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## FACTORS AFFECTING THE OWNERSHIP OF LOW-COST HOUSING FOR SOCIO-ECONOMIC DEVELOPMENT IN MALAYSIA

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### Abstract

Malaysian government has a special commitment to provide the adequate, affordable housing and quality to all income levels, particularly for low-income group. Over the recent years, Malaysian property market was not balance in terms of supply and demand, where the demand is exceeding supply especially for low-cost housing. However, high demand for housing in urban areas could affect the homeownership issue for low-income group. The first objective of this paper is to study the relationship between household income and housing affordability. Besides, the second objective is to examine housing satisfaction level by the residents focusing on the public low-cost flats under the supervision of Kuala Lumpur City Hall. A survey has been carried out using questionnaires distributed to 500 residents of the three-low-cost housing in Kuala Lumpur, Malaysia. The finding contributes to an establishment of a strategy to improve homeownership of the low-income earners to own PPR house. This study is recommended that more effort should be taken by the government to improve quality of house to ensure the better life of low-income population in the current PPR flats.

**Keywords:** Homeownership, Housing policy, Low-cost housing, *Program Perumahan Rakyat* (PPR).

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### INTRODUCTION

In Malaysia, low cost homeownership becomes a vital issue because of the high demand from the low-income group in Malaysia especially in large urban areas such as Kuala Lumpur, Selangor and Penang. Housing in Malaysia can be categorized as low-cost, low medium-cost, medium-cost and high cost (National Housing Department, 2013). Development of low-cost housing is mainly from government housing programmes, meanwhile private sector act as key player in provision of high cost and medium-cost housing. Therefore, in every housing development projects, the government imposes to construct 30% of their housing development for low cost houses to encourage the private sector to build more affordable homes (KLCH, 2016).

In addition, Kuala Lumpur Structure Plan 1984 was targeted to ensure adequate housing is provided for all income groups so that the residents could access to housing services, basic infrastructure, utilities and community facilities. Yet, for the most part, this strategy has been successfully implemented in Malaysia (Kuala Lumpur City Hall, 2016). Historically, the government's commitment towards providing low-cost housing was introduced since the First Malaysia Plan (1966-1970) while the involvement of the private sector began during the Second Malaysia Plan (1971-1975). Both public and private sector have involved in various housing programmes in Malaysia in promoting the welfare for lower income groups. The public sector holds responsibility in providing houses for lower-income groups and the public employees. Meanwhile, the private sector focuses more on overall market demand (Economic Planning Unit, 1965).

During the Seventh Malaysia Plan (1996-2000) and Eighth Malaysia Plan (2001-2005), the Malaysian government is even more committed to provide adequate, affordable housing and quality to all income groups, with emphasis on low-income group and this priority was continued in the Ninth Malaysia Plan (Idrus *et al.*, 2008). A total of 78,000 affordable houses built in the Tenth Malaysia Plan, however, 9% of the houses built were identified as problematic housing projects which have issues on late completion and very poor of construction quality (Hong, 2012).

According to Bank Negara Malaysia (2015), supply-demand imbalance of Malaysia property market has increased; with demand of houses is exceeding supply over the years. The shortage of affordable housing supply is one of the factors influencing the rise of house prices, especially in major

urban areas (Dan, 2010). Besides, a significant growth rate throughout Malaysia in real estate market has been suffered more than ten years ago. Due to the rapid economic growth in Malaysia, there is increasing demand on housing particularly in urban areas. To some extent, this situation has resulted in the increase of house prices because there is lack in supply of housing. Hence, this issue will affect the low-income groups to buy and own a home.

To deliver affordable and quality housing, the government and private developers need to know what are the main factors that affecting housing satisfaction among homeowners. Prior research has shown that homeownership is one of important determinant of housing satisfaction (Tan and Khong, 2012). Thus, this study would allow housing developers in understanding their housing development by assessing overall residents' satisfaction towards their housing situation.

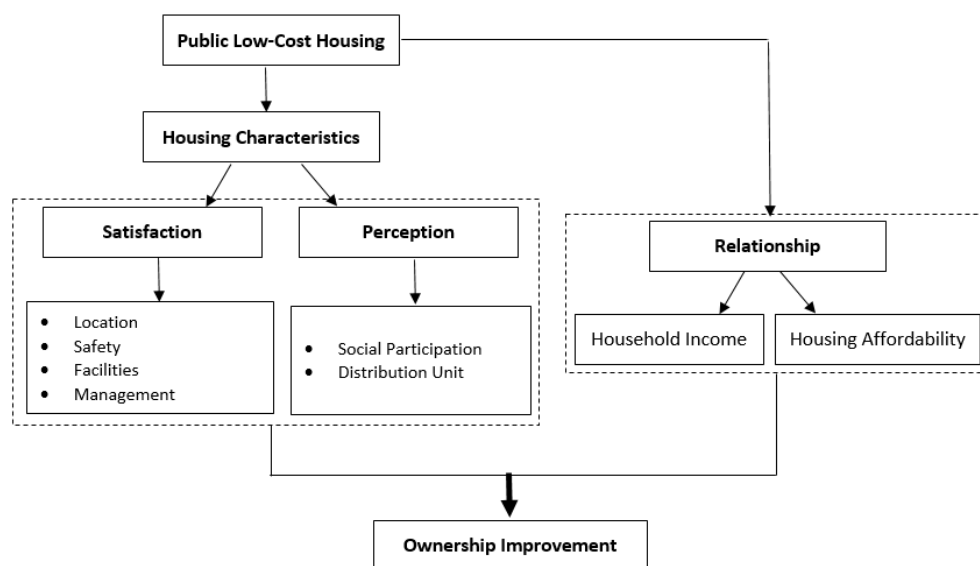
### Problem Statement

Since the Third Malaysia Plan, low cost housing projects has not met its target (Bajunid and Ghazali, 2012; Ramli *et al.*, 2014; Shuid, 2009). For instance, throughout the Eighth Malaysia Plan, only 197,649 low cost housing units were built compared to 230,000 units required (Ramli *et al.*, 2014). Although many private developers were involved to offset the housing need, nonetheless, these developers constructed the low-cost houses merely due to quota requirements as they are non-profitable projects. Residents of low-cost housing continually encounter many challenges such as maintenance, sub-standard quality, comfort levels, health, safety and security amenities (Zaid, 2011).

For most individuals, housing represent as the biggest lifetime investment. The house also deemed able to guarantee the future of a family (Shuid, 2008). Therefore, the ability to provide a place to stay comfortable and safe for all income levels will contribute to the quality of social development. With the continuous increase in living cost and property prices, the first-time home buyers will face a huge challenge to buy a house in today's market, mainly due to urgency of supply oriented initiative in short and medium run in Malaysia (Samad *et al.*, 2017). Despite a numerous efforts and housing programs from the Malaysian government, this housing issue still becomes a major concern for all. Therefore, this issue should be addressed by state and federal government.

### Study Framework

This study intends to establish a strategy that can be used to improve the ownership of low income earners to own PPR house. This study provides answers to simple policy questions: why do they choose their current houses, and how does the determinants affecting the ownership of housing affordability? This study adopts housing satisfaction and perception of low-cost housing project under the supervision of Kuala Lumpur City Hall (KLCH) which contains several components as shown in **Figure 1**. These two aspects contributed to the ownership improvement of low-cost housing. Besides, this paper also determines the relationship between household income and housing affordability. A better understanding of the householders' satisfactions/perceptions will provide fresh insight into the ownership problems of low-cost housing in Malaysia.



**Figure 1:** Study Framework

## LITERATURE REVIEW

### Housing Affordability

In general, housing affordability is correlated with the price exists in the market, where it serves as a key indicator for the housing sector (Bujang *et al.*, 2015). Housing affordability is the term used to describe the medium- and low-income housing. Terms including mass housing, low-cost housing and middle-income housing are sometimes used to denote affordable housing. A study done by Zainon *et al.* (2017) found that house price is the most important consideration for homeownership preferences and has been a major concern among households especially to those living in major cities. Housing affordability is a concept that interprets socio-economic and development environments. According to Suhaida and Tawil (2010), it can be considered as a household selection decision function between housing and non-housing product expenditure. Furthermore, housing affordability is denoted as the rent-to-income ratio or house-price-to-income ratio known as income affordability; more sophisticated measures are purchase affordability, repayment affordability (Gan and Hill, 2009) and life time income affordability (Abeyasinghe and Gu, 2011). Affordable housing is provided for families that can be afforded by a range of very low to middle income-earner groups.

According to Glaeser and Gyourko (2003) and Jewkes and Delgadillo (2010), affordable housing or housing affordability implies different things to different peoples. However, there are two most cited definition of affordable housing. According to the first definition, housing is considered affordable if it can afford to occupy without spending more than 30% of their income (Osman *et al.*, 2017). This principle evolved from the US National Housing Act of 1937 (Schwartz and Wilson, 2008). The second most often cited definition is the "median multiplier" method. In this method, based on the annual International Housing Affordability Survey Demographia, the median house price are compares to the median household income, resulting classification of housing affordability into five categories.

Apart from that, housing affordability can be thought of as a percentage of household income that is spent on housing. According to O'Dell *et al.* (2004), a consensus that can be made in respect of housing affordability is based on the idea of 'households have to pay no more than 30% of their household income, including utilities', in which when the families pay more, especially the low- and middle-income families, it is considered cost-overburdened as they may have difficulty paying for other basic needs. In all major cities in Malaysia, based on either of these definitions, the costs of the housing are "severely unaffordable" to both the middle income and low-income earners (Olanrewaju and Tan, 2017). For instance, cumulatively, the monthly expenditure for the rental is 35% for those in the median income group (Department of Statistics, 2015).

### Low-Cost Housing Policies in Malaysia

A perfect and comfortable home is very crucial in providing safety, comfort, experience, satisfaction and convenience to the home occupants. According to the United Nations charter, a decent accommodation is a basic right for humanity. Recognizing this responsibility, one of Malaysia's important longstanding development objectives is the provision of affordable housing (Government of Malaysia, 2010, 2015). The objective of housing policy is to ensure that all Malaysian, especially the low-income group, will have access to adequate, comfortable, quality and affordable housing (National Housing Department, 2016). Low cost housing provision has become a priority of the Malaysian government in the consecutive Five Years Malaysia Plans. Both public and private sector developers have a responsibility in developing low cost housing. In the First Malaysia Plan (1966-1970), the government has begun to give attention to develop low cost housing. During the Second Malaysia Plan (1971-1975), the private sector has been involved directly in the supply which is to ensure an adequate supply in the construction of low cost housing in the country (Ghani *et al.*, 1997).

During the Fourth Malaysia Plan (1981-1985), the concept of Low Cost Housing was officially introduced, concentrated on public low-cost housing and provision sites in rural areas. Public sector including Ministry of Housing and Local Government (MHLG) and State Economic Development Corporations (SEDC) are responsible for the low-cost housing projects and programmes (Economic Planning Unit, 1980). Next, in the Fifth Malaysia Plan (1986-1990), housing for low-income group was given priority and private sectors are responsible in provision of low-cost housing (Economic Planning Unit, 1985). In the Seventh (1996-2000) and Eighth (2001-2005) Malaysia Plans, Malaysia government is really concerned and committed to increase accessibility to adequate housing, affordable and quality houses for all citizens, especially the low-income group in Malaysia (Economic Planning Unit, 2000). Moreover, the government of Malaysia has focused more on low-cost housing

during Ninth Malaysia Plan with a total of 200,513 units or 86.14% of the Plan target. Of this total, public sector including State Economic Development Corporation constructed 103,219 units or 51.5% (Economic Planning Unit, 2005).

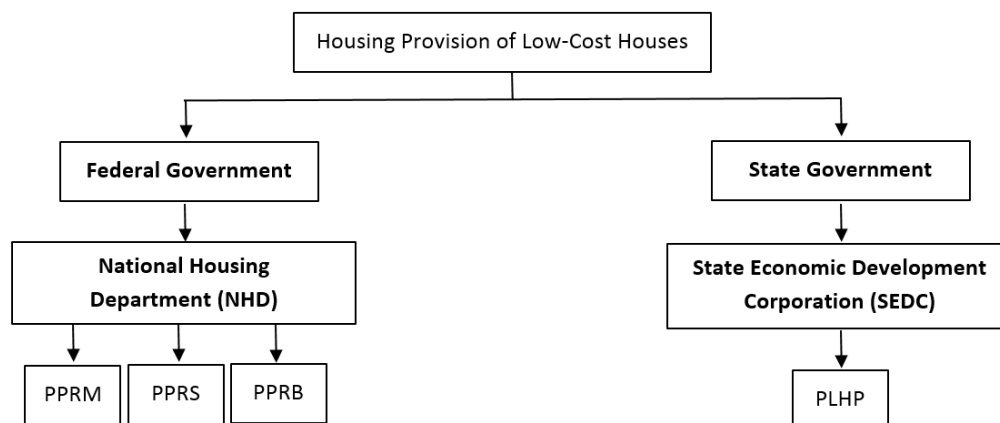
The Tenth Malaysia Plan (2011-2015) stated that housing development will focus on the provision of affordable housing (National Housing Department, 2016). During this Plan, the government continues to provide low cost housing as well as affordable housing programs to the entire city and the semi-urban areas. In achieving this aim, many schemes and policies were formulated, for examples the MyHome, Perumahan Rakyat 1Malaysia (PR1MA), Rumah Mesra Rakyat (RMR1M), Program Rumah Mampu Milik (RMM), Program Penyelenggaraan 1Malaysia (TP1M) MyDeposit Scheme, Housing Loan Scheme, People's Housing Programme, Rumah Transit/Transit House programme and MyBeautiful New Home. Qualified individuals and families to own a home that offered housing units built to encourage homeownership for the bottom 40% of households (B40). Government also encourages the development of more medium-cost housing by the private sector with many subsidies and tax reliefs have been provided to homebuyers, developers and contractors. In addition, the government is focusing on the provision of facilities for elderly and disabled people by providing community development and better access (Economic Planning Unit, 2010).

Currently, a safe, healthy and comfortable in keeping with country's socio-economic status has become an issue in Malaysia. In this regard, the government will be encouraged to improve residents' quality of life as it is the key issue of sustainable development. However, for PPR low cost housing, the demand for the house is still high especially in Kuala Lumpur. According to Khazanah Research Institute (2015) report, housing prices is 4.4 times higher than the average annual salary of people in Malaysia. In this current situation, affordability problems for Malaysian households are widespread where majority of them could not afford to purchase a house.

### Public Low-Cost Housing in Malaysia

Low-cost housing is developed specifically for the lower income groups to improve their quality of living (Ramli, 2014). The concept of low-cost housing is defined according to its ceiling price was at RM25, 000 per unit and the target groups of households with a maximum monthly income of RM750. The type of houses may include flats, single-storey terrace or semi-detached house with two bedrooms, living room, kitchen and bathroom cum toilet. The minimum standard built-up area is 550-600 square feet (Idrus and Ho, 2008).

Public low-cost housing in Malaysia is built to ensure resettlement of squatters in government land or those belonging to low-income groups to be relocated to a new house. The Ministry of Urban Wellbeing, Housing and Local Government through the National Housing Department and state government through State Economic Development Corporation (SEDC) are involved in implementing of public low-cost housing programmes to meet the needs for low-income earners in urban areas. (Refer **Figure 2**).



**Figure 2:** Structure of Housing Provision of Low-Cost Houses in Malaysia

### Public Low-cost Housing Programme (PLHP)

According to KLCH (2016), PLHP was implemented to provide a satisfying housing service as well as basic amenities for the low-income groups mainly concentrated in the urban and rural areas. This

program also was created to improve the standard of living and the same wipe out poverty altogether. PLHP is available for sale or as rent-to-buy scheme.

### ***People's Housing Programme (PHP)***

PHP can be divided into three types; People's Housing Programme for Sale (PPRM), People's Housing Programme for Rent (PPRS) and Integrated Housing Programme (PPRB). These three programmes were implemented for the resettlement of squatters to meet the needs for low income population (MHLG, 2009). The specific purpose for PPR is to improve standard and cost of living of low income groups.

### ***Rent Assistant Scheme***

Rent Assistance Scheme due to rental arrears of PPR is an initiative from KLCH in providing assistance for those cannot afford to pay the rent and high arrears. Hence, it could reduce city's poverty level in Kuala Lumpur (KLCH, 2016). The requirement for this scheme are households without a fixed income or a monthly income less than RM1,500 and liabilities is either in hardcore poor category which is household income below RM580 (below RM140 per capita) or in poor category which household income under RM940 (below RM240 per capita). For example, the residents or households with chronic diseases and disabled or senior citizens who have no income. Also, tenants who receive help subsistence from government agencies but did not receive housing rental assistance and tenants who receive housing rental assistance from government agencies but have no rental arrears. Lastly, this application must be accompanied by a receipt of payment latest rental arrears and the remainder of rent arrears. The applicant must make a payment of at least 30% of the total arrears or the amount agreed by the duty officer at the appeal counter.

### ***Factors of Affordable Housing Ownership***

The concept of housing affordability involves explaining on how and what determines affecting the ownerships of housing. Normally, affordable housing buyers face a lot of difficulties in making decisions on their choice of housing ownership. Ironically, current researchers have not made a logical inquiry to examine the reasons as to why homebuyers and homeowners choose their house. The factors that determine the reasons that households considered while making their decisions on their buying plan will provide a far-reaching "solution" to housing markets. Households use the choice factors to define their housing affordability. For instance, the user analysis is the first step in the process of deriving a specification, functional space (Kelly et al., 2004). Without this, it is very unlikely that poor distribution, the size of overhang, unsold and vacancy rate will continue to increase and the property transactions continue to plague (Olanrewaju and Tan, 2017).

Previous literatures have shown that extensive studies have identified various factors/determinants that influence housing preference/satisfaction but only a few studies investigated on the affordable housing. Granted that no systematic studies have been conducted to explore the determinants of affordable housing choice, the factors that influence the general housing satisfaction including housing quality, income, policies, markets, conditions and location, were some of the determinants that would influence affordable housing decision (Olanrewaju and Tan, 2017). According to Fierro et al. (2009), in a researched done in Northern Mexico, there are about 12 characteristics that have been taken into consideration in buying a house. The characteristics were include location, floor size, number of bedroom, number of bathroom, number of parking, number of floor, gated and guarded, security, green area, distance to school, distance to commercial area and accessibility. While according to Esinga and Hoekstra (2005), the most important determinants in housing preference is the number of bedroom, type of house, age, income, total of household and expenditure.

However the most important in buying a house is the satisfaction of owning a house. Hence, the physical and neighbourhood factor is important to create harmonies (Levi and Lee, 2004). Some studies have been conducted in Malaysia to investigate householders' preference/satisfaction in housing. For instance, Tang (2012) when investigated housing satisfaction in Malaysia by evaluating various determinants that increased residents' satisfaction have found that social capital as a major component of satisfaction. Khan et al. (2017) has evaluates the preferences of first time homebuyers in Malaysia in buying houses to live in. The problem of house ownership of first time homebuyer is critical since they are constrained by the affordability as well as selecting the appropriate choice for them to suit their needs. The result shows that in Malaysia, the first time home buyer are preferable the economic, neighbourhood, structure and location factors in order to make a decision to buy a new house.

Meanwhile, Tan and Khong (2012) evaluated housing motivation and satisfaction and found that both social capitals in social capital investment and residential stability were the major factors accountable for housing satisfaction. Furthermore, Ghani (2008) measured the satisfaction of low-cost residents and it was found that it is critical to improve the neighbourhood facilities so that the residents' satisfaction will be increased too. Zyed et al. (2016) have found that house price, household income and housing choice as the crucial indicators for housing affordability. Besides, Mohit et al. (2010) assessed the residential satisfactions of newly design low-cost housing and found a moderate satisfactions among the residents on the basis of which made some policy recommendations for improvements. Bujang et al. (2010) and Muhamad Ariff and Davies (2011) also investigated the relationship between demographic and social-economic issues in housing affordability.

According to Andersen (2011), there are some characteristics to ensure that the chosen surrounding and neighbourhood is suitable to be occupied. These characteristic is divided to four which are:-

- Physical Environment - These include physical characteristic and external condition of the building, entrance, physical disturbance such as sound and contamination and maintenance standard. Other than that distance to green area should be considered.
- Social Environment - These include status, safety, social network and lifestyle of the chosen area.
- Location and Public Facilities - The most important in making decision for home is the availability of facilities such as shop and restaurant. Other than that are institution, sport area, playground, place that can be used to socialize and can be symbolized culture also need to be taken into consideration.
- Location and Transportation - Location and transportation is defined here as accessibility to the chosen house or from the chosen house. These include distance to workplace, distance to nearest town, distance to relatives' house and shopping complex.

In this study, some important factors were chosen to be explored in details on their responsibility in influencing the ownership of low-cost housing in Malaysia. These factors include location and amenities, safety aspects, maintenance provision, housing management and social participation of the neighbourhood (Ghani (2008), Mohit et al. (2010), Andersen (2011), Tang (2012), Zyed et al. (2016), Khan et al. (2017), Olanrewaju and Tan (2017)).

## METHODOLOGY

### Study Area

The study focuses public low-cost flats under the supervision of Kuala Lumpur City Hall (KLCH) which are PPR Lembah Pantai Kerinchi, PPR Ampang Hilir and PPR Taman Intan Baiduri. These three selected PPR are located in the Federal Territory of Kuala Lumpur. **Table 1** shows the information of PPR housing projects.

**Table 1:** Information of PPR housing projects

No.	Housing Projects	Total No. of Unit	Total No. of Block	Sample Size
1.	PPR Lembah Pantai, Kerinchi	1,896	6	154
2.	PPR Ampang Hilir	948	3	142
3.	PPR Taman Intan Baiduri	1,834	6	204
	<b>TOTAL</b>			<b>500</b>

Source: MHLG, 2016

### Data Collection

The study employed closed-form type of questions to gather data from the respondents. According to Naoum (1999), closed-form questionnaire is clear, straight, easy to ask and easy to answer. Thus, the closed-form type of questionnaire is very appropriate for a short time and a large sampling. Questionnaire surveys were distributed to the residents and only a sample population of 500 residents were returned the complete questionnaire. Besides, face-to-face approach also was conducted during the survey to clarify and explain the questions to the respondents. The survey was carried during weekend for three months i.e. July to September in 2016 in this three-selected case study. The sample size included in this survey is 500 samples. The suitable sample size for most of the studies is ranged from 30 to 500 respondents (Bryman, 2008). Thus, the sample size of 500 respondents is relevant and practical. In addition, with respect to respondents, ethical principles for the distribution of questionnaires are emphasized. The sampling technique used is a simple random sampling.

## Data Analysis

Data obtained were analyzed using descriptive and some statistical tests from Statistical Package for the Social Sciences (SPSS). Descriptive statistics was performed in this questionnaire survey such as frequencies, percentages and means. Cross-tabulations also was conducted to compare the proportion of dependent variable across some independent variables and chi-square tests (categorical variables) were used to test for significant association between these two types of variables. Besides, reliability analysis using Cronbach's alpha were used to ensure that the study can be conducted for advance analysis in this study.

## RESULT AND DISCUSSION

### Reliability Test

To further validate the reliability analysis, Cronbach's Alpha Test is used in this question to ensure that the study can be conducted for advance analysis. Generally, Cronbach's Alpha value within the range of 0.7-0.8 is indicating consistency for a reliable scale. The reliability test run on this data set was significant. The Cronbach's Alpha value is 0.851 showing that all the elements in this study can be used for further analysis amongst occupants in public low-cost housing.

### Respondents' profile

According to **Table 2**, majority of respondents were Malay (87%) and 57.8% of the household were male. Majority of the respondents (24.2%) were between age 45-54, followed by age group 55-64 (22%) and 21.8% are between 35-44 years of age. About 50.2% of households' income of falls within the range of RM2,001-RM3,000 per month followed by 36.2% earned between RM1,001-RM2,000, which is moderate and low income respectively. Most of the respondents were employed in the private sector, followed by 22% who is self-employed and 20.2% worked in the government sector. Furthermore, more than half of respondent who married (73%). As for the household size, the highest number of people in a household is between 4 to 6 peoples making up 60.8%. Majority of the respondents have occupied the house for 5 to 10 years (47.4%) followed by 34.2% who lived for 1 to 5 years only. While 94.6% of the respondents do not have housing assistance, while 5.4% of the respondents depending on housing assistance which is from '*Baitulmal Majlis Agama Islam Wilayah Persekutuan*'. Nonetheless, a large percentage of respondents are from relocation of squatters which signify 69.9%, whereas 17.8% of the respondents using *e-perumahan* KLCH system application to apply for PPR flats.

**Table 2:** Profile of respondents

Socio-demographic characteristics	Frequency ( <i>n</i> =500)	Percentages
<b>Gender</b>		
Male	289	57.8
Female	211	42.2
<b>Race</b>		
Malay	435	87.0
Chinese	15	3.0
Indian	29	5.8
Others	21	4.2
<b>Age</b>		
18-24	24	4.8
25-34	100	20.0
35-44	109	21.8
45-54	121	24.2
55-64	110	22.0
65 and above	36	7.2
<b>Monthly household income</b>		
< RM 1,000	55	11.0
< RM 2,000	181	36.2
< RM 3,000	251	50.2
< RM 4,000	13	2.6
<b>Employment sector</b>		
Government	101	20.2
Private	141	28.2
Self-employed	110	22.0



Jobless	70	14.0
Pensioner	71	14.2
Others	7	1.4
<b>Marital status</b>		
Single	79	15.8
Married	365	73.0
Widower	18	3.6
Widow	35	7.0
Others	3	0.6
<b>Households size</b>		
1-3 people	105	21.0
4-6 people	304	60.8
7-9 people	86	17.2
10 and above	5	1.0
<b>Religion</b>		
Muslim	450	90.0
Buddhist	24	4.8
Hindu	17	3.4
Christian	4	0.8
Others	5	1.0
<b>Length of Residency</b>		
< 1 year	10	2.0
> 1-5 years	171	34.2
> 5-10 years	237	47.4
> 10 years	82	16.4
<b>Housing assistance</b>		
Yes	27	5.4
No	473	94.6
<b>How buy/rent</b>		
Relocation of squatters	348	69.6
Disaster relief	13	2.6

### Relationship between household income and housing affordability

As mentioned earlier, this study aims to examine the relationship between household income and housing affordability among residents in the case studies. Cross-tabulations were run to compare the proportion of households' affordability across categories of income as shown in **Table 3**. The income categories that capable to pay RM100-RM150 per month were dominantly those who income between RM1, 000 and RM2, 000 per month. For that reason, they have chosen these low-cost flats which seem affordable in the context to their income. Meanwhile, respondents from income group between RM2, 000 and RM3, 000 prefer to pay the home monthly payment between the ranges of RM151-RM200. Whilst those income RM3, 000 and above, majority of them could afford more which is RM201-RM250 per month. The pattern also indicates that capability to pay the monthly home payment generally increases as the household income increase. Chi-square value is 0.00 which is significant at 1% level. This result indicated that respondents' monthly income have significant relationship with housing affordability.

**Table 3:** Percentage distribution of capability to monthly payment by household income

Household income	Capability to monthly payment				Total
	RM100 – RM150	RM151 – RM200	RM201 – RM250	RM251 – RM300	
<RM 1,000	45.5	54.5	0.0	0.0	100.0
<RM 2,000	54.7	45.3	0.0	0.0	100.0
<RM 3,000	38.2	59.4	2.0	0.4	100.0
>RM 3,000	23.1	46.2	30.8	0.0	100.0

### Satisfaction on Location and Provision of Amenities

**Table 4** has shown the resident's satisfaction towards location and provision of amenities. The findings indicate that the respondents are choosing near to public transport as they can easily access

by public transport is the main priority to live in PPR with 45.6%. Besides, majority of the respondents are using public transportations to their work place which represent 58.6% than who use their own transport, which is 40.6%. Subsequently, it was found that most of the residents agreed that the location of the PPR is strategic. In summary, a large percentage of the residents are satisfied with the location of the PPR because of near to their workplace and close to public transport.

**Table 4:** Residents' satisfaction towards Location and Provision of Amenities

Elements	Frequency (n=500)	Percentages
<b>Location</b>		
Distance to workplace	169	33.8
Distance to school	47	9.4
Distance to hospital	21	4.2
Distance to public transport	228	45.6
Distance to shops/market/mall	35	7.0
<b>Transportation to workplace</b>		
Own transport	203	40.6
Public transport	293	58.6
Walking	4	0.8
<b>Strategic location</b>		
Yes	463	92.6
No	37	7.4

### Satisfaction on Safety Aspects

House safety is the most important aspects influencing housing satisfaction in low-cost PPR flats. **Table 5** revealed that about 78% answered that there is a patrol of security forces like police or security guards in the PPR. Although there are security guards to patrol the housing area, they are less effective to secure the neighbourhood safety. In fact, the security guards or police must responsible to enhance safety and security in the PPR housing units. Most respondents were concerned on their safety due to increasing crime rates within the PPR scheme compound. This fact was supported by 63.6% of the respondents feel less safe for their children to play.

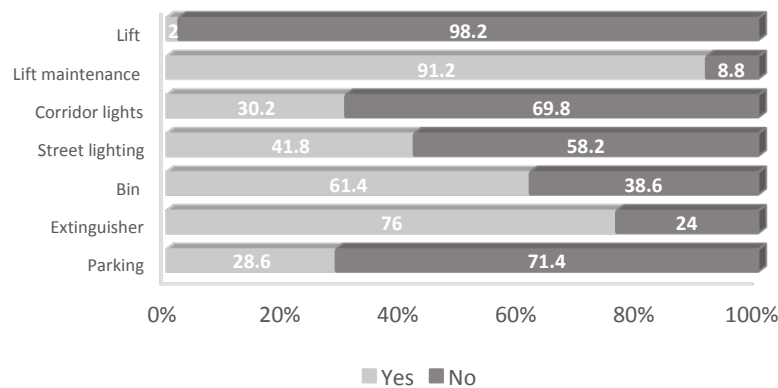
**Table 5:** Residents' satisfaction towards Safety Aspects

Elements	Frequency (n=500)	Percentages
<b>Safety of children</b>		
Not safe	91	18.2
Less safe	318	63.6
Safe	91	18.2
Very safe	0	0.0
<b>Crimes</b>		
Never	77	15.4
Not sure	148	29.6
Seldom	121	24.2
Frequent	151	30.2
Very often	3	0.6
<b>Better life than previous</b>		
Not good	134	26.8
No change	174	34.8
Good	183	36.6
Very good	9	1.8

Additionally, 30.2% reported that crime cases are frequently occurring in PPR. The study found that there are common types of crimes experienced in the neighbourhood such as motorcycle theft, public phones damage, graffiti, theft of electrical cable and many more. Nowadays, cases of vandalism and theft are quite common especially in PPR which caused the government to invest high cost of repairs and replacements of damage public properties. Management should play a role and take some actions especially toward surrounding are security to reduce the crime rate towards creating a safe neighbourhood. Besides, it is also necessary for the community to prevent the crime situation and reduce the social problem. Nevertheless, 36.6% of the respondents agreed that living in PPR is good compare to their previous house while 34.8% comment no change in their live at all.

### Satisfaction on Facilities Provided

As for the maintenance of PPR, satisfaction of the facilities provided is discussed based on the level of satisfaction of the respondents. The answer “Yes” represents as satisfactory and “No” as unsatisfactory. **Figure 3** shows the residents’ satisfaction towards facilities provided. Satisfaction variables on residential facilities include lift, corridor light, street lighting, bin, fire extinguisher and car parking. A big proportion of the respondents (98.2%) have expressed dissatisfaction towards lift provided which is frequently broken down and not functioning. Although the maintenance works were carried out by the technician, the lift system still does not work properly. The second main component is environmental features such as corridor and street lighting. A large percentage of residents are moderately satisfied which 69.8% comments that all corridor lights do not work perfectly and 58.2% of the respondents also said that street lightings did not work perfectly. Furthermore, 61.4% of the respondents are quite satisfied with the sufficient bins provided. Large percentage (76%) individual housing residents are agreed with fire extinguisher equipment is being maintained accordingly. Whereas 71.4% conveyed their dissatisfaction with the parking spaces provided which is not enough for the residents. The reason behind this shortage of parking space is because the car parking standard is up to 1 parking space for every four units of flat. Even with the access of public transport system, the number of respondents who owning their own transport increase. Thus, more parking spaces are needed. Overall, the distribution of residential facilities shows that the respondents have expressed dissatisfaction with lift, corridor lights, street lighting, and parking space.



**Figure 3:** Residents’ satisfaction towards Facilities Provided

The average satisfaction of all seven components representing residential facilities was calculated. **Table 6** shows the mean satisfaction score for physical conditions. It is observed that lift has the highest mean score value of 1.98 indicate that many residents are expressed dissatisfaction with the lift system in their housing units, which needed improvement from management. Residents’ toward corridor light also scored a high mean value of 1.70 indicate that they are not very satisfied. Besides, the residents were particularly satisfied with garbage disposal and fire extinguisher.

**Table 6:** Mean score – Physical Condition

Physical conditions	Mean score
Lift	1.98
Lift maintenance	1.09
Corridor lights	1.70
Street lighting	1.58
Garbage disposal	1.39
Fire Extinguisher	1.24
Parking	1.71

### Satisfaction on Management of Houses

Maintenance management provided by KLCH includes building maintenance, rental management and garbage management (Ismail *et al.*, 2015). The management and maintenance of the neighbourhood has responsible to ensure that the lift is safe to use among the residents. So, the routine of lift maintenance is critical in making lift function properly. About 57.4% of the respondents do not sure

the frequency of the lift maintenance and 17.8% reported that the maintenance only conducted once a year (see **Table 7**). Therefore, it is one of the main reasons the lift breakdown very often. Moreover, clean environment in public housing area is important among the resident. Hence, waste management is important to develop a community with the environmental sustainability. With a percentage of 80.4% of the respondents stated that garbage collection is being carried out once a day. The garbage disposal system was very satisfactory.

**Table 7:** Frequency of Lift Maintenance and Garbage Collection

Lift maintenance	%	Garbage collection	%
Twice a month	9.2	Once a day	80.4
Once a month	15.6	Once in 2 days	12.4
Once a year	17.8	Once a week	2.8
Not sure	57.4	Not sure	4.4
Total	100.0	Total	100.0

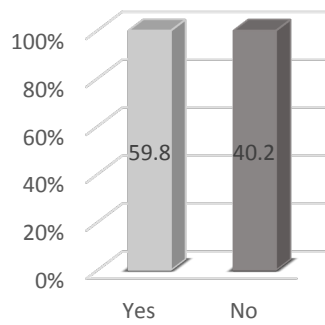
### Satisfaction on Maintenance Management

About 71.2% of the respondents will report to the management if there are facilities damaged and 57.2% will use complaint box as a channeled of complaint to the management (**Table 8**). Based on data available for this study, 64.2% of the respondents do not facing any rental arrears, while the remaining of 35.8% are facing monthly rental arrears is which is up to RM5,000. During conduct the survey, there are some people who did not want to cooperate in revealing the actual arrears of rent to be paid by them. Data from MHLG (2016), until June 2016, there are RM25, 278,482.29 rental arrears from all PPR under KLCH which involves 27 projects. KLCH has put a lot of initiatives, actions and enforcement to tackle this problem. Though, there is still a hardcore group refused to pay the arrears of rent. The results of the survey conducted shown, most of the tenants are originally from the squatter and have priority to obtain rental housing at a rate as low as RM124 a month. Most of them thought that they should not bear the rent or buy the house due to squatters' land that they had occupied previously has been taken by the government to build this PPR.

**Table 8:** Residents' satisfaction towards Maintenance Management

Elements	Frequency (n=500)	Percentages
<b>Responds to Facilities damage</b>		
Report to the management	356	71.2
Repair itself	29	5.8
Do not make any action	115	23.0
<b>Residents' Complaints</b>		
Complaint box	286	57.2
Resident association	69	13.8
Block chief	16	3.2
Management office	66	13.2
Never complained	63	12.6
<b>Amount of rent arrears</b>		
No arrears	321	64.2
< RM500-RM1,000	43	8.6
> RM1,001-RM2,000	80	16.0
> RM2,001-RM3,000	32	6.4
> RM 3,001-RM5000	24	4.8

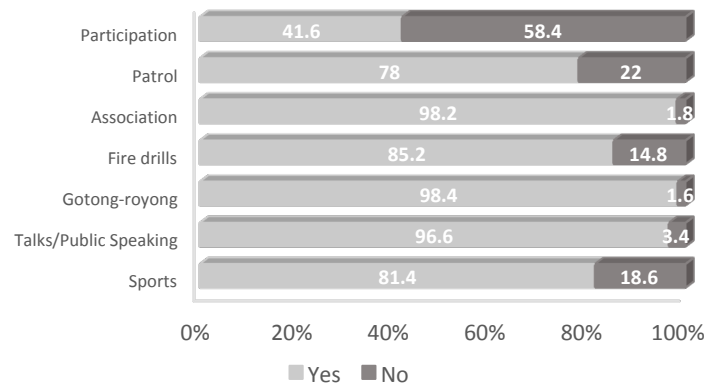
Quality of the maintenance services provided by the management in terms of garbage collections, buildings maintenance as well as the management's response in addressing all complaints to repair the damage. **Figure 4** shows the overall satisfaction towards maintenance management. Approximately only 60% of the respondents are satisfied with maintenance management. This reflects that the quality of maintenance provided by the management is not comprehensive, waiting time response to maintenance staff is too long and there is lack of manpower to carry out the maintenance work in the housing units.



**Figure 4:** Overall Maintenance Management satisfaction

### Perception on Social Participation of the Neighbourhood

In this section, respondents' perception of the social participation was discussed. Social participation on social aspects include: social interaction within the community, renter's association for neighbourhood involvement, surrounding neighbourhood and community (refer Figure 5). The satisfaction of the social activities of the PPR flats received better score of satisfaction. Generally, the residents expressed their satisfaction with most of the activities. However, majority of the respondents do not participate in any activities carried out in PPR with a proportion of 58.4% compared to 41.6% of the respondents who involved in these activities. The residents have no time to participate in other activities may be due to work and need to handle small children. A large majority of the respondents stated that there are associations established in the PPR with 98.2%. The role for tenant's association is as a social organization in the housing area. The main purpose is to enable the community to have their time to discuss some issues with the management. The result also revealed that a large proportion of respondents agreed that fire drills activities, 'gotong-royong', talks or public speaking and sport activities have been conducted in their PPR.



**Figure 5:** Residents' perception towards Social Participation

**Table 9** shows the mean score of respondents towards social participation. The higher mean score is the social participation among the residents. It reflects that the social interaction within the neighbourhood and people in the community low. Analysis shows that most of the social aspects achieved a low mean score which indicate that they are mostly agreed with the social neighbourhood attributes in their housing area.

**Table 9:** Mean score – Neighbourhood attributes

Neighbourhood attributes	Mean score
Participation	1.58
Security	1.22

Association	1.02
Fire drills	1.15
<i>Gotong-royong</i>	1.02
Talk	1.03
Sports	1.19

### Perception on Distribution Unit of PPR

Furthermore, analysis of distribution and filing unit of PPR is shown in **Table 10**. A large proportion (90%) agreed that distribution implemented by KLCH is fair. In addition, 36.6% of the respondents agreed that frequent ongoing enforcement to the tenants in PPR unit. Majority of the respondents which represent 99% agreed that there is presence of foreigners rent in their housing area. The result shows that 88% of the respondents aware of the existence of a vacancy PPR unit because there are severe damages caused by vandalism and used as a place for drug addiction. The above findings were supported by MHLG (2016), there are 1,601 vacant units in all PPR under KLCH supervision. This matter should be given serious attention to offer the PPR unit to the qualify applicants to avoid the damages and misused of PPR unit. Hence, it will reduce the burden cost of government spending to repair the PPR unit due to the vacancy. Moreover, 90% of the respondents are not satisfied with the unit size of PPR and they need the bigger size for their comfort. Furthermore, the analysis finds that 84.4% of the respondents agree that the layout space in their houses is compatible and that they are comfortable. In another word, generally 42.4% of the residents ranks the quality of the unit in PPR as satisfactory.

**Table 10:** Residents' perception towards Distribution Unit of PPR

Elements	Frequency ( <i>n</i> =500)	Percentages
<b>Unit determination</b>		
Offer	391	78.2
Vote	87	17.4
Selection	22	4.4
<b>Fairly distribution implemented</b>		
Yes	450	90.0
No	50	10.0
<b>Frequency of enforcement team</b>		
Never	85	17.0
Not sure	88	17.6
Seldom	144	28.8
Frequent	183	36.6
Very often	85	17.0
<b>Presence of foreign tenant</b>		
Yes	495	99.0
No	5	1.0
<b>Vacancy Unit</b>		
Yes	440	88.0
No	60	12.0
<b>Size of Unit</b>		
Should be increased	450	90.0
Comfortable with the existing space	50	10.0
<b>Quality of the Unit</b>		
Miserably	99	19.8
Somewhat satisfactory	189	37.8
Satisfactory	212	42.4
Very satisfactory	0	0.0
<b>Compatible layout space</b>		
Yes	422	84.4
No	78	15.6

### DISCUSSION

Meeting housing needs is one of the objectives of the social and economic development goals in Malaysia. Today, PPR project has certainly helped the government to resolve issue of squatters' resettlement as well as house ownership issues among low-income groups, particularly in the urban

areas of Kuala Lumpur. In fact, many PPR housing projects has built in the Federal Territory of Kuala Lumpur, which is a considered strategic location. Besides, the implementation of low-cost housing has changed their living pattern of the low-income group.

Prior research (Tan and Khong, 2012) have shown that homeownership is one of important determinant of housing satisfaction. This study is focusing on PPR low cost housing under the supervision of DBKL. According to MHLG (2016), current budget for 11<sup>th</sup> Malaysia Plan which involved RM 586 million has been distributed for PPR low cost housing. However, government need to consider building more low-cost housing especially in the main cities such as Kuala Lumpur, Selangor and Penang because the high rental costs, high density population and the cost of living are increasing compared to other states in Malaysia.

In addition, construction projects of PPR are to relocate the squatters. This is in line with the construction of PPR by the MTEN in 1998 and PPR Rent New Policy in 2002 which aim to improve the nation's economic growth and the relocation of squatters and low-income earners. At the same time, this project was helped low-income households to live in more comfortable and quality housing as well improve their quality of living. On the other hand, more housing projects are still in need for low-income population to reduce homeownership problems and eventually will fulfil the need for affordable homes of the targeted group.

In fact, KLCH should provide a guidelines or clear assessment of the duration of the tenants to live in PPR. The guidelines emphasize about transit housing which is the residents should be given a maximum period of rent before moving out of the PPR. They need to buy a house if they want to stay more than maximum period with other terms and conditions and this is not subjected for those under housing assistance. This will provide an opportunity for low-income earners to own a home. Nevertheless, non-citizen should not be eligible to rent or own the PPR house and heavy penalty will be imposed on foreigners who failed to do so. Therefore, with the establishment of the strategies, we can reduce the low-cost homeownership issue by the low-income groups, particularly at Kuala Lumpur. Thus, the government should seriously concern to meet the housing needs for all.

## CONCLUSIONS

The aim for this paper is to examine housing satisfaction level by the residents focusing on the public low-cost flats under the management of Kuala Lumpur City Hall (KLCH). This paper has addressed the housing issue within the PPR low cost housing. Findings show that residents of three-low-cost housing under KLCH supervision are satisfied with the location of the flats. On the contrary, residents were less satisfied with their house safety. However, the satisfaction with facilities provided particularly on lift, corridor light and parking recorded low level of satisfaction. Generally, the residents were quite satisfied with the maintenance works for the current PPR flats. From the analysis, it shows that housing affordability is influenced by the respondents' monthly income.

The findings of this study give clear information for government and housing developers in understanding housing satisfaction and perception of the residents in their current housing. In general, different households will give different perception on housing satisfaction based on their requirements and needs. It may suggest that some steps and actions need to be taken by the management to cater the needs and expectations of the residents, to enhance the performance and quality of the low-cost housing. The implications of this study are that housing developers should recognize the importance of the affordable housing units among low-income population to improve the housing satisfaction. Moreover, from the findings in this study, it will lead to the establishment of the strategy that can be used to improve the ownership of the low-income earners to own PPR house. Additionally, the government should be more attentive to meet the needs of the lower income earners. To achieve objective of national housing policy in Malaysia, it is important for the government to provide a house with a good quality so that they can they can live in a comfortable way.

Although this study has reached its objectives, but there are a few limitations of this study. Findings and results obtained from the questionnaire survey are limited to the respondents from three-low-cost housing in Kuala Lumpur so that it may not be generalized to other PPR low cost housing in Malaysia. Thus, it is also recommended that future research can focus more on PPR schemes in other states includes Sabah and Sarawak to get more comprehensive view on PPR flats.

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