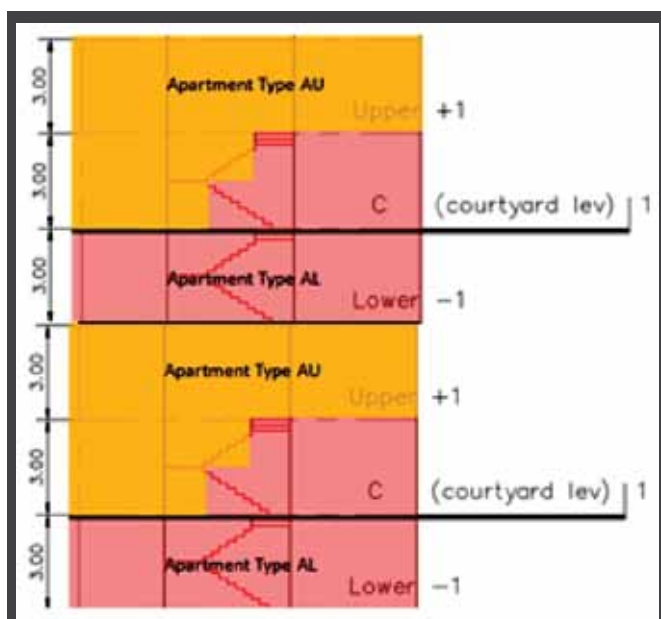
*Table 1: Comparison of the efficiency of the corridors and lifts between different types of apartment layout.*  
(Source: Ghazali, M.; Ibrahim Bajunid, A.F.; Sabri, S. & Davis, M.P., 2012)

Based from this table, it is concluded that *Skycourt* concept can be seen as a rearrangement of spaces for amenities and communal gardens to the front of each apartment. As the corridor is a mono-functional space, skycourt cannot be categorized as circulation since it has other functions attached such as recreational and shared area. Hence the percentage categorized as circulation and services are reduced making a certain portion as a sellable area and multi-functional spaces for buyers.

There are already queries and demands for more green and communal spaces to be provided on the upper floors of high-rise residential buildings. Unfortunately, the current designs are expensive and suitable mostly for high-cost housing. This solution of sharing communal spaces at higher ground could be seen as an affordable step to reduce the construction cost. Just because it is *affordable* doesn't mean developers should resign from providing a greener and livable skycourts. ■



*Blues Point Tower (1961, Harry Seidler), Sydney; circulation 11.9% of the floor area; lift serves 7 units on this floor.*



*Figure 2: Typical Unit Type AL and AU Section.*  
(Source: Arkitek M Ghazali, 2012)



# House Design of Malaysian Medium-Cost Terrace House Based On The Islamic Principles

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A study done by Ahmad Bashri Haji Sulaiman and Fakhriah Muhsin dealt with issue on Malaysian medium-cost terrace houses (MMCTH) design according to Islamic principles. The study was to verify the hypothesis that most of the MMCTH are not obliging the Islamic principle, thus encourages the house owners to renovate their house to fulfill a Muslim's needs. The research outcome enabled the authors to emerge with appropriate approaches to achieve better MMCTH design that vigorously base on Islamic principles.

The authors expanded their surveys to define the reasons of renovating MMCTH among the residents. There were several reasons of renovating their houses; nonetheless, the most prominent reason for renovating their houses was to facilitate their needs of activities (51% of respondents) particularly to the Muslim occupants. Hence, the results determined five (5) distinctive elements on housing design attributes which are physical, behavioral, psychological, social, and cultural. Upon the analysis of statistical results, the authors found that majority of MMCTH's occupants (81% of respondents) dissatisfied with the

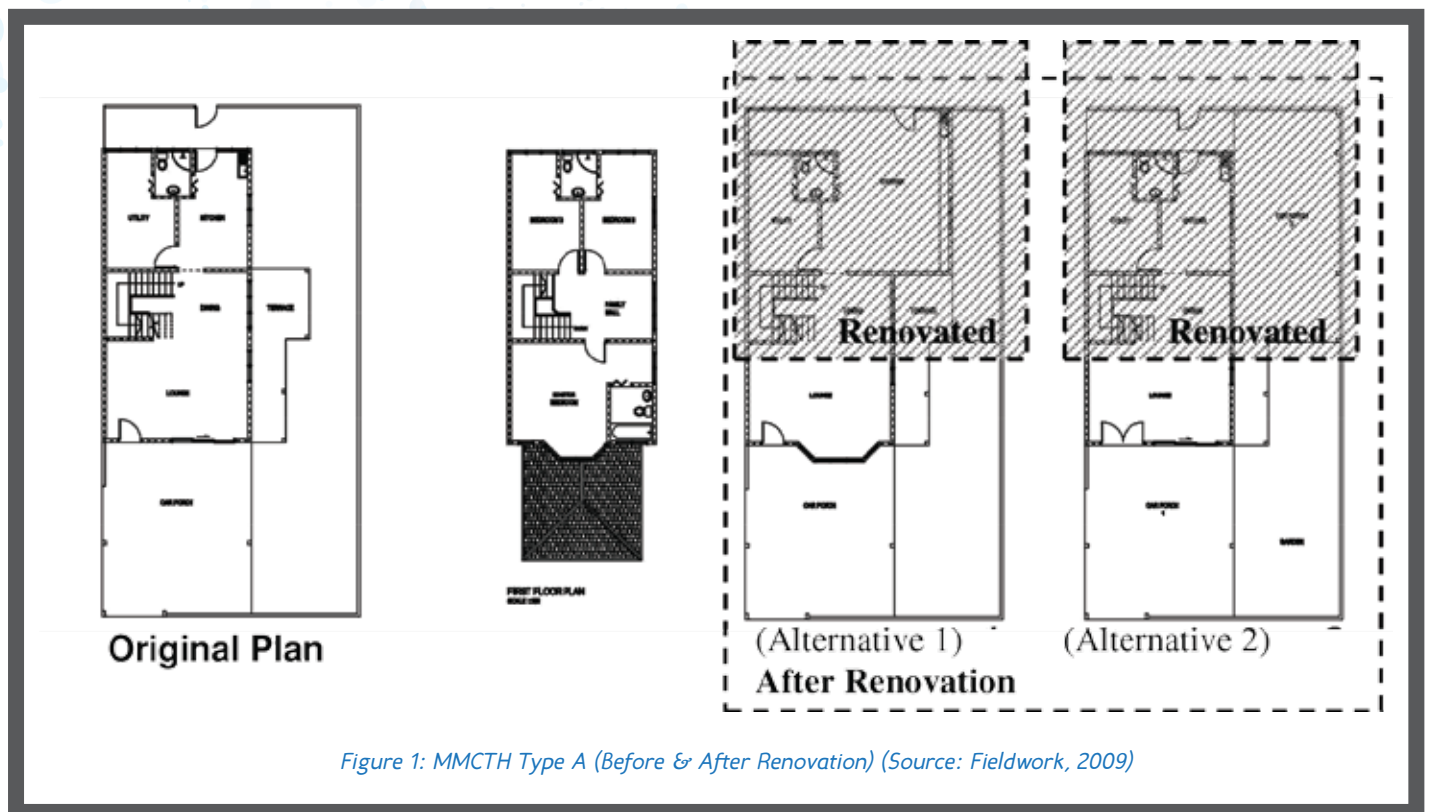


Figure 1: MMCTH Type A (Before & After Renovation) (Source: Fieldwork, 2009)

According to the authors, 420 respondents of MMCTH residents from the each state in Malaysia participated in the research. The methodologies used to collect the data were through questionnaires, interviews, photos, and drawings. Assessment made by comparing the quantitative and qualitative databases to identify the resemblance of the three (3) different categories of houses that have been chosen for the study [Type A- Corner lot double storey houses with 3 bedrooms (Figure 1), Type B- Intermediate double storey houses with 3 bedrooms (Figure 2), and Type C- single storey houses with 3 bedrooms (Figure 3)].

existing physical attribute of MMCTH's design. From the verbal data, they claimed that the spaces provided in the existing MMCTH's design are inadequate to provide their activity's needs. The residents also emphasized on the importance of having superfluous physical design attribute to enhance their living quality. Corresponding to some of the author's literature reviews, there were previous researchers who defined that most of Muslims residents in Saudi Arabia are very concerned on the physical attribute of their houses.

Since in Islam there are restrictions to protect visual and physical contact among family members and strangers, the authors also narrated the necessities of security and privacy in MMCTH design. The results indicated that other prominent factors that influence the MMCTH's residents to renovate their houses were for the security and privacy reasons that are classified under psychological attribute. Reciprocally, the authors mentioned that former researchers also found that privacy is a very significant aspect in house design.

Eventually the authors managed to authenticate the hypothesis that most of the MMCTH designs are generically against Islamic

principles and not in accordance with Muslims living requirements. Therefore the research could be developed and enhanced, hence to contribute and collaborate with respective parties that involves in housing development such as housing authorities, architects, and developers to prepare certain guidelines on MMCTH design in order to meet the Muslim's needs. Instead of spatial design, the research also proposed other design aspects including environmental, natural, social, culture, as well as material and construction system related to Islamic principles that should be taken into account in the future MMCTH design. ■

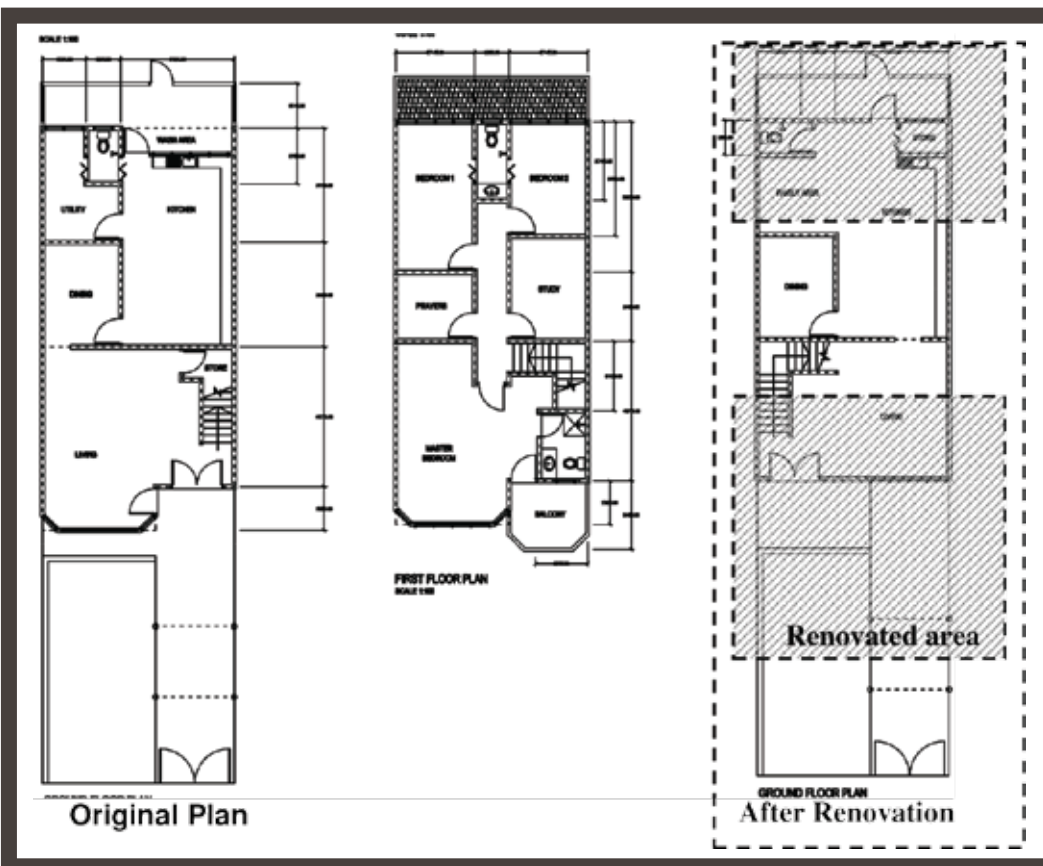


Figure 2: MMCTH Type B (Before & After Renovation) (Source: Fieldwork, 2009).

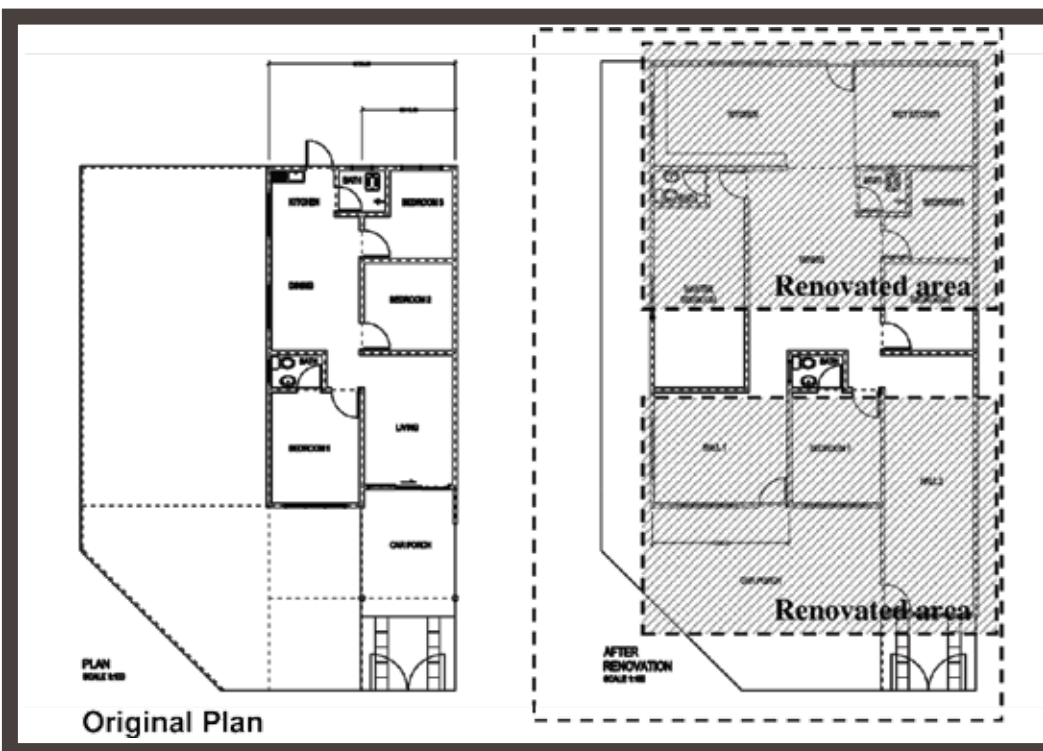


Figure 3: MMCTH Type C (Before & After Renovation) (Source: Fieldwork, 2009).





## PANEL DISCUSSION : Affordable Quality Housing – Way Forward

The Conference on Affordable Quality Housing (CAQH) 2013 held on the 11th & 12th March 2013 brought together academicians, government agencies, housing industry, practitioners and post graduate students. It ended with a Panel Discussion themed Affordable Quality Housing – Way Forward. Assoc. Prof. Ar. Meor Mohammad Fared Meor Razali, the Head of Department of Architecture, UPM moderated the session with four invited panelists:-

1. Dato' Dr. Mohd. Padzil Bin Hashim  
Director General National Housing Department, Ministry of Housing and Local Government

2. Dato' Hj. Omar Osman  
President of CUEPACS

3. Ir. Zulkifli Ahmad  
Chairman, Malaysia Affordable Housing Interest Group (MyAHIG), MySET

4. Mr. Ahmad Jefri Clyde  
Director of Garis Architects Sdn Bhd and AJC Planning Consultants Sdn Bhd

Dato' Dr. Mohd. Padzil touched upon the fact that as a result of rapid development, 70% of Malaysian population today has migrated to the cities and thus creating high demand of new homes for the lower and middle income groups. According to him, the ministry has built a total of 80,000 low cost houses from Perlis to Sabah to cater for the rising demand. He also pointed out that most of the houses built under the National Housing Department, used Industrialised Building System (IBS).

Ir. Zulkifli Ahmad proposed the setting up of a housing lobby group comprising of CUEPACS, MTUC, House Buyers Association and other related parties. He also stressed that there is a need to identify patches of land available in the cities like Kuala Lumpur, for affordable housing.

Dato' Hj. Omar Osman lamented that most of the 1.4 million civil servants and 10 million workers in private sector are having problems in buying houses due to rising prices. Those with income RM2,500 and below can't afford to buy a house due to high loan interest rate. He has been urging the Government to reduce the housing loan interest rate from 4.0% to 1.0% to allow more civil servants to own a house.



Mr. Ahmad Jefri Clyde pointed out that issues pertaining affordable housing are really important to be discussed and researched. He also agreed that the location to build affordable houses is crucial in determining the success of affordable quality housing.

The forum concluded with three main recommendations to be put forth to the Government:-

- To set up housing lobby group comprising CUEPACS, MTUC, National House Buyers etc.
- To form a National Institute of Housing Research.
- To identify and propose Government lands in city centres for affordable housing.





## A Study Tour From Universiti Kuala Lumpur (UniKL)

On 30 April 2013, Prof. Karl Wagner and his 16 students made a research visit to Housing Research Centre. Dr. Mohamad Fakry Zaky, our editorial member from Faculty of Design & Architecture presented his research on thermal comfort. HRC researcher, Mr. Nima Farzadnia also presented his research on IBS to the delegates.



## A Workshop on Advances in Concrete Technology

HRC has organised a technical workshop, titled Workshop on Advances in Concrete Technology for two days (16 & 17 April 2013) at the Cyberview Resort and Spa, Cyberjaya. HRC has invited speakers from UPM, Assoc. Prof. Dr. Ramazan Demirboga and Ir. Dr. Voo Yen Lei from Dura Technology Sdn. Bhd. The workshop focused on the recent and future concrete technologies and their applications.

## A Workshop on Geotechnical Design of Retaining Walls

On 18 April 2013, a Workshop on Geotechnical Design of Retaining Walls has been successfully organised by HRC at the Equatorial Hotel, Bangi. Two speakers from consultancy firm has been invited; Ir. Dr. Farid Ahmad (Farid Ahmad Consultant) and Ir. Norhasli Nor Zaman (Maccaferri Malaysia Sdn Bhd).

This workshop discussed about geotechnical design of retaining walls and also presented several case studies regarding retaining walls in Malaysia.



## A Two-Day Course and Design Workshop on Design and Construction of Precast Concrete Structures

This workshop is an annual activities for HRC. Same as last year, this workshop has been jointly organised with Construction Research Institute of Malaysia (CREAM) and the invited speaker is Dr. Kim S. Elliott from United Kingdom. The workshop has been held for two days, from 28 to 29 May 2013 at The Westin, Kuala Lumpur.



## A Workshop on Striving To Own A Comfortable & Affordable Green Home

HRC's recent workshop focused on thermal comfort and affordability of green home in Malaysia. This workshop has been held at the Faculty of Engineering on 27 June 2013, UPM and has invited Assoc. Prof. Ar. Dr. Abdul Malek Abdul Rahman from the School of Housing, Building and Planning, Universiti Sains Malaysia.



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