Quality Housing in Affordable Price for Malaysian Low Income

B BAKHTYAR
A ZAHARIM
K SOPIAN
O SAADATIAN
S MOGHIMI
Solar Energy Research Institute (SERI).
Level 3, Perpustakaan Tun Sri Lanang,
Universiti Kebangsaan Malaysia,
43600 Bangi, Selangor,
Malaysia
Bakhtyar11@gmail.com

Abstract: - Low-income people do not have the alternatives to choose for a quality house, and they also do not have many options to rent or buy an affordable house in the centre of town due to financial constraints. These people spend a long time commuting from the suburb to the work place located in the core of the city. They face many problems, such as air and noise pollution, and traffic congestion every day. All of these issues happen because of the lack of attention to sustainable development elements and smart growth. Hence, this research introduces a financial model that enables the low-income people to live near their work stations. It discusses the implementation of Smart Growth principles, which can help urban managements to improve the urban quality for the residents. By making new extra value with the introduction of new aspects for density and estimating the saving of Smart Growth can provide the opportunity to shift from low-income housing to affordable quality housing. The main case study for this research is the Gasing Indah project, which includes a mixed development on the border between Kuala Lumpur and Petaling Jaya in Malaysia. This case study makes a feasibility study on different regulations on both sides of the above border for a unique project. It means that, this project is a unique one with two different governmental restrictions and prices. A practical guideline is presented to all urban planners, municipalities and governmental policy makers, which can improve the life quality and housing efficiency of low-income people who are working in city centres.

Keywords: - Smart Growth, Affordable Quality Housing, sustainable development, low-income housing, low-cost housing

1 Introduction

Many low-income earners are paying high rental for poor quality housing. It is farfetched for them to save enough to make any down payments on a home. Malaysia has a special attention to the quality of life, in which three of five Malaysia strategic thrusts, namely, (1) building an environment that enhances the quality of life, (2) moving towards a full social-economic development, and (3) creating a conducive environment for unleashing economic growth, have a direct relation to Malaysian housing [1]. With the proposal to build 78,000 affordable houses in the 10th Malaysia Plan [2], the growing and shifting people are creating demands for new buildings and decreasing demands for new and existing homes in other areas. In addition to the lack of affordable housing, 9% of the total constructed houses have

been identified as problematic housing projects [3], which have problems in settlement and provision of quality housing. Inflation and other factors have also brought about a dramatic increase in the cost of new and existing homes, and this will consequently reduce the quality of construction and life [4].

Smart growth development means retracting the city, hence, attempting to protect the poor people at the new affordable housing facilities within metropolitan areas [5]. On the contrary, the dense living conditions will cause the land price to rise upward due to the scarcity of available lands.

This study indicates, "How can Malaysia have quality housing in valuable lands in town centres with affordable price as a sustainable solution?" This study provides a systematic review of the ways in the Affordable Quality Housing project to support successful Smart Growth policies. In another words, implementing the Smart Growth principles will increase the value of lands and properties in city centres. In this situation, the poor people who work in the city centres have more problems than before practising the Smart Growth. The link between people, apart from their level of income and social hierocracies, has created fresh opportunities for people to develop and discharge from poverty. Besides, it constructs opportunities and reduces social excursions [6]. This study also looks for reasonable and effective ways to keep needed jobs of the urbanites, such as teachers, nurses, policemen and others in the areas of city centres.

The main goal of this study is to identify the key criteria for developing Malaysia's Affordable Quality Housing allowance. This new product has to activate housing developers to create more low-income housing by ensuring proper inclusion of tenants to such housing programmes and representing new solutions to authorities to protect and preserve these kinds of products.

2 Literature Review

Going to the suburbia for constructing houses, especially for the city's necessary employers, is accumulating metropolitan problems, such as traffic congestion, air pollution, lack of utilities, and demolishment of lands around the cities. All of these problems have eventually affected the quality of life [7]. In year 2000, the effort to eradicate poverty in Malaysia had led to a reduced rate of 6.8% of poverty among Malaysians [8]. In year 2008, poverty was practically eliminated with an even lower rate of 5%. Anti-poverty programmes were also geared towards eliminating poverty in areas and among groups with a high poverty rate [2]. In addition, priority has been given to the poorest states and districts as well as the *Orang Asli* (i.e. the aboriginal people of Peninsular Malaysia) families and the urban poor [8] . While attention has also been given to complete welfare assistance, attitudinal change and provision of basic amenities, poverty elimination programmes have placed a primary emphasis on income-generating projects.

Malaysian planners have to advance the low-cost housing programmes in their original plans. The present circumstance is not the key when Malaysia's new strategies have an emphasis on the quality of life, which is not visible in the current low-cost housing [2].

3 Affordable Housing

There are different definitions of affordable housing in various countries all over the world. The United Kingdom has a long time experience promoting affordable housing, such as the council-owned public housing [1] . It has also shared the ownership with social landlords and different plans for decreasing the housing price for owners. Since 1980, the conservative government of UK has launched and strictly supported a new plan under the name 'Right to Buy' for low-income people [1].

In Australia, there is a different way in managing affordable housing. Some NGOs as a social group have the responsibility for renting private houses from landlords and renting them to eligible people by means of subsidy paid directly to the tenant [10]. The amount of assistance paid is related to the rent and the number of tenant's dependents. Australia has another grant for affordable housing, which is payable to the first home buyers. These people are eligible for taking a $14,000 grant for an

established house or $21,000 for a new house [11].

In the United States, different affordable housing formulas and definitions are being practised in the country. One of the most common housing affordability calculations is using the National Association Realtors (NAR). This formula can show the ability of medium-income earners for the monthly payment of a house [9] . It states:

Monthly Payment = Median House Price x 0.8 x (R/12)/(1-(1/(1+R/12)^360))

Where R is the interest rate on loan, 0.8 is the conversion factor; assumption is the income, % down payment and other constant factors.

According to the definition provided by the U.S. Department of Housing and Urban Development (HUD), the housing costs that consume less than 30% of a household's budget is an affordable house [12]. It means that, each family has to allocate 70% of its income to other needs, such as food, education, cultural needs, clothing and even leisure time and entertainment. This definition of affordable housing assumes that a renter's household does not spend more than 30% of its income on housing costs, including utilities. It means, if one family allocates less than 30% of its income including utilities and taxes to the house rental, the house is affordable [13].

In this research, the concept of affordable housing and difference with low-cost housing betokens housing with affordable price by rent or instalment. This rent or instalment should not be more than 30% of the total income. This 30% must include water, gas, electricity, sewage, and other utilities. When the monthly carrying cost of a home exceeds 30-35% of the household's income, then the housing is considered unaffordable for that household. This definition of affordable housing assumes that a renter's household does not spend more than 30% of its income on housing costs, including utilities. It means that, if one family allocates less than 30% of its income including utilities and taxes to the house rental, the house is affordable. Also, for homeowners, an affordable mortgage payment is defined as 25% of the household's income, which allows 5% of the income for other costs, such as taxes, insurance, utilities and maintenance [14].

4 The Smart Growth Model

The American Planning Association (APA) outlines Smart Growth as a new form of metropolitan development, which leads to more dense regions and offers an alternative to sprawl [15] . Given that housing comprises a significant share of the built environment, policies that promote denser residential development make the key component of Smart Growth [14] .

Danielson (1999) highlights the different benefits that may result from housing developed at greater densities as compared to sub-divisions of single-family homes on large lots. Among them are financial savings on infrastructure, such as water, roads, utilities, financial savings on schools due to economies of scale, financial savings on municipal and other service delivery, and financial savings on area costs per dwelling unit of reduced land use. Although some of these policies may require additional mechanisms, they provide long-term savings by eliminating inefficiencies caused by inconsistent and uncoordinated planning. There is a growing awareness that a poorly planned development is a hidden tax on citizens and communities alike [14] .

Smart Growth also means investing in life, attention, and resources in restoring community and vitality to existing cities and older suburbs. Smart Growth in new developments is town-centred and auto-accessible. Besides, it also accommodates transfer and pedestrian movement, and has a greater variety of housing commercial and retail uses [16]. Moreover, it also preserves open space and protects sensitive areas, such as wetlands [17]. Smart Growth recognizes connections between development and the quality of life. Its advocates argue that, if done right, building more compact regions than the present ones should not conflict with economic development [18]. Enacting Smart Growth in already built-up areas, which is the greatest challenge for Smart Growth, means that many existing lower density neighbourhoods will switch to higher density housing. White suburbanites, in particular, associate higher density affordable housing with neighbourhood

racial succession. The Smart Growth literature claims that unlike social-economic benefits may result from housing developed at densities greater than a sub-division of single-family homes on large lots [19]. Smart Growth is a way of retracting big cities to protect urban residents from themselves against the impacts of unsustainable planning [17].

Using social benefits for making extra value and shifting economic benefits resulted from implementing Smart Growth towards low-income houses can lead us to a new solution for protecting people with essential jobs in city centres.

5 Affordable Housing and Low Income Housing in Malaysia

There is not any national housing policy in Malaysia [20], but there are some policies related to the housing sector under the name of various five-year Malaysia Plans and the second Outline Perspective Plan (OPP). The People's Housing Project (i.e. *Program Perumahan Rakyat* - PPR) and low-medium-cost housing are apartment projects that the government has ordered to be constructed under the low-medium-cost housing plans in low- and high-density situations [21].

In Malaysia, a number of 83,910 low-medium-cost housing units were completed, achieving 63.9% of the 9th Malaysia Plan's target. Out of this number, the private sectors constructed 61,084 units of houses or 72.8%. In this category, the overall performance was better than the 20.7% of the target achievement during the previous 8th Malaysia Plan [22] . This achievement shows that the private developers had responded remarkably well to the increasing demands of houses in this category, thus, reducing the demand pressure for low-cost houses. The total number of medium- and high-cost houses constructed by the private sectors during the 8th Malaysia Plan has far exceeded its target, reflecting a continuous demand for houses in this category. In this respect, a total number of 222,023 units of medium-cost and 274,973 units of high-cost houses were constructed. The public sectors constructed 30,098 medium-cost houses and 22,510 high-cost houses, which met 64.4% and 112.6% of the 8th Malaysia Plan's goal, respectively [1] .

The Malaysian housing demands between 2006-2010 were comprised of 709,400 dwellings. 20,000 units were allocated for the hardcore poor, of those who were living under the poverty line and whose need for housing was too extreme. 165,400 units belonged to the low-income earners as low-cost housing, whereas 85,505 units were for the low-medium-cost housing. The comparison between what has been constructed and what Malaysia needs illustrates a significant difference between Malaysian housing products and needs. It is too horrible when we see the 10th Malaysia Plan is only talking about 78,000 affordable units when Malaysia is facing more than 1,300,000 people under the poverty line (World Bank, 2011). Furthermore, we have to include at least 440,000 workers with less than $250 (RM700) of monthly income (The Malaysian Insider, 2011). It is obvious that this gap in lower cost housing is bigger than the high-cost luxury units. The 9th Malaysia Plan [8] had a particular attention to low-cost housing. The overall performance of houses built under the low-cost housing category is encouraging, with 200,513 units completed or 86.4% of the MP's target. Out of this number, 103,219 units or 51.5% were constructed by the public sectors including the state economic development corporations [8].

To ensure an adequate supply of low-cost houses, any mixed development projects undertaken by private developers are required to allocate a minimum of 30% to low-cost housing [26]. The private sectors' performance was very good in the 7th Malaysia Plan, in which 68% of the total 190,597 low-cost housing units were constructed [26]. However, taking into account the situational demand for low-cost houses as well as addressing the issue of unsold units, some state governments have made adjustments to the policy. Under the Public Low Cost Housing Programme (PLHP) for the low-income group, during the 9MP period, a total of 27,006 low-cost houses were constructed under 70 projects. These projects were implemented by the state governments through loans provided by the federal government. They mainly concentrated in small towns and sub-urban areas [8]. These houses were sold to eligible buyers

who registered under the computerized open registration system administered by the respective state governments. The *Program Perumahan Rakyat Bersepadu (PPRB)* was implemented for the resettlement of squatters in cities and larger towns. Under this programme, 37,241 low-cost houses were completed and rented out to those eligible. Out of this number of units, 24,654 units were built in Wilayah Persekutuan, Kuala Lumpur, while 12,587 units were constructed in other principal towns throughout the country [8] . Hong's study shows that, a home owner's satisfaction is much higher than the renter in Malaysia [3] . Hence, Malaysia's desire to force the developers to construct low-cost housing was a valuable step for low-income earners as the owners; however, it is not entirely a successful plan. Malaysia still needs high- range low-income houses, which need to be currently increased.

Malaysia, like many other countries, is facing the problem of limited lands. Conservation of ecological lands and beautiful suburbs is a real problem for Malaysia's planners. The dense living conditions are causing land price to rise due to the scarcity of available lands. In this situation, housing developers are further burdened by high-cost lands, and the low-income families have no alternatives but to pay high rental to property owners [9] . On the other hand, the trend in low-cost housing indicates a mismatch between the supply and demand of low-medium-cost housing in Malaysia. It also shows that private developers are not keened on building low-medium-cost housing due to low profitability [22] . In addition, there is also the fact that no temptation has been imposed, unlike the low-cost housing. Moreover, there are no specific incentives given to the private developers to help them build low-medium-cost housing [22] . Especially, after the 9th Malaysia Plan, the developers always complain that constructing 30% of the total property as low-cost housing is not acceptable.

6 Smart Growth in Malaysia

In Malaysia, for the first time, the National Policy on Environment has been formulated to ensure the long-term sustainability and development in the quality of life [8] . The policy tries to promote economic, social and cultural growths through environmentally-sound and sustainable development. In the 10th Malaysia Plan, the government concentrates on the quality of life by focusing on lower wages and improving the gross domestic product (GDP), as well as appropriating strategies for environment and state resources. These efforts are being supplemented and complemented by investments from the private sectors in the field of environment and natural resources management. To accomplish the goal of sustainable development, environmental education and public awareness programmes have been stepped up in collaboration with NGOs and the private sectors. Smart Growth is a mechanism for improving the quality of life in large sized cities [17].There are ten main discussions regarding the benefits of vertical cities instead of horizontal or sprawl, which are extendable for Malaysia [23] . Most developing countries, such as Malaysia, are facing the lack of public facilities and amenities, with sprawl development that contributes to the loss of support for public facilities and amenities. Sprawl undermines effective maintenance of existing infrastructure. It increases societal costs for transportation and consumes more resources than the vertical pattern. Sprawl separates the poor urban people from their jobs, and imposes a tax on time. One of the main important approaches for preparing housing lands in Malaysia is demolishing forests and green resources, which results in the degradation of water and air quality. Furthermore, sprawl also results in the permanent alteration and destruction of habitats. It creates difficulties in maintaining the communities. Sprawl offers the promise of choices while only delivering more of the same [23].

In summary, Smart Growth attempts to destroy inefficiencies caused by inconsistent and uncoordinated planning, which is evident in Malaysia's policies, especially in the 10th Malaysia Plan. It saves values in various aspects that allow planners to listen to other urban issues. What are incontestable in the basic discussion of Smart Growth are commensurate

houses, which must be affordable for all urban people.

7 Quality of Life and Housing in Malaysia

In Malaysia, the National Policy on Environment is formulated to ensure the long-term sustainability and improvement in the quality of life. The policy tries to promote economic, social and cultural progresses through an environmentally-sound and sustainable development. In Wawasan 2020, Malaysia confirms that it must fully achieve national unity, social cohesion, economic and political stability, social justice and quality of life. Malaysia's Vision 2020 has stressed on providing enough essential shelters and accessing health facilities and all the basic amenities, which are the bases for improving the quality of life.

Furthermore, the fourth thrust of the national mission is to improve the standard and sustainability of the quality of life. To reach this target, especially the housing aspect, Malaysia's Minister of Finance had launched *Syarikat Perumahan Negara Berhad (SPNB)*, which constructed a total number of 3,898 houses under the *Program Perumahan Mampu Milik* (i.e. a medium- and high-cost housing programme) with the objective of providing affordable quality housing for every family in Malaysia in accordance with the National Housing Objective. However, some academicians believe that many different projects which are practising under this title by housing developers can not be expected to provide a more quality house because their selling point is without referring to the established fact or published index [9] .

Nevertheless, Malaysia owns a local's Quality of Life Index (MQLI). The Malaysia's Quality of Life Index (MQLI) is a composite index based on the indices of the following eleven components (MQOL, 2004): Income and Distribution, Working Life, Transport & Communications, Health, Education, Housing, Environment, Family Life, Social Participation, Public Safety, as well as Culture and Leisure. A total of 42 indicators were selected to represent the eleven components. The indicators selected for each component were based on their importance, how best they reflect the particular component and the availability of data on a time series basis [24] . Fortunately, one of the basic parts of MQLI allocated to housing and others, such as environment, transportation, public safety and family life, is closely related to Smart Growth. It means that, the small steps in the implementation of Smart Growth in Malaysia can significantly improve Malaysia's Quality of Life Index (MQLI).

There are some regulations like minimum design standards for low-cost houses which include minimum built-up areas of 550 to 600 sq ft. These should include two bedrooms, a living room, a kitchen and a bathroom. There is no limitation for the type of the house, whereby it can be a flat, a terrace house or any other types. However, the policy encourages the developers to go through high-density development for reducing the amount of lands and making an economical scale. For building higher than 5 levels, there are some additional requirements for fire-fighting and elevators. Some states in Malaysia have a rule to include three-bedroom apartments for improving the quality in low-cost housing programmes [20].

In addition, there are two different governmental standards for public houses and low-cost housing under the names CIS1 and CIS2. CIS1 is for single- and double-storey houses, which includes planning standards and design standards, whereas CIS2 is for sub-divided units and strata. Both of these two standards use the same bases, which are safety, complete infrastructure, development of health and physics, and development of community [25] . Undoubtedly, both standards improve the quality of life of the low-income group. Ghani's research shows that, the private sectors in Malaysia are more profit motivated and their projects face less quality in neighbourhood, facilities and environment [26] .

8 Financial Aspect

Price volatility in a housing market is dynamic, and the person who monitors the housing system is faced with some special concerns in creating equality, accessibility and affordability for housing market [27] .

For the first time in 1980, low-cost housing was defined according to its selling price [20]. After this time, more or less, the main character for categorizing the low- and medium-cost housing in Malaysia is the housing price, as shown in Table 1. The state governments have played a crucial role in fixing quotas and price ceilings for low-income people, such as fixing RM42,000 for low-cost housing in urban areas [22]. This is to ensure access of the poor to low-cost housing. Banks also help the people by providing low interest loans for low-cost housing as compared to other types of loan. The study shows that the Malaysian government is playing the key role in solving low-cost housing problems and environmental problems. Now, there are many developer companies, which are not able to make their low-cost housing commission in the recent 10 years.

Table 1: Low-cost housing price

Category	House Price Per Unit	Target Groups/ Income per month
Before June 98 Low Cost Low Medium Cost Medium Cost High Cost	Below RM 25,000 RM25,001–RM60,000 RM60,001–RM100,000 More than RM100,001	Below RM750 RM750 –RM1,500 RM1,501 – RM2,500 More than RM2,501
After June 98 Low Cost Low Medium Cost Medium Cost High Cost	Below RM 42,000 (Depend on Location) RM42,001–RM60,000 RM60,001–RM100,000 More than RM100,001	Below RM1,500 (Depend on house type) RM1,501 –RM2,500 Not Stated Not Stated

(Source: The Ministry of Housing and Local Government, Malaysia, 1998)

The study shows that, because of the higher rate of constructing low-cost housing in Malaysia, the developers are not eager to venture into low-cost housing. They believe that constructing 30% of the total result as low-cost housing (i.e. the developers must allocate 30% of the total building as low-cost housing with ordered prices) is unfair and considered as missing.

9 Methodology

This research uses the case study research methodology and relational content analysis. The case study research methodology uses a qualitative research methodology that attempts to get a complete approach to the Affordable Quality Housing project. The research question is, "How can the developers be assisted to move from low-cost housing to affordable quality housing?"

Janesik (1994) believes that all scientific research begins with an argument and debate of interest. Kerlinger (1986) confirms that research design represents and articulates the researcher's way and the structure of research that will be followed when seeking answers to the research questions posed [28].

There are five critical components, which comprise the case study research design. Apart from the research question that has been mentioned, these components include the following:

(A) The research proposition(s), which states, "Profit making objectives will encourage the developers to build quality homes with affordable prices."

(B) The unit(s) of the study is Gasing Indah project as a Malaysia's low-cost housing project. Gasing Indah is a unique project matched with some important criteria of Smart Growth and in two different states, namely, Kuala Lumpur and Selangor. It is next to a rail road station, near a clinic, a primary school, a petrol station, a bus station and many other amenities. The developer has been selling low-cost housing in Selangor for RM25,000, while in Kuala Lumpur for RM42,000, because the developers has finished their first part of the building project before 1998 and before the changed regulation. The total area of Gasing Indah is 190,000 or around 47,000 acres. The low-cost houses occupy a total area of 22,000. This includes 11,500 in Petaling Jaya, 2,500 in the Petronas Station and 8,000 in Kuala Lumpur. Each block has 700 areas of land in Petaling Jaya, and the construction area equals 3500 for 192 units. The construction density of this section is 152%, and each unit is around 80. In Kuala Lumpur, each block has four floors occupying an area of 700 with a density of 105%. It means that, the low-cost housing project in Gasing Indah is 25,900 excluding the Petronas lot, which is built on a

19,500-land area, and the total construction density of low-cost housing is 132%.

(C) The logic of linking the data to the proposition(s) is based on the propositions of the study, which are profit-making objectives and enhancement of the quality of life.

(D) For the criteria in interpreting the findings, the researchers use the logic programme combined with pattern-matching and time-series analysis for studying the complex chain of events. This technique is commonly used in exploratory case studies when trying to establish cause-effect relationships. We also explain the phenomenon in detail and establish the causal links between the factors. For instance, the researchers explain the reasons for varying prices and time consuming processing. In this paper, the researchers propose implementing the SG components in urban areas which will increase the number of affordable quality housing by using savings resulting from the implementation of Smart Growth theory, employing density as a profit-making element in Smart Growth theory and adding extra value from shifting from low-cost housing to affordable quality housing.

The main discussion in this paper is based on the first construct of the propositions, which are profit making objectives. The interpretation of the analysis unit, justification of logic linking between the data and propositions, as well as interpretation of the findings, are related qualitative methodologies which have been discussed.

The researchers have selected one completed Malaysia's low-cost housing project, which is one of the successful projects under the name Gasing Indah. The Gasing Indah project has maintained the spirit of Petaling Jaya and delivered the needed housing to those who need it more. Gasing Indah is located on the border between Kuala Lumpur and Petaling Jaya. Furthermore, the researchers have used the content analysis methodology, which comprises six questions that must be addressed in every content analysis [29] . They are: Which data are analyzed? How are they defined? What is the population from which they are drawn? What is the context relative to which the data are analyzed? What are the boundaries of the analysis? What is the target of the inferences? The observations and statements in this paper are based on three options, in which it is possible to use all three options together or two of three or even only one option. Moreover, most information has been extracted from the qualitative analysis of Gasing Indah project, which supports the secondary data and literature. This research has passed a complete internal validation by using the developers' managements according to Yin's protocol for qualitative case studies.

10 Discussions and Analysis

The urban population in the world, especially in Asia, is increasing extremely fast. This study discovers that the shift from urban sprawl to compact city is the main principle of Smart Growth, which could not occur effectively without governmental subsidies and help. It requires a wider acceptance of high-density living from the communities and overcoming urban sprawl that is fundamentally embedded in the culture of world's developed cities as presented in media as the ideal lifestyle.

10.1 Density as Profit Making

It seems that the best way to boost the Affordable Quality Housing project using Smart Growth criteria is by practising maximum density. To determine the role of density in making a profit, the research team has analyzed a low-cost housing project in Kuala Lumpur under the name Gasing Indah, in its actual condition and proposed setting. The comparison indicates that using the proposed solution with higher density can generate values to Gasing Indah.

In Malaysia, low-cost housing has practised a standard assessment model, which is used in all projects. The model starts with the standard economic cost-benefit analysis of a representative investment, and then adds the key interventions with basic assumptions about the incidence. In this requirement, the market value of the units' minus capital cost to the economy is equal to the net economic cost/benefit. On the contrary, calculating the cost/benefit for the developer is comparable with land subsidy plus the development phase infrastructure allowance

plus construction subsidies (materials, finance,3. etc.) plus sale price minus resource cost to the economy minus the cost of land use and building regulations (including delays) minus land acquisition and other taxes. In Gasing Indah, two different sets of price are involved due to its unique location, which sits on both Petaling Jaya (PJ) and Kuala Lumpur (KL). The price in PJ is RM 42, 000 per unit, whereas in KL is4. RM25,000.

As shown, Negara Properties Sdn. Bhd. (Negara Properties), the developer of Gasing Indah project has a total loss of RM 2, 597,569. The total area of Gasing Indah is 190,000. The low-cost housing part is 22,000 that include5. 11,500 in PJ, 2,500 for the Petronas Station and 8,000 in KL. Each block has a land area of 700 in PJ, in which the construction area is equal to 3500 for 192 units. Meanwhile, construction density is 152%, and each unit is around 80. In KL side, each block is also 700, but in four floors, the density is 105%. It means that, the low-cost housing project in Gasing Indah is (minus the Petronas Station) 25,900 built on a 19,500-land area with a total construction density of 132%. Assuming that there are five people living in each unit (280 units), its population density will be 710 people in 1. The analysis on the total project cost and selling price shows that the developer has lost more than RM2.5 million. The analysis highlights the following:

The study on Gasing Indah confirms that the developer lost a large amount of money in constructing the low-cost housing. The different subsidies and discounts in land price could not cover the amount lost in this project. In addition, it was time-consuming and incurred extra cost on the developer for paperwork. This scenario is a reason for the developer to avoid low-cost housing. The current low-cost housing in Malaysia cannot provide significant incentives for developers.

2. The field survey shows that the location of the project is an ideal location and a positive point for Gasing Indah but the quality of construction after 10 years is not acceptable. The building is already deteriorated. Neither the developer and municipality nor the residences pay for the maintenance of the buildings.

The residents of the buildings remained the same through these years. They could not improve themselves and shift to a better house, and they are still living in the low-cost housing as low-income people. It means, this type of low-cost housing projects could not help the low- income people to save and improve their quality of life.

Malaysia's plans and legislations are not in line with this kind of housing. Malaysia has stressed on mixed income and mixed ethnic planning, while in Gasing Indah project, the poor people are separated and isolated from others.

Malaysia states that appropriate actions must be taken to ensure that the development is sustainable and balanced. For this reason, environmental and conservation considerations have to be integrated with development planning. However, in Gasing Indah, one cannot see any action plan or activity in achieving or improving sustainable development or quality of life. Here, the research team has tried to highlight the PJ side of Gasing Indah because its selling price is the same with the current Malaysia's rule, and it can be compared with our proposed model.

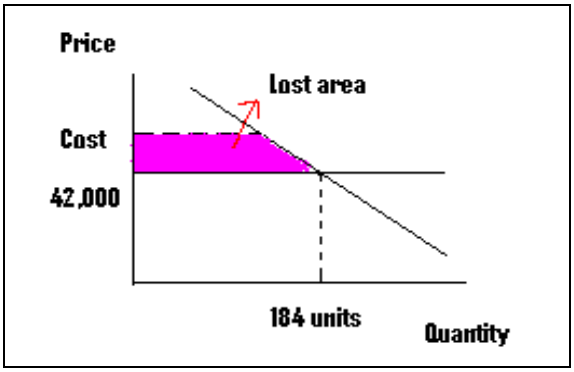

Figure 1: Gasing Indah's market point

Total area for LCH in PJ: 11,500 m^2
Number of blocks: five blocks with five floors
Number of units: 184 units of 80 m^2
Construction density: 132%
Population density: 800 persons per km^2
Selling price: RM 42, 000

In the economic definition, because of the supply fixed price, which is RM42,000 for each unit, the supply curve is completely horizontal.

The gap between supply curve and cost of construction is a lost area for Gasing Indah. It means increasing the number of low-cost housing units will cause bigger lost areas, whereby this is the main reason why developers avoid the low-cost housing projects.

An easy solution to this is shifting the supply curve towards a cost point, where it can meet a break-even point there, but it cannot be the final solution. In other words, we will make a small lost area or even shift it over the break-even point to get to the benefit area. It is easy to understand that shifting the supply curve needs to enhance the low-cost housing prices and this solution will push on the low-income people and decrease their quality of life.

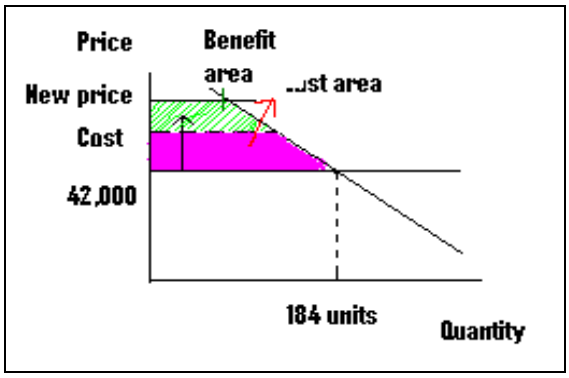

Figure 2: Benefit area in Gasing Indah market

According to the Smart Growth theory and affordable housing, the suggested programme for Affordable Quality Housing instead of Low Cost Housing in Malaysia must have at least 600% density. Developers must allocate 110 m^2 for the net area inside the building with three rooms and one parking for each unit. As a mix development, in a unique apartment, there is a different type of houses as well as low-income houses. Surely, the final costs for all units are the same and there is no difference between normal units and low-income houses. However, the selling price is different unit-by-unit according to low-income salaries, in which the instalment cannot be more than 30% of the total income. Following this definition, the benefit or loss in a project is calculable by using the model below:

$$Q= (n_S . p_S)+(n_L . p_L)- (n_{L+S} . C),$$

where

Q: Profit or loss, n_S: number of the normal units, p_S: price of the normal units

C: cost per unit, n_L: number of the low-income units, p_L: price of the low-income units

Therefore, If Q>0 ------→ Project in the profit area
If Q<0 ------→ Project in the lost area
If Q= 0 -----→ Project in the break-event point

With the proposed plan, that is the proposed Malaysian Smart Growth's Affordable Quality Housing (MSGPS), the Affordable Quality Housing project will be profitable for the developers. The outcome is supported by the American experiences in facing low-income housing, whereby when the developers benefit from the projects (i.e. low-income housing tax credit), they are motivated to participate in low-income housing projects even with less profit.

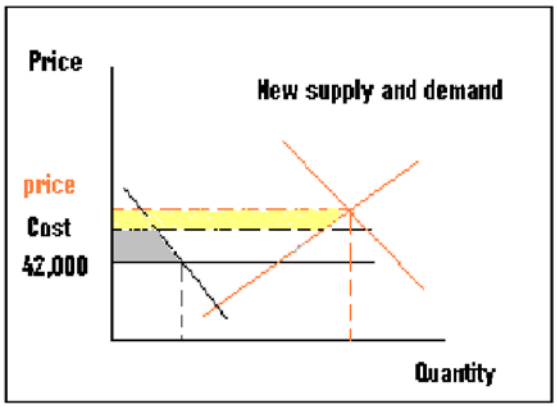

Figure 3: The supply and demand curves in a new situation

This proposed mechanism is in line with the housing policy of providing adequate, quality and affordable houses to all Malaysians, which is an objective of the 8th Malaysia Plan. This includes the provision of public amenities, such as community halls, children playgrounds, clinics, shops, houses and open spaces. Meanwhile, the public sector's housing programmes continue to focus on providing low-cost houses for the low-income group and eliminating squatters in urban areas. Social mixing policies can help authorities to focus on

the main causes of urban problem (Bolt *et al*., 2010). It can help build a Malaysian community that has freedom, strength and full of self-confidence.

The proposed Malaysian low-income housing can be a new type of rent to own (it is also useable for only rent) housing for the poor, and its rental is fixed, that is 25% of their income. This arrangement complements bank cooperation, which encourages developers and is an opportunity for low-income residence. The payment period depends on the tenant's income, and the total price will be the same as now.

This proposed Malaysia's Smart Growth has demonstrated its capability to improve Malaysia in terms of economy, social justice, government system of decision making, quality of life, social and spiritual values, national pride and confidence, as already mentioned in Malaysia's Vision 2020.

10.2 Using Smart Growth Savings

Majority of the world's urban dwellers are living in the slum areas, and a high percentage of this population are staying in developing countries. This fast growth of poor urban people inside and around metropolitan areas forces the governments to bring in new infrastructures, facilities and amenities. To build police stations, schools, kindergartens, bus stations, government offices, fire fighter stations, and to provide clean water, sewage treatment and others to new lands disable the governments or render the urban budget insufficient. In addition, conservations of lands and natural resources are demolished to give way to Malaysian developers to incorporate new constructions. The alternative Smart Growth provides long-term savings by eliminating inefficiencies caused by inconsistent and uncoordinated planning. Smart Growth's foundation is on sustainable development and it protects the environment which is what Malaysia needs. Smart Growth is also more necessary for countries like Malaysia than in other countries because of its tropical geography and green areas, unlike those in the desert regions. Smart Growth confirms that the only way for a long-term development is by attending to the natural resources [30].

Instead of paying massive costs to extend the city, especially around the Klang Valley district, Smart Growth retracts the city and in the process, saves costs. Authorities can allocate fewer total development cost to affordable quality housing inside the cities as subsidies and at the same time protect green lands and natural sources. By working on existing infrastructures and facilities, saving will be increased.

Based on our observation, another key factor that drives up housing prices in Malaysia is the demand for larger and higher quality houses. The main emphasis of Malaysia's housing policy is on the provision of adequate, affordable and quality housing for all Malaysians. That is a result of Malaysia's total growth and increasing Gross Domestic Production (GDP) [31]. The research team proposes that the profit-making objectives are the only way to convince the developers to get involved in low-cost housing. Without this approach, the authorities will face problems to enhance the quality of housing. Moreover, developers will also face more losses, and thus, they will never participate in such projects.

Malaysia's planning confirms that the main reason for this country's rapid growth is paying enough attention to different types of planning. It happened because of the long time social and political stability, eventuated by Malaysia's per capita income rising from RM6,099 in 1990 to RM9,786 in 1995 and 38,850 in 2015 [2]. This improvement in the economy and income has enabled them to talk about different issues in development, such as sustainability and quality of life, and the National Policy on Environment is also being formulated to ensure the long-term sustainability and improvement in the quality of life.

10.3 Extra Value of Shifting from LCH to AQH

Malaysia's National Policy on Environment is being formulated to ensure the long-term sustainability and improvement in the quality of life. This policy tries to promote economic, social and cultural progresses through environmentally-sound and sustainable development. In this regard, the proposed Malaysian Smart Growth's Affordable Quality Housing suggests some services, amenities and standards formerly not prepared for low-cost housing. Actually, the accepted distance until

public transportation, has defined distance until treatment centres, being in the radius of primary school, fire station, police station and other necessary facilities and amenities to improve the quality of living in new buildings and encourage investors for more investment in these projects. This new proposition is conducive for families to live and it brings extra values. As a result, people will be more interested to live in this area. This new situation gives an opportunity for developers to sell their units to higher prices, and at the same time, it delivers the same units to eligible registered demanders who are necessary employees for the city.

11 Conclusions

The above study proves that more density can create more benefits for developers, and at the same time, they will sell their affordable quality housing to low-income people. Furthermore, developers will also have the motivation to continue building low-income housing. Surely, this trend will eventuate more low-income housing and increase the number of permanent affordable housing in Malaysia. The third foundation of the Affordable Quality Housing project is adding extra value. Malaysian Smart Growth's Affordable Quality Housing suggests some services, amenities and standards that are formerly not prepared for low-cost housing. Actually, new buildings will not only be low cost but have extra facilities and services, which make them quality housing at an affordable price. This new situation is more conducive for families to live and it brings extra value. Therefore, the people will be more interested to live in this area.

This study introduces a specific and practical way for Malaysia. This customized solution is a new low-income housing model, which is developed by extending the Smart Growth. It has two projected results: firstly, a rational solution to encourage the developers to venture into low-income housing, and secondly, to improve the quality of life. The proposed Malaysia's SGAQH is a mechanism that integrates the Smart Growth principles, affordable housing elements and Malaysia's regulation and goals. It is hoped that the model will become an alternative solution for housing developers in Malaysia, who cannot rely on government subsidies to build affordable quality houses for the whole nation.

12 References

[1] MOH, Ministry Of Housing and Development. (2006). *Public and Private Sector Housing Targets and Achievements, 2001-2005*. Kuala Lumpur. http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan017517.pdf

[2] 10th MP Malaysian Government (2001). *Tenth Malaysian Plan.* Prime Minister's Department: Economic Planning Unit, Kuala Lumpur.

[3] Hong, T.T. (2012). Housing satisfaction in medium- and high-cost housing: The case of Greater Kuala Lumpur, Malaysia. *Habitat International, 36*, 108-116.

[4] Anthony, J. (2003). The Effects of Florida's Growth Management Act on Housing Affordability. Journal of the American Planning Association, *63*(3), 282-295.

[5] Litman, T. (2011). Understanding Smart Growth Savings. Victoria Transport Policy Institute (www.vtpi.org); at www.vtpi.org/NAHBcritique.pdf.

[6] Friedrichs, J., Galster, G. and Musterd, S. (2003). Neighborhood effects on social opportunities: the European and American research and policy context. *Housing Studies, 18*(6), 797–806.

[7] Geller, L.A. (2003). Smart Growth: A Prescription for Livable Cities. *American Journal of Public Health, 93*(9), 1410-1415.

[8] 9th MP Malaysian Government (2006). *Ninth Malaysian Plan*. Prime Minister's Department: Economic Planning Unit, Kuala Lumpur.

[9] Hashim, A.Z. (2010). House Price and Affordability in Housing in Malaysia. *Akademica, 78*(Jan-Apr), 37-46.

[10] Centerlink. (2008). *Australian Government; Department of Human Services.* http://www.centrelink.gov.au

[11] Carruthers, I.J. and Ulfarsson, F.G. (2007). Does 'Smart Growth' Matter to Public Finance? *Urban Studies, 45*(9), 1791–1823.

[12] HUD, U.S. Department of Housing and Urban Development (2008). *Affordable Housing: who needs?* Retrieved from http://www.hud.gov/offices/cpd/affordablehousing/

[13] Anderson, M.L., Charles, St. J., and Fulliov, T.M. (2003). Providing affordable family housing and reducing residential segregation by income: A systematic review. *American Journal of Preventive Medicine, 24*(3), 27-67

[14] Barclay, E. and Batker, D. (2004). Smart growth development: An analysis of 10 common myths about development. Asia pacific environmental exchange, September.

[15] DANC, Development Authority of the North Country. (2006). Low Income Housing Tax Credit Qualified Allocation Plan, August.

[16] Greenberg, M., Lowrie, K., Mayer, H., Miller, K. T., Solitara, L., (2001). Brownfield redevelopment as a smart growth option in the United States. Springer Netherlands. 21, 129-143.

[17] Daniels, T. (2001). Smart Growth: A New American Approach to Regional Planning. *Planning Practice and Research, 16*(3-4), 271-279.

[18] Fulton, W. (1999). *Retracting suburbia: Smart growth and the future of housing.* Fannie Mae Foundation.

[19] Danielsen, K.A. Lang, R.E., and Fulton, W. (1999). What does smart growth mean for housing? *Faculty Publications (SEPA)*, 353.

[20] Idrus, N. and Siong, C.H. (2008). Affordable and Quality Housingthrough the Low Cost Housing Provision in Malaysia. Seminar of Sustainable development and Governance. University Technology Malaysia.

[21] Tee, A. G. and Yahya, A. (2008). *Public Low Cost Housing in Malaysia: Case Studies on PPR Low Cost Flats in Kuala Lumpur*. University Malaya.

[22] Shuid, S. (2003). *Low Medium Cost Housing in Malaysia: Issued and Challenges*. International Islamic University Malaysia.

[23] B Bakhtyar and R Ibrahim. "Encouraging Malaysian Developers for Constructing Affordable Quality Housing" International Conference on Built Environment In developing Countries (IC BEDC 2007). Penang, Malaysia.. Apr. 2007.

[24] Salleh, G.A. (2008). Neighbourhood factors in private low-cost housing in Malaysia. *Habitat International, 32*, 485– 493.

[25] Sufian, A. and Rahman, R. (2008). Quality Housing: Regulatory and Administrative Framework in Malaysia. *Int. Journal of Economics and Management, 2*(1), 141 – 156.

[26] American Planning Association, APA. (2002). *Planning for smart growth, state of the states*, Chicago.

[27] Munro, M. and Smith, S. (2008). Calculated Affection? Charting the Complex Economy of Home Purchase. *Housing Studies, 23*(2), 349-367.

[28] Bolt, G., Phillips, D. and Kempen, R.V. (2010). Housing Policy, (De) segregation and Social Mixing: An International Perspective. *Housing Studies, 25*(2), 129-135.

[29] Krippendorff, K. (2004). *Content Analysis: An Introduction to Its Methodology*. (*2nd edition*). Thousand Oaks, CA: Sage.

[30] SGN, Smart Growth Network. (2002). Getting to Smart Growth: 100 Policies for Implementation, and (2004), Getting to Smart Growth II: 100 More Policies for Implementation, Smart Growth Network (www.smartgrowth.org) and International City/County Management Association. (www.icma.org). Retrieved from www.epa.gov/smartgrowth/getting_to_sg2.htm.

[31] B Bakhtyar and Ibrahim R. (2007). *Identifying Affordable Quality Housing Components for Developing a Smart Growth Model* University Putra Malaysia. World Housing Congress, Terengganu, Malaysia. http://works.bepress.com/bakhtyar/5