Issues and challenges in contemporary affordable public housing schemes in Malaysia
Developing an alternative model

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Abstract
Purpose – This study aims to examine the issues and challenges in contemporary affordable public housing schemes and proposes an alternative affordable public housing model for low- and middle-income households in Malaysia.

Design/methodology/approach – The paper applied qualitative research method. Semi-structured in-depth interviews with four government officials were conducted to understand the provision, framework and working mechanism of selected affordable public housing schemes. A focus group with nine participants was conducted with low- and middle-income households to validate pertaining residential issues and problems in affordable public housing schemes.

Findings – The overall findings reveal that the growing plights of unaffordability, poor maintenance and mismanagement have undermined the performance of affordable public housing schemes in Malaysia. The paper indicates that Islamic Public–Private Housing Co-operative Model (IPHCM) possibly has a comparative advantage in its design and operation and therefore can be implemented as an alternative model to address these issues in contemporary affordable public housing schemes in Malaysia. The findings also offer guidelines to government officials and managers of public housing schemes to implement the IPHCM model that can help in reducing the financial burden on low- and middle-income households, improving maintenance work and enforcing effective management practices with residents’ participation.

Research limitations/implications – The paper is limited to develop a new Shariah-compliant affordable public housing model. The paper presents a design and defines the underlying Shariah concept and contracts and their working mechanisms in the proposed model. The paper has not considered other related areas in the development of IPHCM model including Shariah and subject matter expert’s perspective, consumer behavioural intention, legal and regulatory requirements.

Originality/value – The paper has relevance for policymakers and government institutions offering affordable public housing schemes to ensure successful deliverability of sustainable and affordable public housing for low- and middle-income households in Malaysia.

Keywords Public housing, Housing affordability, Shariah-compliant, Low cost housing, Housing co-op, Islamic Public–Private Housing Co-operative Model (IPHCM)

Paper type Research paper
Introduction
Housing is considered as the second most important, after food, in basic necessities for human beings to live an adequate life in this world (Abdullah, 2008; Ismail et al., 2014). It is one of those basic social conditions that determine the quality of life and welfare of the people. As defined by Hablemito and Purutçu (2010), a house not only meets the sheltering related needs but also physiological needs that include safety, belonging, self-esteem and self-actualisation. These multi-dimensional social effects articulate the importance of adequate and affordable housing which is necessary to safeguard the households and the society, at large.

In recent years, the number of people dwelling in poor shelter has immensely increased in the world. The inaccessibility to adequate and affordable housing and homelessness are the growing plights in many developing countries, threatening standards of health, security and life of the people (UN-HABITAT, 2011). In developing countries, among others, the rapid and sustained population growth and rural-urban migration are fuelling the demand for well located, adequate and affordable housing (Bredenoord and van Lindert, 2010).

Malaysia, as a developing country, cannot avoid issues in providing affordable and adequate housing especially in the current stage of its development (Agus, 1989; Agus, 1997; Yuen, 2002). The rapid industrialisation has caused rural-urban migration with high rate, creating increased demand for adequate and affordable housing in urban centres of Malaysia. The Malaysian government’s vision is to provide all income groups, particularly the low- and middle-income households, with accessibility to adequate, affordable and quality housing. At the federal level, the Ministry of Urban Wellbeing, Housing and Local Government (MHLG) is responsible for the provision of affordable public housing for low- and middle-income households through various affordable public housing schemes (MHLG, 2013).

In response to the challenges in affordable public housing, the government of Malaysia has laid-down National Housing Policy in the Tenth Malaysia Plan (2011-2015) that focuses on the provision of affordable public housing, as well as ensuring a safe, healthy and harmonious living environment (National Housing Department, 2011). In past four decades, the government embarked on various public housing schemes at different point on time such as Public Low-Cost Housing Program (PLCHP) (1981); Special Low-Cost Housing Programme (SLCHP) (1986); People’s Housing Programme (PPR) (1998); My First Home Scheme (2011) and most recently 1Malaysia People-Friendly Home (RR1MA) (2012). However, regardless of these efforts, the gap between the demand and supply for affordable housing is getting wider. Unfortunately, so far, none of the Malaysia Plan has achieved the set targets to develop affordable public housing units, in the past. In term of performance, the Fifth Malaysia Plan (1986-1990) has achieved the highest 65.19 per cent of the target, which accounts for construction of 97,126 affordable public housing units (EPU, 1991). In the Tenth Malaysia Plan (2011-2015), the government has achieved only 63.48 per cent of the target and completed 102,200 units for poor, low- and middle-income households in the country (EPU, 2015).

Therefore, owing to the ever-increasing demand–supply gap in public housing sector, acquiring an affordable housing has now become increasingly problematic proposition for low- and middle-income households. According to World Bank Affordability Index (2012), the Malaysian households in all states (except Terengganu and Kelantan) are not able to own an adequate house as prices have exceeded three times (3.0×) to the annual household’s income (EPU, 2016). Moreover, in public housing schemes, the low- and middle-income households’ applicants can occupy the subsidised houses only after securing housing finance (up to 100 per cent) from selected private financial institutions with a predetermined
payback period. Consequently, the cost of housing unit increases, as households have to pay back the principal amount with addition of interest/profit rate. This, in turn, reverses the effect of government subsidy (i.e. up to 80 per cent) for low- and middle-income households and therefore, defeats the main objective of affordability in public housing schemes. Thus, the compulsion to secure home financing from private banks has increased the purchasing cost and raises questions on affordability in public housing schemes in Malaysia.

The issues in affordable public housing have increased in recent years, indicating an inadequate impact of government measures owing to perhaps weaknesses in the design, sustainability and implementation of public housing schemes. The shortcomings and inadequate impact of affordable public housing schemes necessitate the need for a new initiative that is capable to attain an affordable and adequate public housing. Additionally, the initiative must to be fully integrated with the needs, requirements and cultural belief system of the low- and middle-income households in Malaysia. The absence of literature on a viable alternative model has created a research gap for the present study to develop an affordable Islamic Public–Private Housing Co-operative Model (IPHCM).

**Literature review**

*Why housing matters?*

Housing is a basic necessity and the primary setting for family and domestic life of human beings that provides a shelter for rest, sleep, comfort and protection from sun and rain (Ismail *et al.*, 2014; Schwartz, 2006). According to Turner (1968), a home is not just the physical structure therefore, housing must be understood in terms of the dwelling’s environment that is qualitative in nature and tied to material standards, which denotes the relationship between humans and the environment.

Housing is important for human beings to dwell in comfort with family and therefore, it has a tremendous social and economic impact on peoples’ lives (Ismail *et al.*, 2014). The significant role of housing in human life relates it to various segments in the society. Housing has direct and immediate influence and impacts on human health (Acevedo-Garcia and Osypuk, 2008; Bratt, 2000; Kreiger and Higgin, 2002; Lubell, *et al.*, 2007; Newman, 2008; Pollack *et al.*, 2008), education (Lubell and Brennan, 2007; Kroll and Bardhan, 2014; Rothstein, 2004), employment (Mavromaras *et al.*, 2011; Broadbent, 2008; Tipple, 1994; Da Costa Nunez, 1995), economic development and growth (Harris and Arku, 2007; Chen and Zhu, 2008; Giang and Supheng, 2011; NACCA, 2005; Harris and Arku, 2006; Wells, 1985; Tan, 1993), environment (Roufechaie et al., 2014; Seyfang, 2010) and social life (Aratani, 2010; Wang *et al.*, 2005; Li *et al.*, 2014; Yau, 2012; Jaiyeoba and Aklanoglu, 2012).

Universally, housing has been recognised as a basic right for every human being to live an adequate life in this world. The Habitat Agenda (1996), adopted by 171 countries, came out of the Habitat II conference, defined “house” from the perspective of its users. It combined the word “shelter” with the word “adequate” and read “adequate shelter”. Therefore, an adequate housing is one of man’s basic needs that create equilibrium in the society through providing healthy and productive environment for human life.

*Public housing in developing world*

Public housing is an extremely diverse concept. It is one of several governmental approaches to the housing problem (Trotter, 1958a). Public housing is usually defined as accommodations build, owned and managed by public that is, under the governmental institutions. The concept is to provide subsidised housing, through rental or sale, to those who cannot afford private housing. In developing countries, like Malaysia, the provision of public housing has always been a challenge. Contrary to developed world, the governments
in developing countries are more tilt towards the supply side public housing subsidy schemes that are of two types, entitlement (homeownership) schemes and rental-housing schemes (Arnott, 2008). Many cities in developing countries face severe housing shortages with large sections of their urban poor living in slums and squalid conditions (Sim et al., 1993). The developing countries particularly in Asia are facing housing issues because of urbanising at the fastest rate in the world. Predictions suggest that between 2010 and 2050 the urban population in Asia will nearly double to reach 3.4 billion which means on daily basis Asian cities will need to accommodate the 120,000 new residents, which equates to a daily housing demand of at least 20,000 housing units (UN-HABITAT, 2011).

Public housing provision in Malaysia
The provision of public housing in Malaysia has come across over different phases. In the early phase, the state adopted selective intervention strategy that last until 1970. Under the Second Malaysia Plan (1961-1965), the government emphasised the provision of affordable housing as a basic social need based on the home-owning democracy (Agus, 1997; Shuid, 2011). However, the programme never achieved its objective to increase homeownership among low-income households because of insufficient housing units construct during this period (Johnstone, 1979). Later in 1967, to overcome the shortage of public housing units, the Housing Trust implemented the “Crash Programme” to build small schemes of 50 or 32 dwellings per scheme in the smaller towns (Shuid, 2011). However, this programme merely managed to develop and allocate a total of 14,175 low-cost housing units.

The second phase of public housing provision starts with the emergence of state control strategy in 1970. Since then, the public housing expenditure has steadily increased in every five-year Malaysia plan. However, the government began to reduce the public housing expenditure during the Fifth Malaysia (1985-1990) and Sixth Malaysia Plan (1991-1995). This is in-line with economic liberalisation and increased role played by the private sector in housing provision during the booming period (Shuid, 2011).

Nevertheless, the public housing sector in Malaysia did not succeed to meet its targets for low- and medium-cost housing because of limited funding, complicated land policies, and the ever-increasing demand for low-cost housing, particularly in urban areas (Agus, 2002; Sirat, 1999). In the past, the public housing schemes in Malaysia have never accomplished more than 65 per cent of the target set in any of the five-year Malaysia Plan. The performance of public housing sector in Malaysia (1991-2015)[1] is showed in Figure 1.

Unaffordability in Malaysian public housing
Similar to developed countries, e.g. the USA and the UK, the affordability standards in Malaysian public housing sector are based on the housing price to annual household income ratio (PIR) (Cagamas Holdings Berhad, 2013). PIR is a method that shows the ratio between current market value of housing unit that household plans to purchase to the total annual income of the household. The rule of thumb for PIR is that the housing price should not exceed three times (3.0x) to the median gross annual household income (median multiplier) (Suhaida et al., 2011; Sani and Rahim, 2015). According to André, Gil-Alana and Gupta (2014), if house prices overtake income growth then at some point in time households will no longer be able to afford the house.

Affordability, as an essential element of adequate housing, inevitably involves the cost of housing unit, its quality, household income and non-housing necessities after meeting the housing expenditure (Eddie, 2001). Therefore, the cost of housing unit is crucial and must be related to low- and middle-income households’ realities where some 65 to 85 per cent of
spending is allocated to food and substance (Pugh, 2001). In respect to affordability in Malaysian housing market, since 2004 the house prices are consistently above the affordability standard of three times (3.0x) of the household’s gross annual income. Figure 2 shows the historical trend of median multiple in Malaysian housing market.

An important factor that intensifies unaffordability in public housing is “home financing cost”. In Malaysian public housing schemes, the low- and middle-income households are required to secure home financing from selected private financial institutions with a predetermined payback period. This cause an increase in the cost of house, as buyer has to pay back the principal amount with addition of interest or profit. Households also face difficulties in securing home financing from private financial institutions, both conventional and Islamic. therefore, the limited accessibility (particularly for low-income households) and home financing cost are the main impediments in providing affordable public housing to low- and middle-income households.

**Maintenance and management issues in Malaysian affordable public housing**

Quality housing requires an adequate maintenance and management to provide a decent, healthy living environment for residents and to ensure neighbourhood stability (Foster, 2000). Therefore, it is essential to keep a building in as built condition so that it can provide the original productive facility (El-Haram and Horner, 2002; Hills and Worthing, 2006) and to preserve or restore a facility to an acceptable standard (Boussabaine, 2004; Hui, 2005; Seeley, 1987).
In Malaysia, the provision of affordable public housing for low- and middle-income households is based on multi-story development where households have individual-ownership for separate units with shared-ownership of common property, such as common walls, floors, ceilings, corridors, lifts and playgrounds (Ariff and Davies, 2011). Today, the maintenance and management practices in Malaysian public housing schemes are subject to various weaknesses and issues, for instance, lack in focussing on repairs and remedial work (Zakaria and Hamzah, 2007), unavailability of financial resources, limited participation of residents and understanding of their responsibilities (Ariff and Davies, 2009), vandalism, repairs and most distinctly the large rental payments due from residents (Samikon et al., 2013) which is eventually causing the over budget expenses in the long-run. Moreover, the reactive instead of preventive maintenance strategy and inappropriate management practices are causing for wastage of funds (Hashim et al., 2015).

The residents’ participation in public housing has significant influence on maintenance cost, in various aspects (Yusof et al., 2012). El-Haram and Horner (2002), identified multiple factors, such as, expectations of residents, usage of the property, vandalism by the residents, delay or failure to report problems and approachability to the common properties that creates an impact on the maintenance cost in housing. Olubodun (2001), shown that the residents’ participation in public housing is of much importance as it could affect the total maintenance work as much as 25 per cent. Therefore, the participation of the residents in public housing maintenance and management could result in decreased maintenance cost, building vandalism, and fulfilling the expectations or demands of the residents (Hague, 1990; Ming Yip, 2001).

Methodology
This study is theoretical in nature and mainly based on qualitative research method approach. The qualitative research method is useful in exploration of values, beliefs, meanings, thoughts, understandings and experiences of the research participants (Tashakkori, 2010), the importance of the values and meanings they produce (Drisko, 2005), and results are most often comprised of necessary representations and presentations of salient findings from the analytic synthesis of data (Saldana, 2011). In this study, four semi-structured in-depth interviews were conducted with government representatives from MHLG and Kuala Lumpur City Hall (DBKL)[2]. The selection of respondents is based on their involvement in policymaking, operations and management of selected affordable public housing schemes in Malaysia.

The purpose of interviews is to probe and analyse the design and working mechanism of contemporary affordable public housing schemes, i.e. People’s Housing Programme (PPR) and Perumahan Rakyat 1Malaysia (PR1MA). These schemes are selected owing to government preference, large operational scale, budget allocation in Malaysia Plan 2016-2020 and projected housing units in future. In regard to objectives, PPR scheme is designed to cater the needs of low-income households whereas PR1MA scheme aimed to provide affordable housing to middle-income households. Moreover, a focus group consisting nine participants, is conducted to investigate the issues and difficulties faced by the low- and middle-income households dwelling in the PPR Batu Muda, Selangor. It is significant to capture households’ opinion, as they are the targeted audience and focal point of any public housing scheme. Finally, the study incorporates the findings of semi-structured in-depth interviews and focus group into the development of affordable IPHCM.
Semi-structured in-depth interviews

In Malaysia, as illustrated in Figure 3, the public housing provision and delivery system is consisting of three stakeholders, namely the federal and state governments, consumers (low- and middle-income households) and the financial market (Islamic and conventional banks). The information gathered from government representatives was significant in understanding the operational framework, provision and delivery system, issues and problems. The findings were further expended in developing of the alternative model. The key findings are as follows:

- The federal government, through the MHLG, is responsible for planning, financing/funding, implementing and managing public housing schemes and creating sustainable living environment to improve the quality of life for urban citizens. Whereas, the state government plays the facilitation role in selection of house buyers, provision of land at a nominal price and basic infrastructure development with the necessary roads, roadside drains and water supply. The responsibility to maintain the building is dependent on the government (federal or state) which is taking care of the respective public housing project.

- The consumers are the recipients of affordable and adequate dwelling through public housing provision system. The low-income households[3], who aspire to get low-cost housing, are required to apply through Open Registration System (ORS). The ORS is designed by MHLG with an objective to have an intense screening process to standardise the policy and selection criteria so that only qualified...
applicants are given access to low-cost public housing. Whereas, the middle-income households[4] are eligible to apply for medium-cost public housing covered under the PR1MA housing programme.

- The private financial institutions are consisting of conventional banks, Islamic banks and non-profit organisations (e.g. Yayasan 1Malaysia) that plays the role of financial market (as shown in Figure 3) in the public housing provision system. The structure of PPR and PR1MA schemes is designed that requires all eligible applicants to first secure home financing package from one of the listed private financial institutions. Only the successful applicants can take the possession of the designated housing unit in respective housing scheme.

The following are the key issues and problems, highlighted by the informants, in affordable public housing schemes:

- growing demand-supply gap of affordable housing units in most populous regions of Selangor and Kuala Lumpur;
- increasing default rate of low- and middle-income households on housing loan/finance;
- delayed monthly rental and maintenance fee payment by the dwellers;
- shortage of funds is causing disruption in maintenance and management works of affordable housing projects;
- dweller’s non-cooperative behaviour to partake in the maintenance and management process of housing project; and
- vandalism of common areas and facilities in the building, e.g. electric lifts, stairways and children play area by the dwellers.

Findings of the focus group
The study conducted focus group with nine participants (low- and middle-income households) dwelling in the PPR Batu Muda, Selangor which lasted for 1 h and 5 min. The findings of the focus group depict three major issues confronted by the low- and middle-income households dwelling in the affordable public housing schemes in Malaysia, that are:

- **Unaffordability:** The first and foremost critical issue identified in the focus group is of unaffordability. The structure of PPR and PR1MA schemes is designed that requires all eligible applicants to secure home financing package from the financial institutions (conventional and Islamic banks). Therefore, the cost of housing unit gets increased as households have to pay back the principal and the interest/profit rate (i.e. 4 to 6.5 per cent). This, in turn, reversing the effect of government subsidy (i.e. up to 80 per cent) and therefore, defeats the main objective of affordability in public housing schemes. Additionally, the informants feel monthly maintenance fee as a financial burden on them. It is difficult for them to manage both, monthly instalments and maintenance fee, simultaneously.

- **Inaccessibility to home financing facility:** Many of the applicants are unable to secure home financing from the financial institutions because of various reasons, e.g. unemployment, inconsistent income stream, bank default or blacklisted, low-income and insufficient funds for down payment.


- **Maintenance and management**: The third issue in affordable public housing projects is of the poor maintenance and mismanagement. The maintenance fund is managed through the Joint Management Body (JMB) representing each public housing schemes. The JMB is responsible to manage the maintenance process to preserve the common properties and building to an acceptable living condition. However, the existing maintenance practices are not focussed enough on repairs and remedial works which eventually causing the over budget expenses in the long run. Furthermore, the inadequate funds for maintenance, limited participation of residents and communication gap (between JMB and residents) are making the situation even worse. This causes the delay in rectifying the problems (reported by the residents) that create an impact on the maintenance cost and eventually overburden the residents. Therefore, to achieve targets set by the government, it is significant to address these issues in the proposed affordable public housing solution which can create an enabling environment to increase homeownership and sustainable living environment among low- and middle-income households in Malaysia.

**Islamic Public-Private Housing Co-operative Model: the proposed solution**

The proposed IPHCM is based on three underlying Shariah instruments namely cash waqf concept (CWC), Musharakah Mutanaqisah Contract (MMC) and Ijarah Contract (IC) that are integrated together into a single model. To address the above-mentioned issues of affordability, provision and delivery system, maintenance and management, the paper intends to build collaboration between public and private sectors in the proposed IPHCM model. The private sector denotes low- and middle-income households and the private donors (individuals, institutions, corporations and organisations), whereas public sector represents the federal government (MHLG) and state governments. For ease of understanding, the IPHCM model can be divided into the following three stages:

1. In the first stage, with the collaboration of public and private sectors, the institution of the Public–Private Housing Co-operative (IPHC) is formed. The prime responsibility of IPHC is to manage the cash waqf fund as mutawalli (trustee). Moreover, the IPHC will be responsible to design, develop and manage the affordable housing projects for co-operative members (low- and middle-income households). From operational perspective, the IPHC can be divided into two sections: Housing Maintenance and Management Committee (HMMC) and Shariah Advisory Committee (SAC). The HMMC is consisting of committee members that are the representatives of three stakeholders, namely, co-operative members, federal government through MHLG and state government. The HMMC is responsible to handle the maintenance and management works and rectify any complaints of residence of the housing project. In regard to the SAC, it will assist the IPHC and provide guidelines in Shariah-compliance and related matters. For example, the SAC can validate the Shariah-compliant status of incoming donations for cash waqf fund, the MMC and IC contracts and third-party construction contracts.

In regard to collection of development funds for affordable housing projects, the concept of cash waqf is applied whereby the seed-money will be gathered from the federal and state governments. The low- and middle-income households will also donate money to cash waqf fund to become co-operative members. Additionally, the IPHC will encourage the private donors, e.g. individuals, institutions corporations and organisations, to provide donations for cash waqf fund. Upon accumulating sufficient funds, the IPHC can initiate the designing and construction work of the
housing project. Since, the IPHCM model is proposing to incorporate the concept of housing co-operative and cash \textit{waqf} fund; therefore, it is important to comply and get registered with the relevant regulatory bodies that are Malaysia Co-operative Societies Commission (SKM)[5] and State Islamic Religious Council (SIRC)[6].

(2) In the second stage, after completion of the housing project, the MMC is applied for gradual transfer of beneficial ownership of the designated housing units and to collect monthly rental payment from the co-operative members. As the legal ownership of the housing project belongs to the cash \textit{waqf} fund (managed by the HMMC under the IPHC), therefore the MMC can signed between two parties, HMMC and co-operative members. For monthly rental calculation in MMC, the study proposes to adopt Rental Rate Index (RRI) (Mohd-Yusof \textit{et al.}, 2016). The cash generated from the sales of housing unit and monthly rental payment will be returned to cash \textit{waqf} fund for perpetual and sustainable development, maintenance and management of the housing projects.

(3) In the third stage, the IC is applied between the IPHC and the entrepreneurs those who are operating commercial shop lots in housing project. The entrepreneurs are required to pay monthly shop rent which will be deposited into cash \textit{waqf} fund under IPHC. This additional revenue stream can be used in maintaining and managing the housing project which will not only reduce the maintenance burden on the dwellers of housing co-operative but also ensure the sustainability of the housing project.

The underlying instruments in IPHC have been treated as separate entities and later integrated into a single model. The collaboration of public and private sectors in IPHC may produce mutual benefits for parties involved and support to realise the ultimate goal of providing affordable and adequate public housing to low- and middle-income households. The detailed conceptual framework of IPHCM model and the underlying \textit{Shariah} contracts are explained in the following section.

\textbf{Conceptual framework of Islamic Public--Private Housing Co-operative model}

Figure 4 illustrates the schematic flow of the IPHCM model. The illustration sequence of the proposed model specifies three stages input, process flow and output. These stages are the combination of different \textit{Shariah} instruments which serve the role of fundamental pillars in IPHCM model.

\textbf{Underlying \textit{Shariah} instruments in Islamic Public--Private Housing Co-operative model}

\textit{Cash waqf concept}

The first \textit{Shariah} instrument applied in IPHCM model is cash \textit{waqf} concept (CWC). In Arabic, the literal meaning of \textit{waqf} is to keep, contain, or to preserve (Monirul-Islam, 2015). The Muslim jurists have consensus on the definition of \textit{waqf} which means a voluntary, perpetual, irrevocable dedication of a portion of one's wealth in cash or kind for charitable purposes (Abdel-Mohsin, 2013; Sadeq, 2002). Since the early times of the state of Madinah, the institution of \textit{waqf} was among the several other institutions established by the Muslims to eradicate poverty and promote wellbeing of the society. The concept of \textit{waqf} provides physical infrastructure and generates a source of revenue streams for the purpose of social welfare activities at the local and state levels. In other words, the \textit{waqf} is a voluntary act of charity that comes under the general definition of \textit{sadaqah} and \textit{infaq} (Saad \textit{et al.}, 2017).
Figure 4. Conceptual framework of the proposed IPHCM
The practice of *waqf* in Malaysia can be traced back to the Malacca Sultanate in the 15th century (Saad *et al.*, 2017). However, in regard to the development of cash *waqf*, it was firstly initiated by the State Religious Council (MAIN) and the Yayasan Wakaf Malaysia (YWM). Since the establishment of YWM (under the Ministry of Awqaf, Zakat and Hajj (JAWHAR)) in 2008, a number of high-impact *waqf* projects that have been developed in various states in collaboration with MAINs to promote and develop cash *waqf* model in Malaysia (Saad *et al.*, 2017).

**Application of cash *waqf* concept in Islamic Public–Private Housing Co-operative model**

In the first stage, the CWC is considered to pave way in the creation of a cash *waqf* fund as a prime source of seed-money/funding that is required for the development of affordable housing projects, e.g. PPR, PR1MA. Under this arrangement, the funding for cash *waqf* fund will come from three sources, the MHLG, the state government and the low- and middle-income households (in form of cash donation to get the co-operative membership). The Islamic Public-Private Housing Co-operative (IPCH) will be the *mutawalli* (trustee) and the Housing Maintenance and Management Committee (HMMC), as a part of IPCH, will manage the cash *waqf* fund. The funds collected from cash *waqf* contributors would be directed to construct affordable housing projects under IPHC.

Upon completion of the project, the housing units will be sold – sale and transfer of beneficial ownership and not the legal ownership – to co-operative members. The sale proceeds and monthly rental would be returned to the cash *waqf* fund for perpetual and sustainable support of future projects. The transfer of beneficial ownership will be based on 99 years renewable lease; however, the legal ownership rights of the housing project will remain with the cash *waqf* fund. Figure 5 explains the process and the application of CWC in IPHCM model.

The specific details are as follows:

- Qualified low- and middle-income households will become members through transferring membership fee (e.g. minimum RM500 for B40 and RM800 for M40) as donation into IPHC’s cash *waqf* fund. The eligibility criteria, e.g. age, minimum salary/income and minimum/maximum tenure, will be the same as for affordable public housing schemes by MHLG and the state governments, e.g. PPR and PR1MA.

- MHLG and the state government are the main public organisations that will provide seed-money/funding for cash *waqf* fund. This seed-money will be the prime source of funding to develop the housing project.

- Transfer of donations from private contributors for example individuals, institutions corporations and organisations to cash *waqf* fund. The role of private contributors, in IPHCM model, is limited in providing donations for cash *waqf* fund and not as a stakeholder in Housing Maintenance and Management Committee (HMMC). IPHC will also take measures to encourage the private contributors to donate in cash *waqf* fund throughout the life of the housing project.

- The main responsibility of the IPHC is to design, develop and manage the affordable public housing projects for co-operative members. IPHC is comprised of two units, the HMMC and SAC. The HMMC is consisted of elective members that are elected by the co-operative members and the representatives from MHLG and state government agencies. Whereas, the SAC will monitor operations of IPHC and assist in *Shariah*-compliance matters.
Figure 5.
Application of CWC in IPHCM model
During the tenure of the MMC, the co-operative members can buy housing shares (beneficial ownership) and will pay monthly rental which will be transferred to cash *waqf* fund for perpetual use. At the end of the MMC, the beneficial ownership of the housing unit will be transferred to the co-operative member. The transfer of beneficial ownership will be based on 99 years renewable lease; however, the legal ownership rights of the housing unit will remain with the entity of cash *waqf* fund.

- The revenues (rental) generated from various commercial activities, e.g. restaurants, mini marts and others, in the housing project will be transferred to cash *waqf* fund for perpetual usage. The legal ownership rights of the commercial assets will remain with the cash *waqf* fund. However, the revenues will be utilised mainly for maintenance and management of the housing project.

**Musharakah mutanaqisah contract**

*Musharakah* is an Arabic word derived from the root word of *Sharaka* which literally means sharing and mixing shares of two or more parties to make them exchangeable (ISRA, 2016). In terms of business and trading it means a joint enterprise or partnership in which all the parties share the profit or loss of the joint venture (Usmani, 1998). The legitimacy and permissibility of *musharakah* contract is based on the concept of ‘shared equity’ or *shirkat-al-milik* (joint ownership) and the principle of “profit and loss sharing” which is derived directly from the main manuscript of *Shariah*, which is the Holy Quran and Sunnah of the Holy Prophet (pbuh) (Meera and Razak, 2005; Smolo and Kabir-Hassan, 2011).

The MMC is a relatively new Islamic financial contract that is not found in classical literature. Homoud (1974) proposed the initial concept of MMC in 1974 whereby an Islamic bank and entrepreneur develop a joint project that leads to sole ownership of the entrepreneur and the profits and losses are shared according to the musharakah principle. The developmental objective of MMC was to facilitate investments among Muslims, specifically for home financing purposes (Smolo and Kabir-Hassan, 2011). Bendjilali and Khan (1995) explained *musharakah mutanaqisah* as a diminishing partnership which ends in transferring of ownership from one party (owner) to another party (the client).

In other words, MMC is a combination of sale and sharing contracts in which the ownership of product/asset is transferred to client through gradual sale of shares and the transfer is complete through profit sharing arrangement (Al-Shadhli, 2001; Al-Zuhayli, 2001; Bank Negara Malaysia, 2015; Bendjilali and Khan, 1995; Smolo and Kabir-Hassan, 2011; Usmani, 1998).

**Application of musharakah mutanaqisah contract in Islamic Public–Private Housing Cooperative model**

In the second stage, the MMC is applied for gradual transfer of beneficial ownership of the designated housing units and to collect monthly rental payment from the co-operative members. The MMC will be between two parties, the co-operative members and the IPHC (as a *mutawalli*/trustee of the cash *waqf* fund). As illustrated in Figure 6, the IPHC will develop affordable housing units and extend a sale offer to co-operative members, based on MMC. The MMC is a combination of three *Shariah* contract, that are, *Musharakah Mutanaqisah*, *Ijarah* (rental) and *Bai* (sale). The MMC is a combination of three *Shariah* concepts, i.e. *Musharakah Mutanaqisah* (diminishing
partnership), *ijarah* (rental) and *bai* (sale). Under MMC arrangement, the co-operative members have to pay a monthly instalment which includes buying of beneficial ownership (in terms of shares) of housing units and monthly rental. The beneficial ownership shares will be transferred within the stipulated time period (specified in the MMC) and at the end of the period, a *bai* (sale) contract will be performed to complete the transfer of beneficial ownership to co-operative members.

Moreover, the cash received from the sale of housing units and monthly rental payment will be returned to cash *waqf* fund for perpetual and sustainable support of future projects for low- and middle-income households. In regard to monthly rental price of housing unit, the study proposed to adopt Rental Rate Index (RRI) model (Mohd-Yusof et al., 2016). RRI is an extended model of Varying Rental Rate (VRR) developed by Meera and Razak (2009) whereby the rental rate is calculated based on Rental Price Index (RPI) and the House Price Index (HPI). The formula for RRI is as follows:

\[
RRI = \frac{RPI}{HPI^n}
\]  

(1)

The RRI is developed to replace the existing rental rate, which is based on interest rate, in contemporary practice of *Musharakah Mutanaqisah* home financing in Islamic banking sector (Mohd-Yusof et al., 2016). The monthly rental price can be determined through the following equation:

\[
A_{RR} = \frac{RRI \left( P + RRI \right)^{B_0}}{(1 + RRI)^n - 1}
\]  

(2)

The variables in the equation above are as follows:

- \( A_{RR} \) = The monthly rental rate;
- \( RRI \) = Rental Rate Index;
- \( B_0 \) = The initial contribution of the bank in the purchase price; and
- \( n \) = The number of months or periods for the customer to fully own the asset.

![Figure 6. Application of MMC in IPHCM model](image-url)
The specific details are as follows:

- IPHC will design, develop and deliver the affordable housing units to co-operative members. At the time of development of the housing project, the MMC will be signed between the cooperative members and IPHC. For example, co-operative members may contribute 10 per cent and the remaining 90 per cent contributed by the IPHC.

- Co-operative members will gradually purchase the beneficial ownership shares of the housing units from the IPHC through monthly instalment based on MMC. Co-operative members can buy more shares (above the minimum monthly requirement) anytime during the tenure of MMC. However, the co-operative member can only resell the beneficial ownership back to IPHC or another co-operative member (existing/new) waiting to buy the house. Moreover, the co-operative members will pay monthly rental based on the ownership shares whereby the house rent price will be determined by the RRI model. Additionally, the co-operative members will also pay a minimal maintenance fee to IPHC. The IPHC can offer incentives to the co-operative members, for example, to encourage residents to pay monthly maintenance fee on time, the IPHC can give one-month discount/waiver upon five months consecutive maintenance fee payment.

- In return, the IPHC will transfer the beneficial ownership shares to co-operative members and the house rental will gradually decrease with the transfer of shares to co-operative member. By the end of the MMC (e.g. in 15 years), the co-operative member will obtain the 100 per cent beneficial ownership of the housing unit.

_Ijarah contract._ _Ijarah_ is defined as the reward given for services rendered and technically, it is a contract for the transfer of ownership of usufruct in return for compensation (ISRA, 2016). The legitimacy and permissibility of IC is based on the textual evidence in the Holy Quran, the Sunnah of the Holy Prophet (pbuh) and the consensus of the Muslim jurists (ijma). In Islam, the contract of _ijarah_ is permitted to facilitate those people who do not intend to own or buy an asset but wants to use and take benefit from the asset (Bank Negara Malaysia, 2009).

In a classical IC, the asset is used for sole rental purposes and ownership remains with “the lessor”. However, in contemporary practise, the Islamic financial institution applies _ijarah muntahia bittamleek_ (lease ending with ownership transfer) whereby it provides an option to the customer to acquire the ownership with a minimal price at the end of a specified period (Gupta, 2015). Today, IC it is one of the most popular mode of financing in Islamic retail banking that facilitates customer in short to medium to long-term financing to lease assets, e.g. real estates, motor vehicles, buildings, equipment, machineries and electronic appliances (Naqvi and Perveen, 2014; Gupta, 2015).

Moreover, various _ijarah_-based financing models have been proposed and implemented for different purposes in Islamic financial institutions around the world such as vehicle financing (N. I. Abdullah and Dusuki, 2006; Ehsan Wahla et al., 2018), investment product (Naqvi and Perveen, 2014), _ijarah sukuk_ (Wilson, 2004, 2008; State Bank of Pakistan, 2012; Jamilah Abdul-Jalil and Abdul-Rahman, 2012; Nik Abdul Ghani, 2017; Rosadi and Muslim, 2017; Rafay, Sadiq, and Ajmal, 2017), home financing (Meera and Razak, 2005; Zin and Salamon, 2016) and agriculture financing (Saleem, 2016; Saqib and Zafar, 2017).

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In IPHCM model, the IC is applied between the IPHC and the entrepreneurs those who are operating commercial shop lots in housing project. The entrepreneurs are required to pay monthly shop-rent to IPHC. However, the shop-lots are not for sale and only meant for
income-generating purpose for IPHC; therefore, the legal ownership will remain with IPHC. The rent collection from shop-lots will be deposited into cash *waqf* fund under IPHC. In *Shariah*-compliant perspective, the additional rental income is a donation to cash *waqf* fund and therefore can be utilised in maintaining the project infrastructure and managing the day-to-day operations of IPHC and ultimately help in sustaining the affordable housing project Figure 7.

The specific details are as follows:

- IC will be between IPHC and entrepreneurs operating commercial shop lots in housing project. Entrepreneurs will pay monthly rental to IPHC which will be deposited into to cash *waqf* fund and utilised in maintaining and managing the housing project. Monthly rental can be determined on the average shop rent in the area. The rental can be accessed and update on yearly basis.

- Based on IC (under MMC), the co-operative members have to pay monthly rental to IPHC. The study proposes to adopt Rental Rate Index (RRI). The RRI will be accessed and update on yearly basis. Monthly rental payment will be deposited into cash *waqf* fund for perpetual and sustainable support of future projects. Co-operative members are required to pay a minimal monthly maintenance fee (e.g. 30 per cent of the total maintenance expense) to IPHC. The remaining maintenance expense (e.g. 70 per cent) will be contributed by the IPHC.

**Conclusion and recommendations**

The study developed an alternative affordable public housing model concentrated on the issues of “unaffordability”, “poor maintenance” and “mismanagement”, identified in the contemporary public housing schemes in Malaysia. The core structure of the proposed IPHCM model is based on the housing co-operative model. This gives an advantage to address the concerns of low- and middle-income households and enable them to actively participate (as a co-operative member) in the maintenance and management decision making of their respective housing projects. Furthermore, the proposed IPHCM model enables housing projects to be self-sustainable, through CWM, which ultimately helps the government in fulfilling future demand of affordable housing market. The study also aimed to design a model that can contribute towards social well-being and development of the people. It is shown that the IPHCM model can offer equal opportunities for low- and middle-income households to meet their housing needs in an easier manner while complying with the *Shariah* principles.

Moreover, the study provides valuable source of information for policymakers in understanding the pertaining issues and challenges in the selected affordable public housing schemes in Malaysia. The study findings offer guidelines to government officials and managers of public housing schemes to implement the IPHCM model that can help in resolving three core issues in public housing schemes:

1. reducing the financial burden on low- and middle-income households;
2. improving maintenance work; and
3. enforcing effective management practices with residents’ participation.

In more detail, IPHCM model is capable of reducing the financial burden, in terms of overall housing cost and monthly maintenance fee.
Figure 7. Application of IC in IPHCM model
This will be achieved by removing the financing institutions (conventional and Islamic financial institutions) from the contemporary affordable public housing schemes and replacing cash *waqf* based financial model in IPHCM model. The study suggested to construct commercial shop-lots in IPHCM model, this will help in generating additional revenues that can be utilise in maintaining the housing project, thus reducing monthly maintenance fee paid by the households. Moreover, the study presents a workable solution to engage households and increase their participation in management process by incorporating the concept of housing co-operative in IPHCM model.

Although this study has some significant contributions to the literature on contemporary affordable public housing schemes, it also has some limitations. These limitations, however, provide a direction for further research into affordable public housing schemes in Malaysia and other parts of the world. The study has not considered other related areas in the development of IPHCM model including *Shariah* and subject matter expert’s perspective, households’ (consumer) behavioural intention to adopt IPHCM model, legal and regulatory requirements. Therefore, future studies are recommended to deliberate on these areas that have potential influence on the development and implementation of the proposed IPHCM model.

Notes

1. Source: Malaysia Plan (MP) 6th, 7th, 8th, 9th, 10th, and 11th.
2. The Kuala Lumpur City Hall (DBKL) is the city council and responsible to provide affordable public housing to low- and middle-income households in urban centres.
3. Individual or combined household with monthly income less than RM 3,000 (11th Malaysia Plan 2016-2020).
4. Individual or combined household monthly income between RM 3,001 to RM 10,000 (11th Malaysia Plan 2016-2020).
5. Federal agency under the Ministry of Domestic Trade, Co-operatives and Consumerism (KPDNKK).
6. Legal body under the State Government responsible in taking care of *Zakat*, *Wakaf*, administrator of the heirloom, wills management, non-*Shariah*-compliance money, real estate development, *Luqatah*, *Hibah* and charitable collection.
7. The public housing provision and delivery system is derived from the information gathered in the semi-structured interviews with government representatives from DBKL and MHLG.

References


Bank Negara Malaysia (2015), Shari’ah Standards on Musyarakah (No. 028-7), Kuala Lumpur.


Kroll, C. and Bardhan, A. (2014), Affordable Housing Cost Study Analysis of the Factors That Influence the Cost of Building Multi-Family Affordable Housing in CA, CA.


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