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PREFACE

Issues and Challenges of Urban Settlements in Malaysia

The urban planning system seeks to guide appropriate development to the right place and to prevent inappropriate development from taking place aiming at securing sustainable development. However, rapid urban growth due to high fertility and rural-urban migration have exerted pressure on the environment of urban settlements. Urban settlements in developing countries, especially, are facing increasing issues and challenges in various aspects, i.e. physical, social and economic. In Malaysia, various researches and studies have been carried out to understand the issues and challenges of urban settlements in the country.

This issue of Planning Malaysia aims to share findings of researches/studies in various aspects of urban settlement and planning in Malaysia. It covers the aspects of globalization and urban planning, urban forms, finance, housing, social, agro-tourism, recreation, urban spaces, transportation, and heritage.

The authors of paper 1 suggest that neoliberal globalization certainly gives rise for enabling urban settlements as can be seen in the area of Kuala Lumpur and Selangor. However, the process brings further challenges to the Malaysian planning system such as social injustice and environmental deterioration. In paper 2, the study on urban sprawl has found that cost of development is higher when built further away from service centres. The substantial infrastructure costs savings can be achieved by increasing urban densities and locating new development near existing built-up areas. In paper 3, the authors highlighted the efforts by the government to eradicate squatters and providing low-cost housing in Malaysia. However, the existing policies and programs have yet to meet the target of "zero squatter".

For social-related issues, paper 4 concludes that most of the local respondents from one of the medium cost apartments felt that the presence of foreign immigrants negatively affecting them in terms of family and community relationship, sense of belonging, safety and housing price/cost. In paper 5, the authors discuss several negative and positive impacts on locals due to the presence of foreign immigrants in agro-tourism industry in Cameron Highland.

In terms of recreational planning in urban settlements, paper 6 shows that recreational facilities in urban areas can give satisfaction to youths. It covers the aspects of the current state of the facilities, proximity, accessibility and level of maintenance. Meanwhile, paper 7 indicates that the nature and human interactions require elements of open spaces such as green spaces, water elements, and physical attributes to enhance the human-human and human-nature interactions.

For the aspect of transportation, paper 8 found that majority of respondents were not ready to consider cycling or walking as an alternative mode of travel. Besides, respondents who use their cars more frequently have lower level of willingness to use public transport. Further, the authors of paper 9 also found that majority of respondents did not use bicycles as a primary mode of transportation in their daily trips to work, shops, and others even though the provision of cycle lanes and the related infrastructure were excellent. In paper 10, the authors look into public transportation service (Hop-On Hop-

Off bus) for urban tourism. It was found that the single route bus service for whole Kuala Lumpur city centre is not suitable. It takes tourists too long to complete the route. The authors propose that the existing route should be broken into three.

For the issues on heritage, paper 11 shows that gentrification is a decent way of developing an urban heritage site to be in line with the development strategies of a country. However, uncontrolled gentrification can result in negative consequences. In the study area, many members of the local community felt marginalized and isolated in their place of birth.

Finally, it should be mentioned that the publication of this Planning Malaysia Journal is aimed at encouraging professional/academic communication and sharing of research findings among practitioners, policy makers, researchers, students, and managers in urban development and planning related fields. Continuous research, study, and sharing of knowledge should be able to improve the existing practice of planning, design, and management of urban settlements.

Prof. Dr. Dasimah bt. Omar
&
Assoc. Prof. Dr. Oliver Ling Hoon Leh
Guest Editors

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URBAN PLANNING AND THE CHALLENGES OF NEOLIBERAL GLOBALISATION IN MALAYSIA

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Abstract

Popularly referred to as an Asian Tiger, planning for economic development has been a significant feature in the Malaysian planning system. This reflected the historical junctures that transform Malaysia economy from agricultural potential to industrial capabilities. The rapid industrialisation that can be linked to neoliberal ideology has caused people to migrate from rural to urban area that echoed the emergence of urban settlements. However, this transformation has produced social and environmental instability, as a result of capital accumulation. Accordingly, this study conducted in-depth interviews and documents analysis, with the objective to develop understanding of how neoliberal globalisation rationalises the emergence of urban settlements in Malaysia through its policies and planning practice. The Nvivo10 was used to define categories and synthesise the ideas from the interview data and planning policy documents. This paper is expected to contribute to deepening knowledge of the emergence of urban settlements particularly in the urban planning field under the pervasive discourse of neoliberal globalisation.

Keywords: planning, practice, policies, neoliberal globalisation, urban settlements

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INTRODUCTION

In the early twenty-first century, discussion on planning seems to revolve around aspects of globalisation that are associated with the ideology called neoliberalism (for examples see Allmendinger & Haughton, 2013; Clifford & Tewdwr-Jones, 2013). The current processes of globalisation are undergoing a shift toward market-led development, by transferring much of the authority of the state to a new process of governing, which leads to the triumph of market control over the democratic process (Dean, 2010). The significance given to market control is embedded in the expression of capitalism, in which the objective is to maximize profit in a market economy (Bellanca, 2013). One of the elements central to capitalism is the ability to promote economic growth, which is measured by its per capita Gross Domestic Product (GDP) (Gunder & Hillier, 2009). In light of this, planning for economic development has become a significant feature of rapid urban transformation under the hegemony of neoliberalism (Purcell, 2013).

As is true in other western countries, neoliberal globalisation has marked a significant departure from the mode of governance in Malaysia as its development has "become more integrated into global economic regimes" (Turner et al., 2013, p. 490). This gives rise to the perception that the neoliberal globalisation has effectively contributed to market-led initiatives in the development of Malaysia. Furthermore, the globalisation trend has inspired Malaysia "to be fully developed by the year 2020", which is also outlined in Malaysia's affirmative policy, Vision 2020. The transition is evident in the form of urban settlements that have emerged in Malaysia through the transformation of its policies and institutions.

Significantly, "Malaysia has been successful in transforming its economy by effectively developing its industrial capabilities and exploiting its agricultural potential through government action at various level" and a recognition of changing international trends (Dadzie, 2013, p. 147). In fact, the rapid industrialisation in Malaysia has driven population migration to major cities such as Kuala Lumpur, which, in turn, has caused an impact on housing demand. Further, the continued rise of the Malaysian housing market has led to the practices of "privatisation, free market policies and financial liberalisation" (Tedong et al., 2015, p. 117). In a similar vein, Khair et al. (2015, p. 230) highlighted that rapid industrialisation has also led to a "privatisation agenda with the rhetoric of matching other Asian Tigers [Singapore, Hong Kong, South Korea and Taiwan] regardless of the impact on the democratic process."

However, this high growth has come with a heavy price, primarily in the form of social injustice and deterioration of the environment (Maidin, 2012b). This matter has been highlighted in a number of very serious cases, which

involved both the public and local governance. Almost daily newspapers report incidents of inappropriate development resulting in landslides, rivers being seriously polluted, and flash floods that often lead to massive traffic jams and unsustainable conditions in the country. Therefore, it is a challenge to contemporary planning to produce economic and social stability because neoliberalism "has increasingly shaped state policy to benefits capital rather than citizens" (Purcell, 2009, p. 143) and "often tends to overemphasize economic values above social justice goals and environmental concerns" (Kumi, Arhin & Yeboah, 2014, p. 6).

Thus, it is very clear what this tendency exemplify: neoliberal globalisation justify the emergence of urban settlements in Malaysia through its policies, which brings further challenges in the Malaysian planning system. Considering all the foregoing together, the understanding of the historical juncture of Malaysia and addressing the way in which its practice has evolved in planning, offers a useful insight into the ways of the state reform and change the socio-economic landscape of the country. Indeed, as Maidin (2012a, p. 3) argues, the development of Malaysia since independence, in fact, explains "the evolution of the town and country planning law and administrative system [that] provides background information on the development of Malaysian town and country planning regulation, administration and procedures". This argument provides the background to the development of the Malaysian planning system at the time when the country was a British colony.

HISTORICAL JUNCTURES OF ECONOMIC RESTRUCTURING IN MALAYSIA

Malaysia gained its independence from Britain in 1957. Under British colonisation, the Chinese, Indians and Malays were segregated according to the racial origin and ethnic groups. Following independence from British rule, the Malays and Chinese felt the rising of racial tension as a result of the wide disparity of income between the various ethnic groups; this culminated in the riots of 13th May 1969 (Bruton, 2007). Following the riots, in an attempt to restructure the socio-economic disparity between Malays and the non-Malays, the government introduced the New Economic Policy (NEP) (1971-1990) to restructure the socio-economic gaps between Malays and the non-Malays (Gomez, 2005).

However, the restructuring and implementation of policies were seen as promoting the economic interests of the Malays, which created a state of constant tension among non-Malays. This was a critical juncture in Malaysia's history because this affirmative action policy to some extent explains the socio-economic transition in Malaysia. Also, the policy served to turn governance attention to the

reshaping of the structure of multi-ethic groups and this further affected Malaysia's economic stability. Reflecting on this, Tedong et al. (2015, p. 116) claim that NEP:

> …not only bridged the gap in income between Malays and non-Malays, but revealed the determination of the [governance] to enact [the] quasi-neoliberal policies [that had been in place] before the era of neoliberalism came to dominate the West.

As such, over the years, the NEP had been successful in facilitating economic growth in Malaysia by evolving from being an agricultural nation into an industrial one (Brooker, 2012).

The NEP ended in 1990. Following this, efforts by the Malaysian government to restructure the socio-economics of the country have been incorporated in the new National Development Policy (NDP) to replace the NEP and the New Economic Model (NEM), as well as in other existing instruments such as the Outline Perspective Plan and the Malaysia Plan (national five-year development plans). All the plans were imposed by the federal government to provide an affirmative action policy for the socio-economic agenda. Hence, it is not the intention of this paper to delve deeply into all the policies and plans. Instead, the emphasis here is to provide an understanding of the governance of Malaysian administrative framework in general that regulates matters pertaining to the urban planning system in Malaysia. Here, the Malaysia Plan is of significance as it has been used to endorse the various socio-economic plans of the country for every five year period, starting from the First Malaysian Plan (1966-1970) until the current Eleventh Malaysian Plan (2016-2020) (Economic Planning Unit, 2015). Accordingly, under the Fourth Malaysian plan (1981-1985), Malaysia's development coincided with global neoliberalisation and, typically, "made a transition from a state-dominated developmentalist towards a free-market model" (Tedong et al., 2015, p. 117).

In 1997-1998, Malaysia faced the Asian financial crisis. This also changed the socio-economic landscape of the country through government bail-outs and more privatisation (Khair et al., 2015). Further, the global recession in 2008 caused 'major shocks' in Malaysia (Athukorala, 2012). However, Malaysia has resonated well throughout the crises.

The arguments also align well with Qadeer (2012, p. 225), that emphasises the manifestation of high-rise development in Malaysia that "are frequently inspired by images of Western 'prestigious cities'… [and this visualization] continues to inspire the [local] elites" to privilege market over social imperatives. Reflecting this, "a grandiose utopian" development such as the Kuala Lumpur

City Centre (KLCC) and Kuala Lumpur International Airport (KLIA) were built in a way that "became symptomatic of 'boom-time' in Malaysia" (Brooker, 2012, p. 41). This suggests that Malaysia "has benefited from, and has also been adversely affected by, neoliberal globalisation" as claimed by Chin (2000, p. 1037) a decade ago.

Consequently, little is known about the effect of neoliberal globalisation on the Malaysian planning system, whether from a theoretical or empirical point of view. Allied to this, this paper argues that the planning system in Malaysia need to be analysed in the context of these overall processes of evolution, in terms of ways it (dis)engages with neoliberal globalisation which affecting urban settlements in Malaysia. Therefore, whether, or not, and to what extent the neoliberal globalisation has instigated urban settlements in Malaysia is further examined in the following sections.

THE EMERGENCE OF URBAN SETTLEMENTS: ISSUES AND CHALLENGES

Considering all the foregoing together, the growth of economy as a result of industrialisation has influenced population migration and caused significant settlement in the urban areas. Urban area refers to an area "which at least has a population of 10,000 with at least 60 % of population (aged 15 years and above) were involved in non-agricultural activities" (Department of Statistic Malaysia, 2015). Further, "the increasing number of people that migrate from rural-to-urban areas" leads to the process of urbanisation (United Nation, 2008). This changing trend also appears to foresee why people prefer to live in the urban area that includes the employment, education, standard of the geographical condition which has impacts on people quality of life (Chowdhury & Mavrotas, 2005). As such, all the opportunities have become the 'push and pull factors' that influence people to migrate from rural to urban. This aspect bears important interpretive implications that reflect the relationship between people movement to the urban area and the economy as one of the main factors for the rapid growth of the country (Gugler, 1997).

Reflecting this, to achieve a fully developed country by 2020, governance practice plays an essential role in facilitating "the economic activity to create new values [and] make the difference in the Malaysian economic fundamentals" (Ahmed, 2012, p. 1503; see also Taib & Siong, 2008). The private sector, demand-driven land development activities have become significant contributors to the growth of GDP of the country (Hitam & Borhan, 2012). This perspective clarifies that the impact of neoliberal globalisation has influenced government to use 'governance tools' such as policies and legislations to guide the economic

development. However, with the progress of development, Maidin (2011, p. 163) states:

> It appears that the planning authorities are very concerned in ensuring successful implementation of the country's development policies formulated to boost the economic rather than taking into consideration the effect of such activities on the environment and the public.

This implies that economic development has become a concern of the core planning system, which seems to uphold the neoliberals' domination of economic values that are concerned with the direction of conduct for certain ends. Following this, the notion of neoliberal globalisation demonstrates and justifies how the planning practice, in maintaining the economic growth of the country, has contributed to the emergence of urban settlements in Malaysia. Likewise, these perspectives have led to the production of housing development which often transcend the public-private partnership in the Malaysian governance. In fact, "the involvement of the private sector in housing markets in Malaysia coincided with the international rise of neoliberalism" (Tedong et al., 2015, p. 117). However, the proliferation of 'too much' development in the urban area has caused environmental degradation and uncontrolled development. As Bruton (2007, p. 28) succinctly commented:

> Malaysia's strong economic position has come at a cost to the environment……Much of Malaysian jungle has been cleared, on a scale comparable with that in the Amazon basin, but in a much shorter timescale.

What is at stake here expresses the dimension on the use of land to develop a range of housing development to cater the population settlements in the urban area. Also, this status brings further challenges to planning to balance social, economic and environmental well-being in this twenty-first century. Therefore, it is vital to justify the degree of neoliberalism's influence in planning which fundamentally reflects the issues of urban settlement through the value of planning policy instruments in Malaysia.

RESEARCH METHODOLOGY

The methodology deployed in this study was mixed-method qualitative in nature and guided by Flyvbjerg, Landmann and Schram's (2012) phronetic social science approach. The emphasis on the context and process of this methodology was reflected in the technique from grounded theory. In this sense, the paper emphasizes the understanding on how the social world operates and "what makes [something] happen as they do" (Neuman, 2012, p. 28). A case study was selected

to map out the form of a narrative inquiry, which included in-depth interview and written description, which can create a more particular and contextualised version of the research (Savin-Baden & Major, 2013).

This research adopted an in-depth interviewing method and open-ended questions, which focused on how planners and other stakeholders react towards neoliberal globalisation, including the value judgements on the use of planning policy documents. A total of twenty participants were selected based on purposeful sampling in relation to the social background and personality of those actively engaged in the planning process, as well as the professional status of planners as opposed to other actors (developers, the public and politicians). Hence, eight planners from the local authorities, four local councillors, two Members of Parliament, two developers and four representatives from community groups were chosen.

Additionally, the research used documents from secondary sources for the analysis; these are presented in the form in which they were originally printed. The type of document analysis used was significant as it "can be considered to represent actors in their own right" (Prior, 2008, p. 232). This was in line with the idea of "discourse as a system of representation" in which "the rules and practices [may] produce meaningful statements and regulated discourse in different historical periods" (Hall, 2001, p. 72). The analysis contributed to a deepening knowledge of the ways in which neoliberalism is adopted as it focuses on a limited realm of phenomena that have been fragmented by the changing bases of state power.

The selected cases were the Federal Territory of Kuala Lumpur and Selangor. The relevant documents collected included; the Eleventh Malaysia Plan (2016-2020), the National Physical Plan, the Kuala Lumpur Structure Plan 2020, Petaling Jaya Local Plan 1, the Town and Country Planning Act 1976 and newspaper articles. In fact, media content such as newspapers is significant to reflect social reality, in which by "studying content helps us infer things about phenomena that are less open and visible" (Shoemaker & Reese, 2013, p. 24). Also, it can provide a "range of verbal and visual information distributed by the mass media – in other words, just about anything that appears there" (p. 4).

The data analysis justifies the merits of using grounded theory in analysing data from interview and planning documents. The analysis was focussed on a constant comparison of data, codes and the theoretical categories (Bryant & Charmaz, 2007). Therefore, through the analysis of all the interview data and documents, the patterns and outcomes rationalise the evidence found. To illustrate the process of data analysis, it begins with a line-by-line coding from the interview and written text in order to form descriptive categories, which in

turn are used to analyse the emerging theoretical reflections. The codes and their relationship to other codes are compared and analysed to establish the values with the core categories. These categories were defined by using Nvivo10 to assist in the managing and synthesizing of the ideas gathered from the analysis.

FINDINGS AND DISCUSSIONS

The findings reflected the views, at least of the participants, that there is a clear connection between the practice of governance and neoliberalism in the Malaysian planning system. This indicated the "economic openness" of the country "as evidenced by the rapid pace of economic growth and development", which accords with Ahmed (2012, p. 1499). Significantly, the Malaysian policies display the significance and influence of economic objectives in their contents, such as in the Malaysia Plan and the development plans. For instance, the Federal Territory of Kuala Lumpur and Selangor were the two states with the highest growth of GDP in 2010, and this is expected to increase even more by the year 2020 (Economic Planning Unit, 2015). This reflects the positioning of Malaysian governance to drive rapid growth particularly in the context of economic development, which attracts more urban settlements in these states.

Following this, to best understand how planning has been practiced, whether it is (un)intentionally reoriented towards the neoliberal agenda, the following question was asked to the participants: *What do you think is the core concern of the Malaysian planning system?* One participant claimed: "The authority allows vertical development and high-density development that is making development more compounded. They want to portray the city as a world class city" (Interview, 7 May 2015). Typically, the public views economic considerations as the core concern in the planning process, which have (in)direct influences in planning practice. Reflecting this, for planners to carry out the national goals, they must be assigned roles through which practice can meet the needs and aspirations of the country. As one planner commented: "When we process planning permission, we are bound with the development plans and the Act." (Interview, 7 May 2015). These statements were supported by other planners. This highlighted that planners must consider other planning mechanisms to legitimate their actions in the decision-making. What this seems to suggest is that planners strive to reach their goal by providing a formal strategy as evidence of their practices.

Reflecting this, based on the identity to be 'a world class-city', this suggests that the image of the Malaysian planning system which directed towards economic development somehow impacts the emergence of urban settlements in both states. In fact, statistics showed an increase of urban population in Kuala

Lumpur from 1.42 million in 2000 to an estimated 1.72 million in 2013, and in Selangor from 4.18 million in 2000 to an estimated 5.90 million in 2013 (Department of Statistic Malaysia, 2015). As such, the planning instruments has effected in delivering and regulating land use planning in Malaysia.

With the Town and Country Planning Act (1976) as the principal statute regulating town and country planning practices for the Peninsular Malaysia, the ultimate authoritative document for land use planning are to the development plans (Maidin, 2012b). All development plans are used to assist the Federal and State governments to draw up development policies. In fact, "[t]hese plans are also intended to provide a logical extension to the socio-economic policies of the country as outlined in the country's Five Year National Development Plan" (Taib & Siong, 2008, p. 5). Reflecting this, for planners to carry out the national goals, they must be assigned roles through which practice can meet the needs and aspirations of the country. In this sense, the planning policies can be seen as the results of economic domination that materializes the neoliberal values of globalisation set via the practice of governance. Alongside this, there is an on-going struggle in planning; this struggle is to find a balance of economic, social and environmental well-being (Porter et al., 2013).

Accordingly, the culmination is that planners, being part of the process of transformation, are well-placed to engage and respond to the pace and extent of urban settlement in Malaysia. Here perhaps, after more than 20 years, planning still needs an account of what the practice of the planner is all about in this contemporary governance; this is because planning itself has evolved (Van Assche, Beunen & Duineveld, 2014). Certainly, this demonstrates and justifies how planning and the planning profession itself engage and transform in response to the conflict underpinned by neoliberal globalisation. The merits attributed to the way in which the progress of Malaysia's economic growth and the historical background of economic restructuring in Malaysia have influenced the process of adopting the neoliberal ideology in the Malaysian planning system, which in some ways allows for the emergence of urban settlements in Malaysia.

CONCLUSION

The understanding of the historical junctures of Malaysia can provide a basis for the migration of people from rural to urban area in response to the dominance of neoliberalism; this is because governance practice is always subject to an evolutionary perspective. Following this, the development of housing area in Malaysia represents physical manifestations of the economic growth of the country via the implementation of planning policy documents. In this sense, neoliberal globalisation certainly gives rise for enabling urban settlement as can

be seen in the area of Kuala Lumpur and Selangor. However, the process brings further challenges to the Malaysian planning system such as social injustice and environmental deterioration. Reflecting this, the understanding of planning practice helps to demonstrate on how planners accommodate neoliberal globalisation.

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THE FINANCIAL COSTS OF URBAN SPRAWL: CASE STUDY OF PENANG STATE

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Abstract

The financial cost of urban sprawl is the additional or incremental costs measured relative to the type, density and location of sprawl development compared to inner city development. The costs are incurred by both the public and private sectors. Numerous studies on costs of sprawl found that there is an increase in infrastructure costs associated with sprawl development compared to compact development. Sprawl increases infrastructure costs in several ways. Lower density means each yard of linear infrastructure such as water and sewer serves fewer households. Housing type and location affect the number of water and sewer laterals and resultant costs. Road network cost increases as well. The increase in costs compels researchers to examine what type and which location of development should be encouraged. This paper adopts a case study approach in examining housing development costs of eleven housing projects in Penang State, Malaysia. Mathematical and statistical analysis are applied on actual data. The results of cross tabulation reveal that costs per unit of housing development, based on traditional development calculations, are cheaper with greater distance from CBD. However, when additional development costs data (infrastructure costs such as roadworks, sewerage and water lines from housing projects to the sub-service centres) are factored in, the results show that the cost per unit is higher with greater distance from CBD. These results support international findings that cost per unit of development rises as distance increases and densities decreases, characteristics of sprawl development. This is perhaps the first empirical results on financial costs of sprawl in Malaysia and hope to be a springboard to future studies on costs of urban sprawl in Malaysia.

***Keywords*:** financial costs, urban sprawl, housing development, Penang State

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INTRODUCTION

Sprawl is an urban phenomenon characterised by low density outward extension into undeveloped areas. Leapfrog development compels the construction of two sets of infrastructure that are underused (Burchell, 1990). Cost of sprawl studies claim that significant cost savings regarding infrastructure supply could be realized if a better planned and more compact urban development is achieved (Thomson, Hoffman & Staniforth, 2003). Furthermore, Bryant and Eves' (2014) research findings support the proposition that developers' payment of infrastructure charges are passed to homebuyers. These are significant contributors to reduced housing affordability. Besides that, a growing literature on costs argue that sprawl is not economically efficient because it creates a host of private, public and social costs that are not adequately captured through market processes (Frank, 1989).

In Malaysia, urban growth is expected to intensify and Malaysia will not return to its former status of a rural country, due to the rapid growth of the nations' economy and the theory of elasticity of demand (Abdullah, 2009). Several studies in Malaysia have shown the existence of urban sprawl in major metropolitan areas in Malaysia (Abdullah, 2003; Yaakup & Sulaiman, 2005; Yahaya, 2006; Safudin, 2007). These studies used a number of accepted indicators which have been used worldwide to quantify urban sprawl such as comparison of population growth rate between main urban settlement and town periphery areas, and comparative analysis of built-up areas and population growth. Spatial evidences have been carried out by Sabri and Yaakup (2003), Noor and Rosni (2010), and Noor, Asmawi and Rusni (2014). The urban areas are expanding rapidly and there are evidences of the existence of the phenomenon of urban sprawl in the three largest Metropolitan areas of Malaysia which are Kuala Lumpur, Penang and Johor Bharu. The urban sprawl phenomenon in Malaysia is associated with low density development in greenfield areas (Abdullah et al, 2009).

Research of urban sprawl in Malaysia tends to focus on physical characteristics, and no studies have been carried out on costs of urban sprawl in the country. To spearhead research on urban sprawl cost in Malaysia, this paper examines the cost of housing development projects in various locations in Penang State.

RESEARCH BACKGROUND

Many researchers have found that there were substantial costs incurred by allowing sprawl development (Isard & Coughlin, 1957; Frank 1989; RERC 1989; Burchell & Shad, 1998; Speir & Stephenson, 2002). It is costly especially in terms of providing public infrastructure and services such as roads and sewer. The early study by Isard and Coughlin (1957) found that cost per lot for sewer lines and roads increases with average lot size. Colorado Natural Resources (2000) used mathematical model to measure costs and the results showed that unit costs are

higher with lower densities. Stanley (2006) used the General Linear model to calculate costs and the results revealed that land cost increased with lot size, water lines and roads. Provision of public services is more expensive for urban sprawl compared to other patterns of development (Burchell & Shad, 1998; Ladd, 1998; Duncan, 1992; Ewing, Pendall & Chen, 2002; Ojima, 2007).

A growing literature on costs of urban sprawl argues that sprawl is not economically efficient because it creates a host of private, public, and social costs that are not adequately captured through market forces (Frank, 1989). Researchers discovered that considerable cost for savings can be materialized by enhancing urban population densities and locating new development near existing well-built areas. Burchell and Shad (2003) show that infrastructure costs associated with sprawl is higher than the costs of conventional suburban development. For roads, compact development costs 75 percent of the cost for conventional development. One issue related to sprawl is the corresponding increase in costs for infrastructures which are usually borne by the government.

Urban sprawl phenomenon is destroying the urban landscape environmentally, socially, economically and politically. The social, economic and environmental costs have been studied widely in the West but financial costs received limited research coverage. In Malaysia there is lack of study to quantify the cost of sprawl especially in providing public services and residential development. The need to evaluate the financial cost of sprawl is even more pressing in Malaysia since the country has the fourth-largest built-up land in East Asia as of 2010. The country's urban land grew from about 3,900 to 4,600 square kilometres between 2000 and 2010, an average annual growth rate of 1.5%. Its urban population increased during this period from 10.2 million (43% of the total population) to 15 million (53%), making it among the more urbanized countries and economies in the region, after Japan, the Republic of Korea, Singapore, and Taiwan.

METHODOLOGY

The research method is exploratory in nature, using mixed research design. In the first stage, it was important to understand sprawl development of the study area. For this, data were obtained through secondary sources such as population data records from the Statistic Department of Malaysia and other related government publications. Data on financial costs were collected from primary and secondary sources. The researchers start with property reports to select suitable housing projects, and then case study was used in order to examine actual urban sprawl phenomenon and related financial costs.

Eleven housing projects were identified from five regions in Penang. Urban sprawl was identified by calculating and comparing the percentage change in population growth rate to the percentage change in built-up area. The quantification of the financial costs were determined by estimating additional

costs to the housing development projects, which included land cost and infrastructure costs (roads, sewerage, water and electricity), among others. Descriptive statistics such as frequency distribution, Cronbach's Alpha, mean and standard deviation were used to analyse the data collected. Cross tabulation analysis was also carried out.

LIMITATIONS OF STUDY

This research relies on data gathered from professionals and local authorities involved in the projects due to reluctance of some developers to provide data. Some of the calculations on costs are based on assumptions derived from similar developments. It is also assumed that infrastructure extensions are carried from the nearest CBD, namely Georgetown and Butterworth.

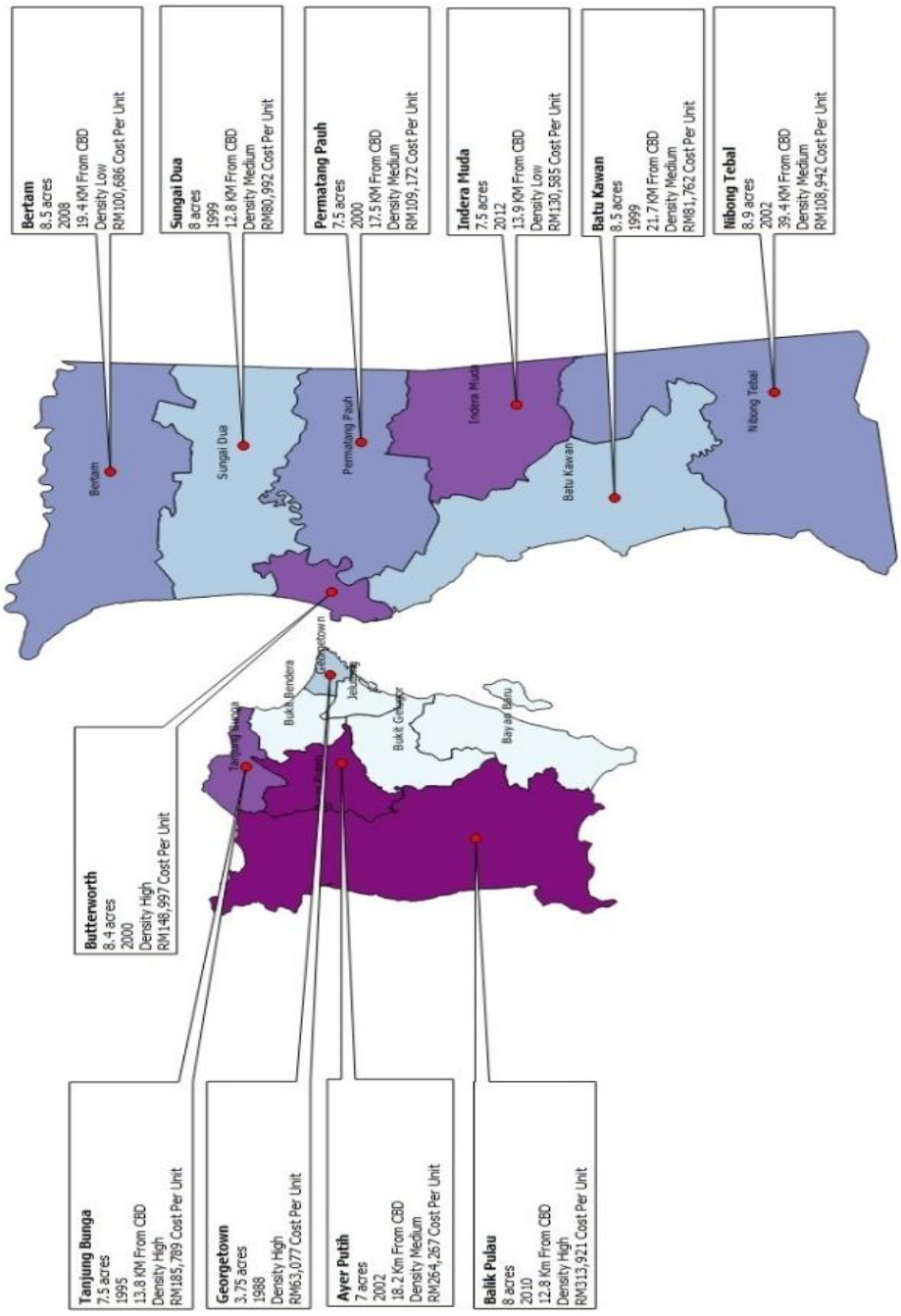
FINDINGS AND RESULTS

Due to rapid urbanization in Penang State since the late 1980s, the districts in Penang (Seberang Perai Tengah and Seberang Perai Selatan on the mainland, and Barat Daya on the island) have experienced sprawl development. Urban sprawl in Penang is due mainly to low density development in mostly greenfield areas.

Higher sprawl regions in Penang are found to be significantly correlated with higher population growth and land consumption growth rate. This may be due to higher consumer's preference for residential in the mainland as house prices on the island are high. House price in the city centre is even higher; one of the reasons is the land price in city centre is very expensive and this affect housing development in city centre. Apartments are more affordable by residents who seek housing at an affordable price.

Figure 1 shows the locations of eleven housing projects included in this study. These included ten single storey housing projects and an apartment building of 480 units. Three locations on Penang Island have high costs per unit of housing and are in high density areas. One of the reasons for the high costs per unit of housing is the land costs in city centre are higher compared to the mainland.

Figure 1 Locations of Actual Development Project Cost per Unit in Penang



The net areas for the housing development projects were between 3.75 acres to 8.9 acres. The years of completion for each project were from 1988 till 2012. The number of housing units ranged from 90 units to 150 units for single storey terrace houses and one 480 units of apartment block in George Town. Distance from Central Business District (CBD) was calculated from Butterworth in the mainland and Georgetown in Penang Island. The mean distance for all 11 projects from the closest CBD was 14.5 kilometres.

This research calculates actual development costs incurred by the developers of these housing projects as shown in Table 1. These costs included "normal" variable costs such as the land, buildings, infrastructure within the project sites, professional fees, contribution to the local authority and contingencies fee.

The land costs were based on the market value in that particular locations, which range from RM469,750 to RM7,400,000. On site infrastructure costs varied between RM1,238,677 to RM8,779,000. Professional fees ranged from RM 279,800 to RM1,241,600. Contribution to the local authority ranged from RM125,000 to RM387,300. These variables were considered as normal costs of the developments. The total costs of these normal variables ranged from RM 8,909,220 to RM31,755,250 for the eleven housing projects. Dividing the total costs to the number of housing unit yielded the cost per unit of houses to range from RM80,992 to RM313,92.

Figure 2 shows the result of cross tabulation of all eleven projects based on their distances from the CBDs and cost per unit. The mean cost per unit was RM142,753. Houses above the mean was considered as high cost, while those below the mean were considered as low cost. With mean distance of 14.5 kilometres, it was found that 6 housing projects were considered as short distance (below the mean) and the other 5 housing projects as long distance (above the mean).

Table 1 Comparison of Actual Data of Single Storey Terrace Houses and Apartment in Penang Metropolitan

Variables	N. Tebal (SPS)	Bt. Kawan (SPS)	Bertam (SPU)	Pemtg Pauh (SPT)	Indera Muda (SPT)	Sg Dua (SPU)	B'worth (CBD 2)	Air Prutah (BD)	Tg. Bungah (TL)	Balik Pulau (BD)	G'town (CBD 1)
Density	Medium	Medium	Low	Medium	Low	Medium	High	Medium	High	High	High
Distance from CBD	39.4km	21.7km	19.4km	17.5km	13.9km	12.8km	0 km	18.2km	13.8km	12.8km	0
Land (RM)	3,730,000	1,514,900	1,180,389	1,850,920	1,200,000	1,480,000	4,860,000	7,400,000	6,930,000	7,050,900	469,750
Building (RM)	8,740,954	4,168,700	6,722,357	7,280,000	7,670,000	5,160,000	10,000,000	14,000,000	12,000,000	11,460,000	24,960,000
Infra. (RM)	1,906,000	1,763,000	1,238,677	2,842,793	2,984,550	1,546,280	3,455,808	8,779,000	7,456,857	8,377,000	2,491,183
Pro. Fees (RM)	533,222	365,300	532,900	5519,000	570,000	279,800	600,000	800,000	700,500	670,000	1,241,600
Local Autho. (RM)	185,900	125,000	183,680	276,000	295,000	181,140	320,900	387,300	380,000	350,000	384,000
Contingency (RM)	245,300	239,345	210,679	332,000	339,000	262,000	372,795	388,950	401,000	345,000	730,735
TDV (RM)	15,341,376	8,176,245	10,068,672	13,100,713	13,058,505	8,909,220	19,609,503	31,755,250	27,868,357	28,252,900	30,277,268
Year Built	**2002**	**1999**	**2008**	**2000**	**2012**	**1999**	**2000**	**2002**	**1995**	**2010**	**1988**
Nett Area	8.9 acres	8.5 acres	8 acres	7.5 acres	7.5 acres	8 acres	8.4 acres	7 acres	7.5 acres	8 acres	3.75 acres
Cost/unit (RM)	**108,942**	**81,762**	**100,686**	**130,585**	**130,585**	**80,992**	**130,730**	**264,627**	**185,789**	**313,921**	**63,077**
Unit	150	100	100	120	100	110	150	120	150	90	480
Zoning	Commercial and Housing	Agriculture	Agriculture	General housing	Agriculture	Agriculture	General Housing	Agriculture	Permanent Housing	General Housing	Permanent Housing

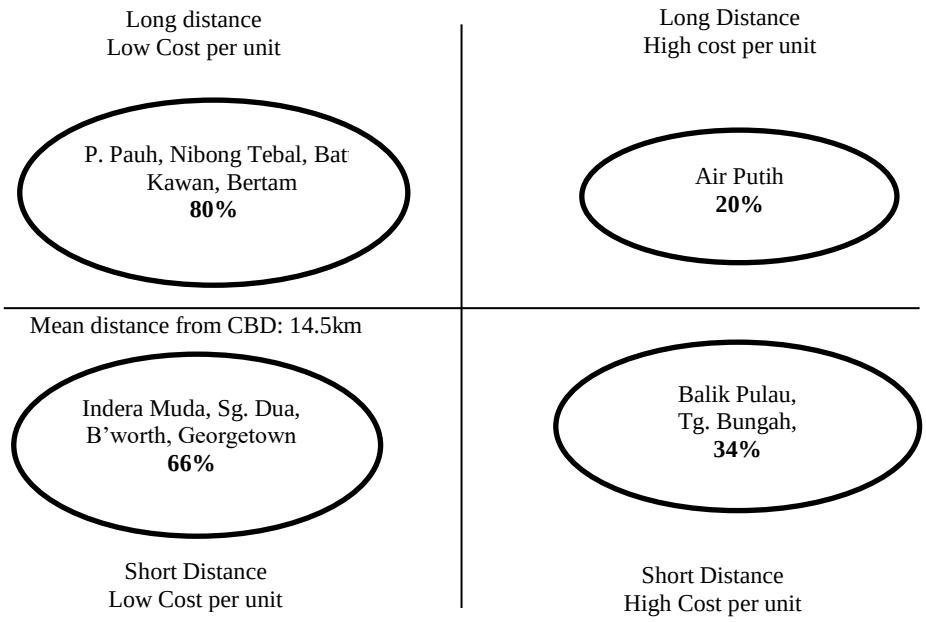


Figure 2 Cross Tabulation between Cost per Unit and Distance for 11 Housing Projects Using Normal Variables Costs

It was found that of the 5 housing projects which were located far from the CBDs, 80 percent (4 housing projects) have low cost per unit, denoting high correlation between the two variables. For the six housing projects which were near the CBDs (below the mean of 14.5 kilometres), 4 projects (66 percent) have low cost per house unit, while the other 2 have high cost per house unit, denoting weak correlation. Thus, the data show that far away housing areas have much greater proportion of lower cost housing unit, reflecting the general situation of housing prices in Malaysian urban areas.

The research then calculates additional development costs which were extension of infrastructure to the project sites as shown in Table 2. These costs included roadwork, sewerage and water supply costs calculated from each sub-station on the mainland and on the island. These additional costs were then added to the costs of normal variables calculated earlier. With these additional infrastructure costs, the mean price of the houses increased to RM 300,071.

Table 2 Comparison of Additional Development Cost for Single storey terrace houses and apartment in Penang Metropolitan (1988 – 2012)

Variables	N. Tebal (SPS)	Bt. Kawan (SPS)	Bertam (SPU)	Pmtg. Pauh (SPT)	IderaMuda (SPT)	Sg. Dua (SPU)	B'worth (SPT)	Air Putih (BD)	Tg. Bungah (TL)	BalikPulau (BD)	G'town (CBD)
Density	Medium	Low	Medium	Medium	Low	Medium	High	Medium	High	High	High
Distance from CBD	39.4km	21.7km	19.4km	17.5km	13.9km	12.8km	0	18.2km	13.8km	12.8km	0
Land (RM)	3,730,000	1,514,900	1,180,389	1,850,920	1,200,000	1,480,000	4,860,000	7,400,000	6,930,000	7,050,900	469,750
Building (RM)	8,740,954	4,168,700	6,722,357	7,280,000	7,670,000	5,160,000	10,000,000	14,000,000	12,000,000	11.460,000	24,960,000
Infra. (RM)	14,968,000	14,123,000	12,391,677	16,740,793	8,986,550	10,775,280	10,124,808	16,731,000	13,689,857	18,962,000	6,065,183
Road Infra. (RM)	**1,800,000**	**2,400,000**	**3,200,000**	**6,000,000**	**1,600,000**	**3,000,000**	**440,000**	**880,000**	**2,200,000**	**3,400,000**	**2,400,000**
Sewerage (RM)	**9,150,000**	**8,200,000**	**4,675,000**	**6,050,000**	**3,500,000**	**3,875,000**	**3,325,000**	**5,950,000**	**3,175,000**	**7,075,000**	**250,000**
Water (RM)	**2,112,000**	**1,760,000**	**3,278,000**	**1,848,000**	**902,000**	**2,354,000**	**2,904,000**	**1,122,000**	**858,000**	**110,000**	**924,000**
Pro. Fees (RM)	533,222	365,300	532,900	519,000	570,000	279,800	600,000	800,000	700,500	670,000	1,241,600
Local Autho. (RM)	185,900	125,000	183,680	276,000	295,000	181,140	320,900	387,300	380,000	350,000	384,000
Contingency (RM)	245,300	239,345	219,679	332,000	339,000	262,000	372,795	388,950	401,000	345,000	730,735
TDV (RM)	41,465,376	32,896,245	32,374,672	40,896,713	25,062,550	27,367,220	35,687,603	47,659,250	40,334.357	49,422,900	37,425,268
Nett Area	8.9 acres	8.5 acres	8 acres	7.5 acres	7.5 acres	8 acres	8.4 acres	7 acres	7.5 acres	8 acres	3.75 acres
Cost/unit (RM)	**276,435**	**328,962**	**323,746**	**340,805**	**250,625**	**248,792**	**237,917**	**397,160**	**268,895**	**549,143**	**77,969**
No. Units	150	100	100	120	100	110	150	120	150	90	480
Year Built	**2002**	**1999**	**2008**	**2000**	**2012**	**1999**	**2000**	**2002**	**1995**	**2010**	**1988**

The addition of infrastructure costs to the "normal" costs has produced different rates of cost increase for different regions. Those on the island demonstrated an increase between 30 to 42 percent in total costs per house unit. On the mainland, the rate of increase was much higher. For instance, the increase in Seberang Perai Utara was about 68 percent, while the increase in cost per unit in Seberang Perai Selatan was between 60 to 75 percent. This validates Torren's (2006) assertion that farther away development actually increases the cost of housing unit due to additional cost of providing infrastructure.

The new costs were correlated with the distance and are shown in Figure 3. Interestingly, the results for long distance housing projects are opposite of those shown in Figure 2.

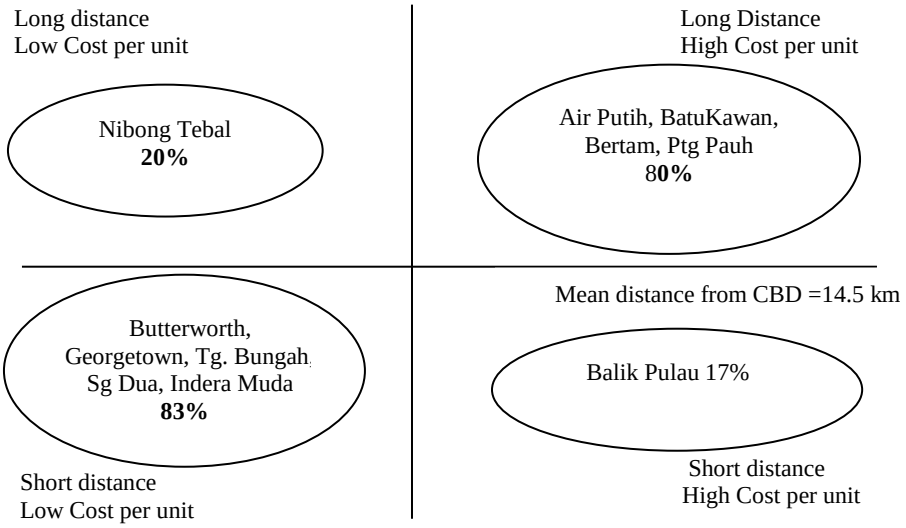


Figure 3 Cross Tabulation between Distance and Cost per Unit for 11 Housing Projects after Adding the Costs of Extending Infrastructure to the Sites.

For far away (long distance development), after adding the cost of extending infrastructure to the housing project, it was found that 80 percent (4 out of 5 projects) have now become high cost housing per unit. In Figure 2, without adding the infrastructure extension cost, only 20 percent (1 out of 5 projects) were high cost. More significantly, for the short distance development, after adding the infrastructure extension cost, 83 percent of the housing project were low cost per unit housing projects. These data provide strong correlation between distance and cost of housing per unit. After adding the cost of extending

infrastructure to the housing projects, the developments closer to CBDs have lower cost per unit compared to housing developments far away from the CBDs.

CONCLUSION

The paper provides empirical proof that development away from city centres are actually more costly compared to those near the city centres when the cost of extending infrastructure are included in the total costs calculation. Therefore, this study proposes that the additional cost of infrastructure such as road and sewage need to be accounted for. These are the infrastructure costs which, at the moment, are not included in the calculation of the Gross Development Value (GDV) of a development project. The addition of infrastructure extension cost is to show the true cost of developing a housing project.

The findings of this study support contention by Burchell (1990) and other scholars that sprawl actually costs more than compact development near the city centres. The costs of extending infrastructure tend to be higher than the additional costs of land in or near the city. However, since these infrastructure extensions costs are it being paid for by the state, they are not included in the calculation of development costs by the private developers. Hence, many people have the impression that developing projects such as housing areas away from the city centres entail lower costs. The reality is that cost of sprawl studies show that substantial infrastructure costs savings can be achieved by increasing urban densities and locating new development near existing built-up areas.

Similar study can be extended to other housing projects in Penang State in order to arrive at comprehensive findings on the cost of sprawl. Similar study in the Klang valley and Johor Bharu would also enrich the understanding about the cost of urban sprawl in Malaysia.

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COMBATING SQUATTERS IN MALAYSIA: DO WE HAVE ADEQUATE POLICIES AS INSTRUMENT?

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Abstract

The year 2014 had witnessed the scenario where most of the states in Malaysia pledged to declare themselves as Zero Squatter state. Thus far, most of the states in Malaysia are still striving to achieve the goal. The government has therefore aspires to reach the target by the year 2020. The Malaysian government under its 5-years National Plan has since introduced the low, medium and high cost housing categories. The housing policy was therefore designed to provide the public of all income levels, particularly the low-income groups, with affordable housing as part of an effort to eradicate squatters. However, despite the various policies, the number of squatter families remains large, especially in the urban areas. This paper therefore, intends to examine the instruments put forward by the government to eliminate squatters and assess the roles of related parties assigned to achieve the government's mission. Through a qualitative approach, results demonstrated that Malaysia has various types of polices and guidance at both the federal and state levels in relation to low-cost housing provision. These would have supposed to help reduce the number of squatters in the country. However, to date, Malaysia is still experiencing problems with squatters. This calls for further investigation.

Keywords: squatters, housing policies, housing programmes, low-cost housing.

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INTRODUCTION

The rapid development in a city is one of the factors that attract rural communities to migrate and experience urban life (Agus, 2005). Inevitably, urban areas are forced to face the challenges of squatters and housing shortages due to the increased population (UN-Habitat, 2008). The problem of poverty in a city often exists in squatter areas in the suburbs. For so long, the issue of squatters continues to be a major problem in the urban areas in Malaysia. According to the Ministry of Urban Wellbeing, Housing and Local Government (2015a), squatters can be defined as an exploration activity, or occupation or construction of buildings on lands belonging to other parties (whether government or private land). Before 1970, Malays were generally lived in rural areas, while the Chinese lived in urban areas and most Indians lived in rubber or oil palm estates (Tan, 2011). Hence, the New Economic Policies (NEP) was introduced in 1970 to promote national unity through eradicating poverty, controlling the society and bring to an end the identification of race by economic activity and geographic location. As one of the NEP strategies, the Malays were therefore urged to migrate to urban areas to break the character of urban population that was dominated by the Chinese (Tan, 2011). Thus, the rapid rate of migration of the rural Malays to urban centres in 1980 had caused the increasing need for low-cost housing in cities and resulted to the opening of squatter settlements (Tan, 2011).

Since most of the economic activities are concentrated in cities, therefore the rural communities are attracted to migrate to urban areas. The migration to major cities not only had led to the opening of new squatter areas but also crammed the existing areas (Shresta et al, 2014). The problem then has become complicated to regulate although there are laws that forbid people to reside on state land illegally. The authorities have been controlling against illegal land occupation, but some people defy the law and enforcement (Sufian, 2009). According to Murad et al. (2014), the first city to experience the highest number of squatters was Kuala Lumpur, where 32% of the Kuala Lumpur's population in 1968 were squatters and later increased to 37% in 1971. To eradicate the squatters, the government began squatters clearance programme in 1998 (Muhamad Ariff & Davies, 2009). Thereafter, the 'Zero Squatter by 2005' Program was launched in 2000. However, despite the programme, until now there are still many squatters left in the urban areas (Murad et al., 2014).

In Malaysia, most of the occupants of low-cost housing are former squatters or from low-income group. Since 2005, squatters have gained attention from the federal and state governments. Various approaches have been considered in attempting to stop the growth of squatter areas or to even upgrade the facilities within the squatter areas. The government had then geared up to build more low-cost housing or affordable housing for sale and rent to relocate the squatters and achieve the Zero Squatter mission by the year 2020 (Tan, 2011). Nevertheless, low cost housing programmes face challenges including mismatch between

demand and supply, house price increase, lack of integrated planning and implementation, poor maintenance, and insufficient amenities (Economic Planning Unit, 2015).

This paper aims to examine the policies that have been formulated as instruments in eradicating urban squatters in Malaysia, and to assess the role of the related parties in delivering the low-cost housing initiatives. Data was mainly obtained through document analysis of related government policies, reports and statistics.

MALAYSIA HOUSING POLICIES

The government's policies on housing had started much earlier than the NEP. Housing was already seen as important from the 1960s. Strategies and programmes were by now planned since the First Malaysia Plan in 1966. Over the years, Malaysia Plans has evolved and during the 1990s onwards, the focus has been on the provision of housing for the lower income group (Table 1).

Since independence in 1957, the government has continuously encouraging the public to own a house. The involvement of government in housing is through the federal and state governments. The federal government through the Ministry of Urban Wellbeing, Housing and Local Government is in charge in making policies and guidelines for housing provision. Meanwhile, the National Housing Department, a department under the Ministry, is responsible in delivering low-cost housing throughout the country with assistance from the state governments. Other government statutory bodies such as Urban Development Authority (UDA) or Regional Development Agencies (RDA) also deliver housing schemes but their housing programmes are targeted for particular group or development in specific areas (Shuid, 2004).

Table 1 Five-Years Malaysia Plans

Malaysia Plan	Objectives
1st Malaysia Plan (1966- 1970); and 2nd Malaysia Plan (1970-1975).	Promote welfare of all Malaysian regardless of ethnic background by providing improved housing, community facilities, welfare and other services.
3rd Malaysia Plan (1976-1980)	The goal of housing is to eradicate poverty and restructure the society.
4th Malaysia Plan (1981-1985)	Continuation of the goal of the previous five years plan
5th Malaysia Plan (1986-1990)	Housing programmes were implemented in the context of human settlement concept. The provision of social facilities, such as: schools, clinic, community halls was emphasized rather than the provision of basic infrastructural facilities.

6th Malaysia Plan (1991-1995)	Home owning within various income groups was emphasized.
7th Malaysia Plan (1996-2000)	Low medium cost house was introduced. House price was divided into low-cost housing (below RM 42,000), low-medium cost (RM 42,000-RM 60,000), medium cost (RM 60,001- RM 100,000) and high cost (more than RM 100,000).
8th Malaysia Plan (2001-2005)	The priority was the development of low-and low-medium cost houses. Both public and private sectors were urged to cooperate with each other to meet the increasing demand for housing.
9th Malaysia Plan (2006-2010)	To ensure that all Malaysian, especially those in the low and low-medium income groups, will have access to adequate, quality and affordable house.
10th Malaysia Plan (2011-2015)	To increase homeownership in which was based on the ability to pay and provided affordable and quality house for the poor and low income group.
11th Malaysia Plan (2016-2020)	Continuation of existing affordable housing programs as well as enhancing the involvement of private sector in the provision of affordable houses. And, increase the delivery of affordable housing to specific group with suitable facilities.

Source: Economic Planning Unit (2016)

Overall, the housing-related objectives of the Malaysia Plans are multipronged. The housing programmes by the governments are mainly initiated as part of the efforts by the governments to help the low-income group to afford a house, to reduce poverty and to resettle squatters (Bakhtyar et al., 2013; Besar, Fauzi & Ghazali, 2012; Abdul Aziz, 2012) (Table 2).

Table 2 Public Housing Programmes

Public Housing Program	Description
Perumahan Awam Kos Rendah (PAKR)	The Federal Government provides funding in the form of loan to the state governments to build low-cost houses. Detached or semi-detached houses (mostly made from wood) outside the city or two-storeys terraced houses, and flats in urban areas.
Perumahan Awam Kos Rendah Bersepadu (PAKRB)	Low-cost flats for rental to overcome the problem of squatters in Kuala Lumpur.
Site and Services Scheme *(Early 1970)*	For low-income households who cannot afford homes under PAKR.

	• Site preparation and foundation for a house that is designed or constructed that allows the owner to upgrade the house later. • Develop vacant sites including basic facilities.
Program Perumahan Rakyat (PPR)	To provide comfortable houses with adequate infrastructure and basic amenities in suitable locations. Implemented to address the increasing demand for affordable housing among the low- income households, particularly in urban areas.
Housing Loan Scheme - scheme for low income groups who cannot get financing from other sources.	• Squatters needing finance to build a new house on the land allocated to them. • Housing for settlers provided by the Ministry of Rural and Regional Development and regional development agencies such as the Federal Land Development Authority (FELDA), The Federal Land Consolidation and Rehabilitation Authority (FELCRA), South Johor Development Authority, Central Terengganu Development Authority (KETENGAH), South Kelantan Development Authority (KESEDAR). • Quarters for civil servants. • Employee housing estates and industrial (Akta Standard Minimum Perumahan dan Kemudahan Pekerja 1990) where the owner of the estate provides free housing and social facilities that are appropriate to their employees.
Syarikat Perumahan Negara Berhad (SPNB) - *(2014)*	• Affordable housing for low and middle income groups. • SPNB is the implementing agency for the rehabilitation of abandoned housing projects in order to monitor and rehabilitate abandoned projects and build homes for the disadvantaged.
Perumahan Rakyat 1 Malaysia (PR1MA) - *(2014)*	• Develop and maintain quality affordable housing for middle income group. • House price between RM 100,000 to RM 400,000 in major cities.
Perumahan Penjawat Awam 1 Malaysia (PPA1M) - *(2014)*	• Housing for low and middle income civil servants (household income of RM 8,000 and below). Built on government land and priced between 20% and 30% lower than the market price.

Source: Economic Planning Unit (2013)

Since the 1st Malaysia Plan (1966-1970), public low-cost housing programmes have been implemented under the New Economic Policy (NEP) to reshape the urban demography and reduce inequalities among different ethnic groups in urban area (Ubale, Martin & Seow, 2012). In the 3rd Malaysia Plan (1976-1980), private sectors began to get involved in the provision of low cost housing.

In combating squatters, the government has established the *Program Perumahan Rakyat Bersepadu* (PPRB), or Integrated People's Housing

Programme, in December 1998. The programme was introduced by the National Economic Action Council (NEAC). The objective of this programme was to resolve squatter problems in urban areas especially in the Federal Territory of Kuala Lumpur and other major cities. Meanwhile, for existing squatter settlements, the provision of basic amenities such as electricity and water was continued while waiting for a relocation program to new housing scheme.

In the 9th Malaysia Plan (2006-2010), the state governments continue to emphasize on the objective of Zero Squatter by year 2020. Therefore, the private sector was required to build more low and low-medium cost houses in their housing projects. In the meantime, the public sector concentrated on the provision of low-cost houses as well as houses for public sector employees and the poor people in urban and rural areas (Tan, 2011). The federal government played a prominent role in the low-cost housing primarily through policy statements that set out goals for both public and private sectors as well as incentives to ease the process (Shuid, 2004) (Table 3).

Table 3 Federal Government Housing Policies for the Private Sector

Condition	Explanation
30% Low-Cost Component	All private housing developers of projects above a certain threshold to construct at least 30% low-cost housing units.
• RM25,000 selling price (pre 1998). • RM25,000 to RM42,000 selling price (1998 onwards)	Houses constructed under the low-cost component can be sold at a price not exceeding RM42,000 depending on location.
• RM 750 household income (pre 1998). • RM1,500 household income (1998 onwards)	Buyers of the low-cost units must have a combined household income not exceeding RM750 per month for the units priced at RM25,000. About 60% or urban households in Malaysia in 1980 were in this group.
Minimum Design Standards	Each low-cost house with a minimum built up area of 550 to 600 square feet comprising two bedrooms, a living room, a kitchen and a bathroom. The houses may be of any type including flats, terrace or semi-detached houses.

Source: Shuid, 2004

At the federal level through the National Housing Department, the government promoted the people's housing program (PPR) and low-cost public

housing program (PAKR). Both types of housing programmes have a standardized size of floor area of not less than 700 square feet, consisting of three bedrooms, a living area, a kitchen, a bathroom and a toilet (National Housing Council, 2016) (Table 4).

Table 4 Characteristics of PPR Housing

Target Group	Squatter dwellers with monthly income below RM2,500 (applicant must not own a house yet).
Type of House	5 to 18 storeys flats in major cities and terrace houses in suburban areas.
Size of House	Not less than 700 square feet.
Features	3 bedrooms, 1 living room, 1 kitchen area, 1 bath, 1 toilet.
Rental Rate	RM124 per month

Source: National Housing Council, 2016.

Zero Squatters Policy

One of the first initiatives taken by state governments to resolve the squatter issue was by verifying the old and new squatter settlements. The local authorities were to straightaway demolish any squatter settlements built after the 1st January 1998, and this was determined through cooperation with the local Department of Statistics (Abdul Aziz, 2012). The 'Zero Squatter 2005' policy was introduced in 2001 to ensure that by year 2005, everyone in the whole state would legally own a house and aimed to offer the chance for its residents to benefit from a balanced social development with the motto 'one family one house, a perfect family comes from a perfect home' (Abdul Aziz, 2012). In Selangor, the focus was to eradicate squatters and provide low-cost housing within five years, from February 2000 to December 2004 (Figure 1). In relation to this, the local authorities played an important role in its implementation (Table 5). The relocation of squatter dwellers to low-cost housing includes (a) in-situ relocation, where squatter settlement sites were re-developed for low-cost housing, (b) relocation within election zone, where squatters were relocated to low-cost housing built within similar election zone, (c) relocation to the nearest election zone, where squatters were resettled to low-cost houses built in the nearest election zone (Abdul Aziz, 2012).

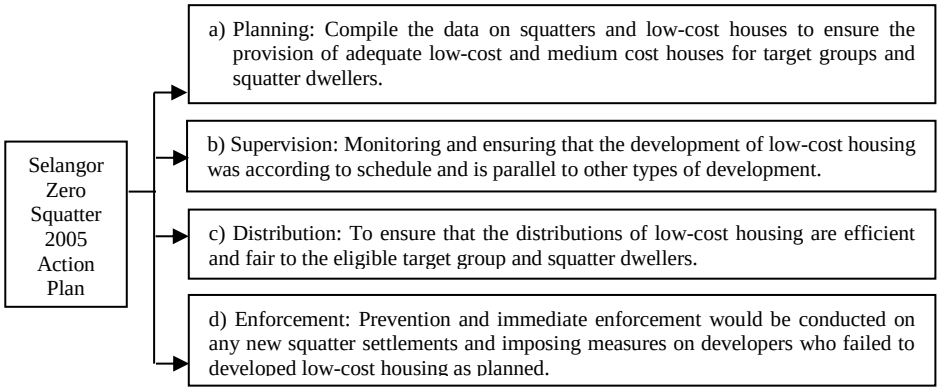

Figure 1 The Zero Squatter Action Plan by Selangor State Government
Source: Abdul Aziz, 2012.

Table 5 The Roles of Local Authority in Eradicating Squatter Settlements

Secretariat Unit	Task Force Unit
• Led by planning officer. • Manage all meetings and anything related to squatters and development of low-cost housing. • Monitor the development low-cost housing. • Manage the census and survey process of squatters.	• Involve the state assembly members to ensure speedy development of low-cost housing. • To assist in resolving squatter issues with regards to low-cost housing and squatters. • To identify and resolve problematic low-cost housing development.

Source: Abdul Aziz, 2012.

DISCUSSION

In June 1998, the federal government had introduced the new policy for low-cost housing. The introduction of moratorium to stop low-cost house buyers from selling the house within 10 years after purchase was one of the guidelines introduced by the government (Ubale, Martin & Seow, 2012). However, the 30% of low-cost housing quota in every housing development projects remained. The policies for low-cost housing implemented since 1971 to 2005 managed to produce a total number of 1,030,210 units of low-cost housing units built by the public and private sectors (National Housing Department, 2007). Even though there were many low-cost houses developed by the government and the establishment of various government programs as well as regulation to enforce private sectors to construct low-cost housing for the low-income group, still the number of squatter families had increased as shown in Table 6.

Table 6 The Number of Squatters in Malaysia, 2015

State	Number of Families	Number of Family Members
Johor	11,151	31,553
Kedah	2,703	13,255
Kelantan	1,685	7,780
Melaka	7	19
Negeri Sembilan	195	382
Pahang	1,134	5,632
Perak	1,709	6,836
Perlis	1,853	8,570
Pulau Pinang	4,208	18,909
Sabah	28,087	133,059
Sarawak	8,431	35,233
Selangor	2,542	3,299
Terengganu	469	1,976
Wilayah Persekutuan Kuala Lumpur	3,217	12,868
Wilayah Persekutuan Labuan	970	5,521
Total	68,861	284,892

Source: Ministry of Urban Wellbeing Housing and Local Government, 2015b.

Despite the 5th Malaysia Plan's 'Zero Squatter 2005' policy, the number of squatters in Malaysia remained large. Statistics show that in 2015, there were a total of 68,861 squatter families in Malaysia, which was an increase of 4,732 squatter families from 64,129 in 2013 (Jabatan Perancangan Bandar dan Desa, 2013). Data in Table 5 show that, in 2015, Sabah had the highest number of squatters with a total of 28,087 families. In Peninsualr Malaysia, Johor was the state with the highest number of squatter families with a total number of 11,151. The Johor's policy for low-cost housing applies to any housing development of more than five (5) acres, which requires 40% of the total housing units to be of low-cost units, except in the District of Johor Bahru where 30% are required for low-cost houses and another 10% are for low-medium cost houses.

In Kuala Lumpur, the number of squatters was also high despite the various policies formulated by the city hall to mitigate the problem of squatters. The city hall's Town Planning Committee had issued guidelines for planning and development to ensure that the Kuala Lumpur Structure Plan housing strategy is achieved (Idrus & Ho, 2008). Figure 2 outlines the policies for the provision of low-cost housing in Kuala Lumpur.

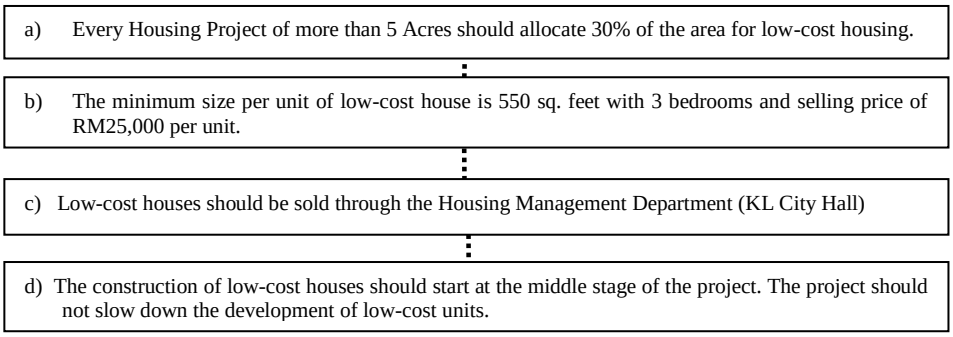

Figure 2 Low-Cost Housing Policies for Kuala Lumpur
Source: Hadi, 2014.

During the 10th Malaysia Plan (2011-2015), the government implemented various housing programmes to provide sufficient and affordable housing for the poor as well as for the low and middle income households. The key question here is whether the government has adequate set of policies to combat the squatter's issues and problems in Malaysia. Based on all the policies and programs made by the government, there is no specific policy to eliminate squatters but strategies through the building of low-cost housing for low-income group. Therefore, the government and related agencies should take a serious action together to resolve this squatter problem from increasing.

CONCLUSION

Many efforts were carried out by the government since the beginning of the five-year Malaysia Plan. The early guidance was to reduce the number of poverty in Malaysia. Poverty had driven the rural communities to migrate and settled in the urban areas. The government had therefore introduced many policies and schemes to eradicate squatters hence started the low-cost housing programmes including the provision of public housing. Even though the Zero Squatter by 2005 mission was not fully achieved, it was extended to the year 2020. However, the delivery of low-cost housing could not meet the target. The federal and state governments have taken more systematic measure by imposing a quota percentage for low-cost housing for any housing scheme development. Nevertheless, Malaysia is still striving to eliminate squatters and provide a decent home for everyone. Malaysia has an abundant of housing policies and programmes, yet there are still squatters in the urban areas. This calls for further investigation especially into the effectiveness and the implementation of the policies.

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SOCIAL IMPACT OF FOREIGN IMMIGRANTS IN AFFORDABLE HOUSING AREA. CASE STUDY: MENTARI COURT, SELANGOR, MALAYSIA

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Abstract

Social impact can be defined as the net effect of an activity on a community and the well-being of individuals and families in the community. Among the activities that give rise to social impacts is the influx of foreign immigrants into a locality. This study examines the impacts of foreign immigrants' presence on the local society at an affordable housing area in Selangor. A questionnaire survey was carried out among respondents that were selected from the local residents to examine impacts on family relationship, the relationship among local residents, the relationship between locals and foreigner, acceptance of foreigners by local residents, sense of belonging, housing price, job opportunity, and safety. Overall, the results show that most of the respondents felt that the presence of foreign immigrants in the study area has negatively affecting them with regard to family and community relationship, sense of belonging, safety and housing price/rental.

Keywords: Community, housing, immigrant, impact, social aspect

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INTRODUCTION

Malaysian urban areas, especially Klang Valley, are facing challenges of limited housing supply that is affordable for the general public. The situation has become more complicated with the concentration of foreign immigrants in the affordable housing area, particularly low cost and medium cost apartments. The presence of foreign immigrants might discourage locals to stay in the affordable housing areas, thus, further decreases the availability of affordable housing for local residents.

According to Azhar (2012), one of the black areas in Petaling Jaya with high immigrant related crime rate was Mentari Court Apartment. Cases of crime and social problems were frequently reported. The crime cases associated with foreign immigrant include rape, sexual harassment, robbery, burglary, quarrel with local people, vandalism and so on (Azhar, 2012). This was made worse due to the aggressive behaviour of the foreign immigrants who like to make noise, fight among themselves, and being drunk and rude towards the local people. As a result, local residents seemed to be uncomfortable to share facilities at the apartments with them. Besides the study area, the presence of foreign immigrants has also created problems in other areas such as in Damansara Damai and in Taman Perumahan Rakyat Lima Kedai (Idris, 2013; Majid, 2014).

Due to the problems associated with foreign immigrants at residential areas, especially in the Klang Valley, this study was conducted with the aim of identifying the social impacts of their presence on the local residents in the Mentari Court Apartment in Petaling Jaya, Selangor.

LITERATURE REVIEW

Social impact can be defined as the net effect of an activity on a community and the well-being of individuals and families (The Centre for Social Impact, 2015). Social impact is related to the changes in value systems, individual behaviour, family structure, relationship, collective lifestyles, safety levels, moral conduct, creative expressions, traditional ceremonies, community organizations, economic benefits, opportunities, employment, education, health, social wellbeing, life chances, exposure to violence, trauma symptoms, community problems, and others including environment (McCombes, Vanclay & Evers, 2015; Butcher et al., 2015; Nzeadibe et al., 2015; Social Investment Scotland, 2015). These aspects of social life are important because they affect the level of happiness of the people (Ling, et al., 2015).

Social impacts are always measured based on the people perception using participatory methods (Butcher et al., 2015; Nzeadibe et al., 2015). Impacts are measured based on social values and perception of the people. Previous studies have reported various impacts of foreign immigrants on the local community, especially in developed countries. For instance, results from Sweden, Denmark, and the USA showed that most immigrants reside in cities, where they are

overrepresented compared to the local population (Hedberg & Tammaru, 2010). Within the cohort of immigrants arriving in Sweden in 1997-2002, 46 percent resided in large city-regions, compared to one-third of the Swedish-born population (Hedberg & Tammaru, 2010), resulting in impacts on the labour market in Sweden.

In the USA, there was widespread belief that immigration is harmful to the economic welfare of the country, especially to native-born Americans (Hirschman, 2014). One the reasons was because immigrants are willing to work for lower wages. For some, immigrants are also thought to be an economic burden because they disproportionately receive public benefits, such as healthcare, schooling and welfare without paying their fair share of taxes. However, these claims were not supported by empirical evidence (Hirschman, 2014).

Based on the report of the National Research Council (NRC), immigration does expand labour supply and may increase competition for jobs and lower wages for native workers who are substitutes for immigrants, but immigration also expands total production (national income) and increases the incomes that accrue to native-born workers who are complements to immigrants (Hirschman, 2014). The arrival of unskilled immigrant labour may 'push up', rather than 'push out', many native-born workers (Hirschman, 2014).

A study by Hipp and Boessen (2012) over a nearly 50-year period in Southern California shows minimal evidence that immigrant influx had negative consequences for a neighbourhood. Contrary to popular belief, there is little evidence that an increase in immigrants decreases home value and unemployment rates. There is some evidence that neighbourhoods with more immigrants experience more vacancies over time, which may reflect preferences in response to such inflow (Hipp & Boessen, 2012).

Besides, Europe has become home to millions of 'foreigners' (Semyonov, Raijman & Gorodzeisky, 2008). The emergence of new ethnic communities in the host countries has not only changed the ethnic composition of European societies but also has led to increased ethnic tension between minority and majority members (Semyonov, Raijman & Gorodzeisky, 2008). Many citizens have begun to view the 'foreigners' as a serious social problem, including a competitive threat. The impacts include job creation/scarcity, health and welfare systems, cultural life, crime (safety), and economy (Semyonov, Raijman & Gorodzeisky, 2008).

In Singapore, government leaders on various occasions have expressed concern about the potential social impact of a large pool of migrant, particularly unskilled workers and overdependence on foreign labour (APMRN, 1997). Among the problems raised was the potential competition for the use of resources such as public space, transportation, and so on. In general, the problems related to foreign worker (immigrants) include overcrowding on roads and other public spaces, littering, vandalism, urinating in public and theft. However, no instances

of violence or open conflict involving locals and foreign workers have surfaced (APMRN, 1997).

RESEARCH METHODOLOGY

Scope of Study

This study focused on the social impacts of foreign immigrants in the Mentari Court Apartment, Petaling Jaya, Selangor. For the purpose of this study, the scope of social impact was limited to the following aspects:

a) Safety;
b) Family relationship;
c) Community relationship among local residents;
d) Relationship between local residents and foreign immigrants in their residential area;
e) Sense of belonging among local residents;
f) Housing price due to the presence of foreign immigrant; and
g) Job opportunity.

Case Study

Mentari Court Apartment is located within the administration boundary of Petaling Jaya City Council. It is one of the main residential development in the Sunway City township. It consists of seven blocks with a total of 1,428 unit of apartments. The main surrounding land uses are industry and commerce. There are also residential areas located adjacent to the Mentari Court (Figure 1 and Photo 1).

The study area is well connected with roads and public transportation networks. The study area is directly connected to the Federal Highway, Damansara Puchong Expressway (LDP) and Shah Alam Expressway (KESAS). In terms of public transport connection, Setia Jaya Commuter Station (Sentul-Port Klang KTM Commuter Route) is located beside the study area. It is an integrated station that also caters the new Bus Rapid Transit (BRT) route.

The majority of the residents in Sunway City are locals. However, after Mentari Court was constructed, there was an increase in the number of foreigners in the area. This was because many of the companies in the area have rented the apartments and used the units as accommodation for their workers. Despite Mentari Court was developed as affordable housing for the locals, it attracted immigrants to stay in the area mainly because their companies pay the rent and the location is close to their workplace. For instance, most of the foreign immigrants, especially ladies, work at Western Digital factory which is located within walking distance from the study area. Based on the observation by apartment's management body, around 50 percent of the units in the study area are occupied by foreign immigrants (workers).

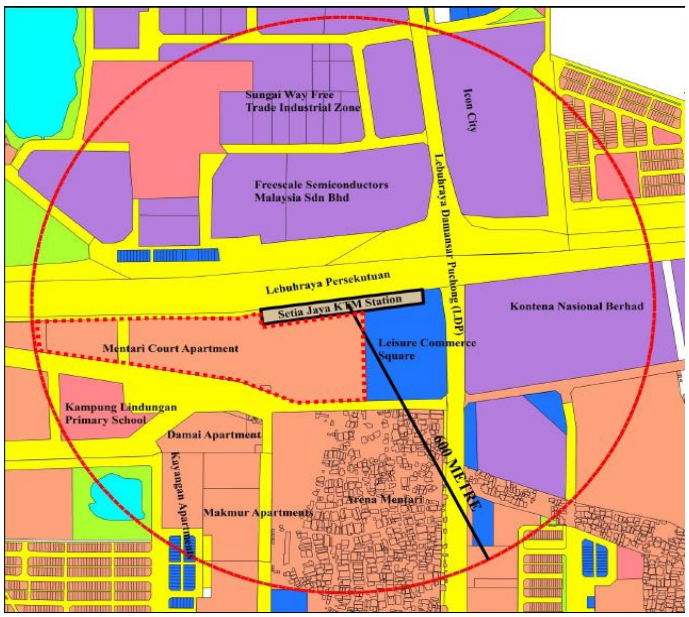

Figure 1 Mentari Court Apartments and surrounding land uses

Photo 1 View of Mentari Court Apartments

Photo 2 Sharing of facilities among local and foreign residents

Questionnaire Survey and Sampling of Respondents

Data was gathered through face to face questionnaire survey among local residents in the study area. A total of 144 respondents were selected from the total population of 6,426 in the study area by using simple random sampling method. The samples were identified with a confidence level of 95%. The samples included male and female, three (3) major ethnic groups in the study area, and different age groups (Table 1). The major questions in the questionnaire covered the following aspects:

a) Overall impact of foreign immigrants on themselves, family and study area;
b) Impact on family relationship;
c) Impact on relationship among local residents;
d) Community relationship between locals and foreigner;
e) Acceptance of foreigners by local residents;
f) Impact on sense of belonging;
g) Impact on housing price;
h) Impact on job opportunity; and
i) Impact on safety of the area.

Table 1 Background of Respondents

Variables	Percentage (%)
Gender	
Male	39
Female	61
Ethnicity	
Malay	28
Chinese	26
Indian	24
Others	22
Age	
< 21 years old	13
21-40 years old	31
41-65 years old	42
> 65 years old	14

Method of Analysis

Data was analysed using the built-in frequency, cross-tabulation and Chi-square tests of the Statistical Package for Social Science (SPSS) software. The purpose of the analysis is to find out the impacts of the existence of foreign immigrants on the different groups of local residents.

RESULTS AND FINDINGS

Overall Impact on Themselves and Family

Based on the questionnaire survey, around 72% of respondents felt that the presence of foreign immigrants has a negative impact on them, their family and the housing area in general (Table 2). The foreigners were associated with unhealthy and unethical acts such as fighting, being drunk, involved in black money scam and money laundering, and drugs abuse and pushing.

Table 2 Overall Impact on Local Residents

Impact	Number of respondents	Percentage (%)
Positive	14	9.72
Negative	103	71.52
No answer	27	18.75
Total	144	100.00

Table 3 Overall Impact on Local Residents by Gender

Gender	Impact (% of respondents)			Total
	Positive	Negative	None	
Male	8.92	57.15	33.92	100.00
Female	10.23	80.67	9.10	100.00

Based on gender, it was found that more female respondents (81%), as compared to male respondents (57%), felt that the presence of foreign immigrants has negative impacts on them (Table 3). Women are more easily affected by the feeling of unsecured and threatened by the presence of foreign immigrants as compared to men. The association test between gender and impact revealed a chi-square value of 13.970 which was significant at the 0.01 level ($p = 0.001$), demonstrating a significant association between gender and perception on the impact of foreign immigrants.

Meanwhile, in terms of age groups, higher percentage of young respondents (40 years old and below) was negatively affected by the presence of foreign immigrants in their residential area as compared to other age groups of respondents (Table 4). However, the association test (chi-square) showed that there was no significant association between age groups and their perception on the impact (chi-square value = 8.144; $p = 0.228$).

Table 4 Overall Impact on Local Residents by Age Groups

Age group	Impact (% of respondents)			Total
	Positive	Negative	None	
< 21 years old	5.52	83.36	11.12	100.00
21-40 years old	6.66	80.00	13.34	100.00
41-65 years old	11.47	68.84	19.69	100.00
> 65 years old	14.97	50.04	34.99	100.00

Photo 2 shows that the local residents had to share facilities such as lifts with foreign immigrants that could bring fear and insecure feelings to the local residents. The foreign immigrants were large in number especially during peak hours (early morning and at night) in most of the places in the study area, such as the lobby, lifts, parking area, and the entrance of the apartment.

Impact on Family Relationship

In general, the results of the analyses showed that all the aspects examined under this study was negatively affected by the presence of foreign immigrants. Firstly, the analysis on impact on family relationship showed that almost 75% of respondents felt that the presence of foreign immigrants in their residential area has negatively impacted their family relationship (Table 5). Parents, in general, were not favoured to allow their daughters to have close relationship with foreigners especially the Africans. Despite this, there were cases where their family members (especially young ladies) were having close relationship with the foreigners. This resulted in insecure feeling among parents (especially among the single parent families), and it has negatively affected the family relationship between parents and children.

However, some 8% of the respondents perceived that the presence of foreign immigrants has given a positive impact on the family relationship. This group of respondents took this challenge by taking their responsibility towards family seriously by spending more time with their family members, taking care of them, and also improving the communication and relationship with them.

Table 5 Impact on Family Relationship

Impact	Number of respondents	Percentage (%)
Positive	12	8.33
Negative	107	74.30
No answer	25	17.36
Total	144	100.00

Table 6 Impact on Relationship among Local Residents

Impact	Number of respondents	Percentage (%)
Positive	29	20.14
Negative	111	77.08
No answer	4	2.78
Total	144	100.00

Impact on Relationship among Local Residents

77% of the respondents felt that foreign immigrants has negatively affected community relationship among local residents (Table 6). Due to the presence of foreign immigrants, the study area is now more heterogeneous in terms of community structure. It made the residents chose to communicate less and socialise less with neighbours due to the negative perception of locals on immigrants.

However, 20% of respondents said that the presence of foreign immigrants gave a positive impact to the relationship among local residents. This was because local residents have become more united by forming Rukun Tetangga or neighbourhood association, and neighbourhood watch in order to fight the problems posed by the foreign immigrants.

Community Relationship between Locals and Foreigners

In line with the negative perception of locals on foreign immigrants, the relationship between locals and foreign immigrants in the study area was poor (Table 7). Almost 85% of respondents felt that the relationship between locals and foreigners was poor. Additionally, 78% of the respondents could not accept the presence of foreign immigrants in the residential area (Table 8).

The poor relationship and the failure to accept foreign immigrants' presence are associated to the different culture and aggressive attitude of the immigrants. For instance, the African immigrants like to make noise by singing loudly and dancing in their free time especially at night. They are also involved in fights. Locals also feel uncomfortable sharing facilities, especially swimming pool, with them. Furthermore, locals also have negative perception on the African immigrants by associating them to crimes, such as being drug dealers, gangsters and so on. However, according to the respondents, some of the foreign immigrants, such as those from Saudi Arabia and Pakistan, who practised the Islamic ways and culture, were acceptable by the locals.

T**able 7** Impact on Relationship between Local Residents and Foreign Immigrants

Impact	Number of respondents	Percentage (%)
Good	9	6.25
No good	122	84.72
No answer	13	9.03
Total	144	100.00

Table 8 Acceptance of Foreign Immigrants by Locals

Impact	Number of respondents	Percentage (%)
Acceptable	31	21.52
Unacceptable	113	78.47
Total	144	100.00

Impact on Sense of Belonging

The majority of the respondents (84%) said that the community was losing their sense of belonging in the area (Table 9). The locals do not feel they belong to the community of the area because half of the apartment units are occupied by foreigners making the area losing its Malaysian identity. Even those who have lived long in the study area (i.e. more than 5 years), they still did not feel that they belong to the area (Table 9). In fact, sense of belonging was the only social aspect examined under this study that none of the respondents felt that the presence of foreign immigrants has any positive impact on.

Impact on House Price and Rental

The majority of respondents (76%) felt that the presence of foreigners in the study area has increased the housing price and rental (Table 10). However, 8% of respondents felt otherwise. Based on observation, normally companies would pay higher rental for the purpose of using the apartment units as hostels for foreign workers. As a result, the presence of foreigners has increase the demand for housing units in the area and has, therefore, pushed up the rental and value of the apartment units.

Table 9 Impact on Sense of Belonging

Duration of stay in study area	Impact (% of respondents)			Total
	Positive	Negative	None	
< ½ a year	-	80.02	19.98	100.00
½ - 1 year	-	91.30	8.70	100.00
1 – 2 years	-	85.30	14.70	100.00
3 – 5 years	-	86.92	13.08	100.00
> 5 years	-	73.07	26.93	100.00
Overall	-	84.02	15.98	100.00

Table 10 Impact on House Price and Rental

Impact	Nos.	%
Price increase	109	75.69
Price decrease	12	8.33
No answer	23	15.97
Total	144	100.00

Table 11 Impact on Job Opportunity

Impact	Number of respondents	Percentage (%)
Positive	7	4.86
Negative	53	36.80
No answer (not sure)	84	58.33
Total	144	100.00

Impact on Job Opportunity

In terms of job opportunity, the majority of respondents (58%) were not sure about the impact (Table 11). Only 37% of respondents felt that there was a negative impact on job opportunity as a result of foreign immigrants influx into the area. The majority of foreign immigrants in the study area work as labourers and factory workers, which are the low-paid segment not favourable by the locals. However, there are also small number of foreigners who operate grocery shops in the area.

Impact on Safety of the Area

None of the respondents felt that the presence of foreign immigrants has improved the safety level in the area (Table 12). However, majority of them felt foreign immigrants presence in the study area has significantly impacted safety level negatively in terms of burglary and the overall living environment due to noise and pollution made by the foreign immigrants, as well as due to lower sense of security among local residents.

Table 12 Safety Impact on Life, Property and Living Environment

Impact on Safety aspect		Safety level (% of respondents)			Total
		Safe	Average	Unsafe	
Life	On women	-	77.08	22.92	100.00
	On children	-	65.28	34.72	100.00
Property	Burglary	-	11.11	88.89	100.00
	Vandalism	-	76.39	23.61	100.00
Living environment	Quality/pollution	-	31.94	68.06	100.00
	Noise	-	5.56	94.44	100.00
	Sense of security	-	35.42	64.58	100.00

CONCLUSION

To conclude, the results of this study show that most of the respondents felt that the presence of foreign immigrants in the study area has negatively affecting them in terms of family and community relationship, sense of belonging, safety and house price/rental. The respondents also associated foreign immigrants with bad and aggressive behaviours as well as with crime. As a result, respondents could not accept a close relationship between their family members, especially their daughters, and foreign immigrants. Respondents also felt insecure and loss of sense of belonging due to the presence of foreign immigrants in large number in the study area. The negative perception of locals on the presence of immigrants has also been commonly reported in other countries, such as in the USA (Hirschman, 2014), Singapore (APMRN, 1997) and countries in Europe (Semyonov, Raijman & Gorodzeisky, 2008).

To mitigate the negative social impacts of foreign immigrants in the study area, it is proposed that hostels for foreign workers (labourers and factory workers) may not be suitable to be mixed with local residents in the same apartment block. Specific hostels for foreign workers will be more welcomed by local residents.

This study focuses only the social impacts of foreign immigrants in an affordable housing area (low and medium cost apartments) where the majority of the foreign immigrants work in lower segment of employment such as labourers and factory workers. Thus, to complement this study, it is suggested that future studies should be carried out to examine impacts of the high-income or highly educated foreign immigrants on the society in high-cost housing areas.

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SOCIAL IMPACT OF AGRO-TOURISM ON LOCAL URBAN RESIDENTS. CASE STUDY: CAMERON HIGHLANDS, MALAYSIA

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Abstract

Agro-tourism is a new tourism product introduced in Malaysia based on agricultural attraction. Cameron Highlands is the largest agricultural based highland resort area in Malaysia. The cool climate, farms, and natural environment make Cameron Highlands a famous tourist destination. Agro-tourism has become one of the important economic sectors in Cameron Highlands. The study is aimed to examine the social impact of the agro-tourism industry on the local urban residents in Cameron Highlands. A questionnaire survey was carried out among the local urban residents to examine the social impact based on the respondents' experience and perceptions. A sample of 100 respondents were selected from three main urban settlements in Cameron Highlands. The social impacts were analysed based on the changes over the period of five (5) years. The study covered four (4) main aspects, *i.e.* safety, job and business opportunity, migration, and social-cultural (language, religious and educational level). The findings indicate that the local urban residents were positively and also negatively affected by the agro-tourism activities and development in Cameron Highlands. Proper planning and policies are crucial to manage the agro-tourism and related development in Cameron Highlands.

Keywords: Agro-tourism, impact, migration, opportunity, social

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INTRODUCTION

The development of the tourism sector has become one of the important sources of economic growth in Malaysia and abroad (Athanasopoulou, 2013; Chou, 2013; Risso & Brida, 2009). The growth of tourism sector also has a significant impact on the physical and social aspects of an area. Previously, tourism was mainly made up of travel, tours, fun and exploring the beauty of nature. But now, the agricultural activities and the farmland have also been marketed as tourism products. The agricultural activities are important for a country including Malaysia, in addressing food security, sustainability, and safety to ensure availability, affordability and accessibility of food (EPU, 2013). But agro-tourism can increase the economic return of a farmland and the agricultural industry. For instance, agro-tourism has been accepted as a new economic activity by the rural population in Poland (Wojciechowska, 2014).

One of the famous agro-tourism destinations in Malaysia is Cameron Highlands. However, the development of the tourism sector in the area has impacted the local residents. Cameron Highlands has been associated with several physical and social issues, such as environmental degradation, and the employment of foreign workers for agriculture and service industries (Sayed Idris, 2014). The influx of foreign workers potentially affecting the social values and cultural aspects of local residents.

In term of physical aspects, the rapid urban and agricultural development in Cameron Highlands has tarnished its natural environment, old-warm charm and historical values (Mohd Ariffin, et al., 2014). The tourism development has also contributed to traffic congestion at town areas due to narrow roads and illegal roadside parking (Manzor, 2009) especially during peak seasons. Besides, the use of fertilisers, pesticides and herbicides in farmlands is also polluting the environment.

Studies from abroad highlighted various positive and negative impacts of tourism development on local residents. For instance, impacts on job opportunities (employment), inflation, the rebirth of local arts and cultural activities, cultural change, migration, over-dependent on the tourism industry, and others (Lickorish, 1994; Mason, 1995; Mason, 2008; Pearce, 1987; Por, 2001; Burny, 2008). In Malaysia, a few studies have been carried out on the potential impact of agro-tourism on local residents directly or indirectly, such as socio-economic impact on fishing (coastal) community (Hamzah, et al., 2011; Mohamed Shaffril, et al., 2015), and perception on sustainable development among stakeholders in Cameron Highlands (Mohd Ariffin, et al., 2014). Another related study examined the factors affecting farmers' agro-tourism involvement in Cameron Highlands (Kunasekaran et al., 2012).

This study aims at identifying the social impacts of agro-tourism on local urban residents in Cameron Highlands based on the experience and perception of respondents.

LITERATURE REVIEW

Agro-tourism is the business activities related to education, entertainment and production operations that drive traffic to agricultural, farm or garden (MARDI, 2012). Agro-tourism is similar to eco-tourism, but it is more focusing on the use of agricultural resources as tourist attractions. In this context, the tourists have the opportunity to learn how to farm as well as on the lives of local farmers and cultural exchanges that occurs (Por, 2001).

Tourism activities and developments are related to various potential impacts. In term of social-economic, Lickorish (1994), Bott-Alama (2003) and Mason (2008) relate tourism to the positive impacts, *i.e.* creation of employment, an increase of revenues/income, a creation of job opportunities, development of craft industries, and regional development. For instance, Bott-Alama (2003) found that in Poland, non-agricultural income (*i.e.* from agro-tourism) was growing faster than agricultural incomes due to the development of rural tourism. On the opposite end, tourism has also raised negative impacts on the society such as inflation and over-dependence on tourism (Pearce, 1987; Mason, 1995). The inflation relates to the increase in the price of land, houses and food that occurs as a result of tourism development. Meanwhile, over-dependence on tourism occurs when the local people are mostly engaged in tourism and related industries.

Other social impacts of tourism on local community include the rebirth of local arts and craft and traditional cultural activities, the revival of social and cultural life, the renewal of local architectural traditions, modification to the way of life and to adapt other culture, limiting migration and commutation, and maintenance of younger population in an area due to the availability of more jobs in the agricultural/rural area (Mason, 1995; Burny, 2008).

RESEARCH METHODOLOGY

Scope of Study

This study focussed on the social impact of agro-tourism activities and development on selected social aspects of the community, which are safety, vandalism, employment and business opportunity, competition, migration, culture, language, and social/religious values. The impacts were based on the perception and experience of local urban residents.

Study Area

Cameron Highlands was chosen as the study area. Cameron Highlands is located at the west of Pahang state (Figure 1). Its boundary touches part of Kelantan at the north, and it shares part of its border with Perak. Cameron Highlands is approximately 90km from Ipoh and about 200km from Kuala Lumpur. There are

three major road networks that connect Cameron Highlands with the surrounding districts.

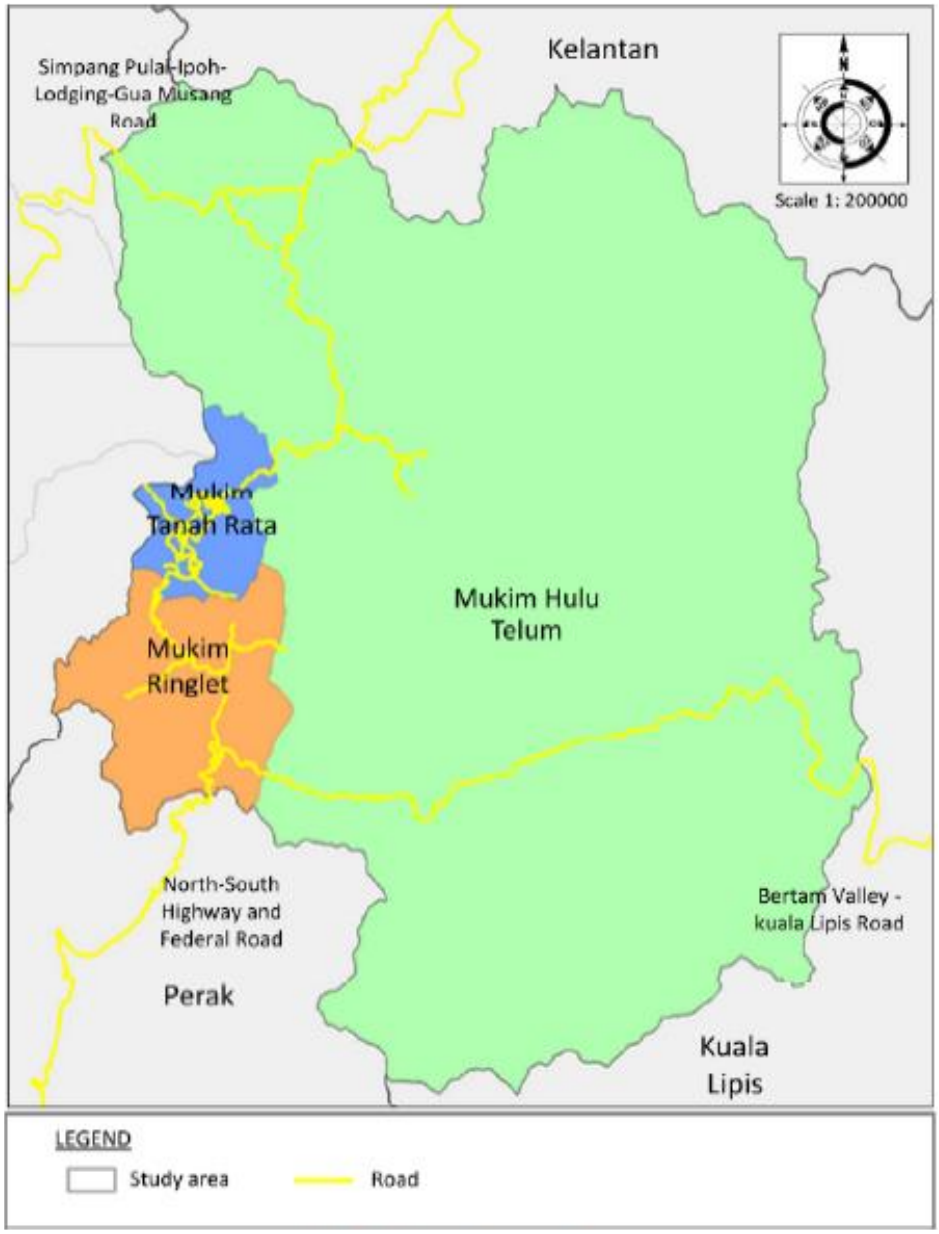

Figure 1 Cameron Highlands Sub-districts
Source: Cameron Highland District Council, 2014

Photo 1 Tanah Rata – one of the urban settlements in Cameron Highlands

Cameron Highlands is made up of three sub-districts (*mukim*), namely Ulu Telum, Tanah Rata and Ringlet. However, this study only focussed on Tanah Rata, which is the most urbanised area in Cameron Highlands. Sample of respondents were selected from the three main urban areas in the sub-district, i.e. Tanah Rata, Brinchang and Kea Farm (Table 1).

The existing land use in Cameron Highlands includes forest, agriculture, commerce, housing, recreational area and public facilities. The built-up in Cameron Highlands covers an area of 1,047.28 hectares or 1.47 percent of the total district. The built-up areas are located along the main road such as in Ringlet, Bertam Valley Habu, Tanah Rata, Brinchang, Kea Farm, Tringkap, Kuala Terla and Kampung Raja.

On the other hand, the 70,170 hectares of non-built-up areas, or 98.5 percent of the total district, is dominated by forested areas (90.18%), and followed by agriculture (8.32%). Some of the famous spots of agro-tourism in Cameron Highlands are Cactus Valley at Brinchang, Boh Tea farm, strawberry farms, vegetable farms, nurseries, honey outlets, and others.

Questionnaire Survey and Sampling of Respondents

The questionnaire survey was divided into two sections as follows:

a) Background of respondents, *i.e.* gender, age, ethnic, religious, income, education, employment, and duration of stay.
b) Potential social impacts on selected aspects *i.e.* safety, vandalism, employment and business opportunity, competition, migration, culture,

language, and social/religious values. Respondents were required to give their opinion on the impact for the current state and the past five (5) years during the questionnaire interview survey.

A sample of 100 respondents were selected in the study area. Table 1 showed the distribution of respondents and population size at the three selected urban settlements, i.e. Tanah Rata, Brinchang and Kea Farm. The respondents were chosen using stratified sampling technique that the probability of a sample of the population to be selected is same for the three settlements. The sample covers residents both male and female, and various socio-economic backgrounds above the age of 17 years old. In general, the majority of the respondents (85%) stayed at Cameron Highlands more than 10 years. Most of them (80%) are engaged in tourism and agricultural sectors. The background of respondents is as shown in Table 2.

Table 1 Population Size and Samples for Questionnaire Survey in Study Area

Sub-district	Population (nos.)*	Population percentage (%)	Sample (nos.)	Percentage (%)
Tanah Rata	5,708	49.5	49	49.0
Brinchang	3,915	33.9	34	34.0
Kea Farm	1,911	16.3	17	17.3
Total	11,534	100.0	100	100.0

*Note: size of population in year 2010 (JPBD, 2014)

Method of Analysis

The perception of respondents on the impacts of agro-tourism was analysed by comparing their perception on the current state with the previous five years. The five-year period was used to indicate the impact of agro-tourism over a period of time. The data were analysed using Frequency and Cross-tabulation tests as available in Statistical Package for Social Science (SPSS) software.

Table 2 Background of Respondents

Variables	Percentage (%)
Gender	
Male	62.0
Female	38.0
Age	
18-29 years old	25.0
30-44 years old	23.0
45-54 years old	38.0
55-64 years old	12.0
65 years old and above	2.0
Ethnic	

Malay	59.0
Chinese	15.0
Indian	21.0
Others	5.0
Religious	
Muslim	59.0
Non-Muslim	41.0
Monthly Income	
RM 1500 & below	39.0
RM 1501–3000	42.0
RM 3001–4500	15.0
RM 4501 –6000	2.0
RM 6001 –7500	1.0
RM 7501 & above	1.0
Duration of Stay	
< 1 year	0.0
1-3 years	7.0
3-10 years	8.0
11-30 years	35.0
31-60 years	47.0
> 60 years	3.0
Employment	
Tourism sector	53.0
Agricultural sector	27.0
Others	20.0
Education	
No formal schooling	3.0
Primary school	2.0
Lower secondary school	27.0
Higher secondary school	38.0
Pre-university & higher education	30.0

FINDINGS

Positive Impact: Increase in Employment Opportunity and Income for Locals

Based on the perception of respondents, the majority (74%) of the respondents disagreed or strongly disagreed that for the past 5 years, agro-tourism activities had increased employment opportunities and income for the locals (Table 3). However, currently (year 2014), the majority (84%) of respondents agreed or strongly agreed that agro-tourism activities has increased the employment opportunities and income for them. The findings showed that agro-tourism activities were positively affecting the local residents by increasing the employment opportunities and income.

According to the respondents, the agro-tourism activities have attracted the local and foreign tourists in coming to Cameron Highlands especially during school holidays. Through the arrival of the tourists, many job opportunities were made available to local residents such as working in the hotel, working as traveller's guide, selling souvenirs and agricultural products (*e.g.* corn, strawberries, sweet potatoes, tea, flowers and others). According to respondents, these job opportunities help in reducing the unemployment rate in the study area and indirectly increase the living standard of the communities.

Table 3 Impact of Agro-Tourism on Increased Employment Opportunities and Income

Perception	% of respondents	
	Perception for the past 5 years	Perception for the current state (2014)
Strongly disagree	29	4
Disagree	45	7
Neutral	10	5
Agree	9	57
Strongly agree	7	27
Total	100	100

Positive Impact: Increase in Local Product Demand

Currently, the majority (93%) of respondents agreed or strongly agreed that agro-tourism activities has increased the demand for local products. The marketable local products included souvenirs, plants, tea products, fruits (*e.g.* strawberries), flowers, and vegetables (Table 4). Due to the tourism activities, local products have been easily marketed to local and foreign tourists. However, 17% of respondents felt that the positive impact was already there five years ago. It showed a clear increment of the market (demand) for local tourism and products due to the agro-tourism activities in the study area over these five years period. The increasing number of workers due to the agricultural development in the

study area has also expanded the market for local products and businesses, especially the retail shops.

Table 4 Impact of Agro-Tourism on the Increase in Local Products Demand

Perception	% of respondents	
	Perception for the past 5 years	Perception for the current state (2014)
Strongly disagree	47	0
Disagree	25	0
Neutral	11	7
Agree	9	25
Strongly agree	8	68
Total	100	100

Positive Impact: Increase of Business Opportunities in Tourism and Related Industries

Currently, the majority of respondents (93%) agreed or strongly agreed that agro-tourism has increased the business opportunities in tourism and related industries. Only 9% of respondents agreed or strongly agreed that this impact was already seen in the last 5 years. According to the respondents, tourism industry has increased business opportunities for local residents. Locals are providing various types of tourism services such as hotels, rest houses, motels, home stays restaurants, petrol station, shops, money exchangers and travel agencies. In terms of employment, the majority of respondents (53%) are working in the tourism sector as compared to 27% in the agricultural sector (Table 2). To support agro-tourism, government, especially, Cameron Highlands District Council is providing infrastructure to tourists such as Tanah Rata Bus Stations, and sites for night market and food stalls.

Positive Impact: Increase of In-migration

The agro-tourism activities in the study area has also successfully attracted in-migration due to the availability of job opportunity as well as business opportunity in the study area. 81% of respondents agreed/strongly agreed that the agro-tourism activities has increased in-migration (Table 5). However, only 18% of respondents who agreed/strongly agreed that the agro-tourism activities has increased in-migration in the last 5 years. This shows that more people migrated to the study area recently.

Table 5 Impact of Agro-Tourism on the Increase of In-migration

Perception	% of respondents	
	Perception for the past 5 years	Perception for the current state (2014)
Strongly disagree	26	5
Disagree	55	2
Neutral	1	12
Agree	10	57
Strongly agree	8	24
Total	100	100

Data on the respondents' place of origin (Table 6) showed that 38% of respondents migrated either from other districts in Pahang or other states. Based on the data of Department of Statistics (DOS, 2014), from the total population of 36,978 in Cameron Highlands (in the year 2010) 5,380 were immigrants. The in-migration has led to increased population of the study area. The total population of Cameron Highland district in 2000 was only 30,495 (Brinkhoff, 2013).

Table 6 The origin of respondents

Area of origin	% of respondents
Sub-district of Tanah Rata (study area)	61
Other sub-districts in Cameron Highlands	1
Other districts in Pahang	20
Other states	18
Total	100

Positive Impact: Able to Interact, Communicate and Learn Foreign Language with Tourists

82% of respondents agreed or strongly agreed that the development of agro-tourism in the study area has created more opportunities for local residents to interact and communicate with tourists, and learning a foreign language from tourists. There were only 27% of respondents agreed/strongly agreed that this impact was already evident for the past 5 years. According to respondents, the common language used for them to communicate with foreign tourists is English. Thus, agro-tourism development has increased their opportunity to practice English and further improved their communication skill.

Table 7 Impact of Agro-Tourism on the Increase of Crime

Perception	% of respondents	
	Perception for the past 5 years	Perception for the current state (2014)
Strongly disagree	24	5
Disagree	57	5
Neutral	12	9
Agree	2	64
Strongly agree	5	17
Total	100	100

Negative Impact: Increased Perception of Crime and Safety

Majority of the respondents (81%) agreed or strongly agreed that agro-tourism activities has increased the crime rate in the study area (Table 7). When compared to the past 5 years, only 7% of respondents felt that has already on the increase due to agro-tourism activities in the study area. Motorcycle theft was one of the main contributors to increased crime rate in the study area (Mohd Atar, 2013). Respondents perceived the increased in crime rate is partly due to the influx of foreign workers who worked at the farm and the tourism related businesses. In fact, the Malaysian Immigration Department has conducted several operations to arrest illegal foreign workers in Cameron Highlands (Sayed Idris, 2014).

In terms of fear of crime, 79% of the respondents agreed or strongly agreed that they now feel unsafe as a result of growth in agro-tourism in the area (Table 8).

Table 8 Impact of Agro-Tourism on the Fear of Crime due to Increased Crime Rate

Perception	% of respondents	
	Perception for the past 5 years	Perception for the current state (2014)
Strongly disagree	24	6
Disagree	55	3
Neutral	9	12
Agree	8	51
Strongly agree	4	28
Total	100	100

Negative Impact: Increased Vandalism

The majority of respondents (86%) agreed or strongly agreed that agro-tourism activities has caused an increase in vandalism in the study area. However, only 22% of respondents agreed or strongly agreed that agro-tourism has caused increase in vandalism in the past 5 years. It showed that the issue of vandalism activities has increased in the study area due to the agro-tourism activities.

Negative Impact: Competition from Foreign Workers

Agro-tourism activities had increased the employment opportunities to local residents (Table 3), but also increased their job competition with foreign workers. 89% of respondents agreed or strongly agreed that, as a result of agro-tourism development, currently locals have to compete with foreign workers for jobs in the study area. On the other hand, only 19% of respondents agreed or strongly agreed that job competition between locals and foreign workers has been on the increased in the past 5 years as a result of agro-tourism growth. Foreign workers in Cameron Highlands were often employed at lower wages. The competition for jobs between local and foreign workers might lead to reduced wages for locals as well. Additionally, Utusan Online (2014) reported that some foreign workers were also running their own businesses in Cameron Highlands illegally.

Negative Impact: Deterioration of Local Language, Culture and Social Values

One of the potential negative impacts of agro-tourism is the deterioration of local language, culture, and social values. The majority (74%) of respondents agreed or strongly agreed that currently the deterioration in local language and religious values was the result of agro-tourism development in the study area (Table 9). Meanwhile, 79% of respondents also agreed or strongly agreed that the agro-tourism activities contributed to conflicts in the local culture (Table 10). Such conflicts include consuming alcoholic drink, wearing revealing attire and promiscuous relationship.

Table 9 Impact of Agro-Tourism on Deterioration of Local Language and Religious Values

Perception	% of respondents	
	Perception for the past 5 years	Perception for the current state (2014)
Strongly disagree	**24**	6
Disagree	**45**	20
Neutral	28	0
Agree	3	**48**
Strongly agree	0	**26**
Total	100	100

Table 10 Impact of Agro-Tourism on Conflicts to Local Culture

Perception	% of respondents	
	Perception for the past 5 years	Perception for the current state (2014)
Strongly disagree	**24**	1
Disagree	**47**	6
Neutral	8	14
Agree	16	**51**
Strongly agree	5	**28**
Total	100	100

Negative Impact: Safety Risk due to Environmental Disaster

Majority (88%) of respondents agreed or strongly agreed that the agro-tourism has a negative impact on the environment that threatens the safety of people (Table 11). To compare, only 16% of respondents agreed or strongly agreed that the negative impact was there in the past 5 years. Due to indiscriminate forest clearing in Cameron Highland, the area has suffered environmental disasters such as landslides, flash floods and mud floods which threatened the lives and properties of the residents. Mud floods in Cameron Highlands have also claimed lives before (Berita Harian, 2013).

Table 11 Impact of Agro-Tourism on Safety of People due to Environmental Disaster

Perception	% of respondents	
	Perception for the past 5 years	Perception for the current state (2014)
Strongly disagree	29	4
Disagree	45	5
Neutral	10	3
Agree	9	25
Strongly agree	7	63
Total	100	100

Photo 2 Flood in 2013 in Cameron Highlands
Source: Berita Harian (2013)

CONCLUSION

To conclude, agro-tourism development has impacted local urban residents in Cameron Highlands. For one, it attracted tourists into the area, which resulted in brisk businesses and more employment opportunities. It also increased migration into the study area, resulting in increased population number, but at the same time retaining existing residents from migrating out of the area. However, it also adversely impacted the population in the forms of increased crime rate, vandalism, environmental disasters and deterioration of local values and culture. Thus, promotion, implementation and expansion of agro-tourism in the study area must be accompanied by a well thought-out master plan and policies, not only to reap the benefits of the industry but also to minimise its adverse impacts on the population and the environment.

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RECREATIONAL FACILITIES FOR YOUTH IN MALAYSIAN URBAN AREAS. CASE STUDIES: LEMBAH PANTAI, KUALA LUMPUR AND KOTA KINABALU, SABAH

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Abstract

Recreational facilities refer to places or buildings that provide space for any kind of leisure activities. Recreational activities are often considered to be fun and undertaken mostly by youth for enjoyment, amusement or pleasure. The level of satisfaction is, however, depends on individual's opinion. The purpose of this study is to evaluate the perception level of youth living in urban neighbourhoods towards the recreational facilities provided in their areas. Data from case studies were collected through questionnaire survey involving 540 respondents aged between 15-24 years old. Results of analyses show that respondents were more aware of the availability of recreational facilities related to popular sports. Additionally, mean analysis show that respondents perceived the provision of recreational facilities in their areas as acceptable.

Keywords*:* Recreational facilities, perception, urban area, youth

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INTRODUCTION

The importance of the physical environment to active outdoor recreation is very complex. The socio-ecological theoretical framework indicates that a wide range of features related to the physical environment appears to influence people's active outdoor recreation, which (Sallis, Bauman & Pratt, 1998). Some studies conclude that changes in the physical environment effectively can change people's behaviour (Marcus & Forsyth, 1999). A change in the physical environment, however, does not necessarily lead to increase use or activity, and often some kind of intervention or activation of the area and the facilities maybe necessary (Pawlowski, Andersen & Troelsen, 2016).

The aim of this paper is to determine the perception of youth living in urban areas towards the recreational facilities provided near their neighbourhoods. Youth, which was the target group for this study, refers to the group of person between the age of 15 to 24 years old. At this age, most of them spend much time engaging in recreational activities, including outdoor activities.

Recreation is an activity of leisure. Leisure being discretionary time (Yukic, 1970). The need to do something for recreation is an essential element of human biology and psychology (*Daniels, 1995).* Meanwhile, Ricketts, Johnson-Webb and Randolph (1998) define urban as comprising all territory, population and housing units in urbanized areas and in places of 2,500 or more persons outside urbanized areas.

This paper mainly focuses on the physical aspects of recreational facilities in urban areas. It refers to the level of the existing provision of recreational facilities which includes adequacy ratio, usage satisfaction, accessibility and maintenance of existing recreational facilities. These factors affect youth decision to visit recreational facilities.

RESEARCH BACKGROUND

Two case studies were selected for the purpose of this research. Both involved People's Housing Programme, or popularly known in Malaysia as *Program Perumahan Rakyat* (PPR), that are located in urban areas. The first one was the PPR Kerinchi, in Lembah Pantai, Kuala Lumpur (Figure 1). PPR is a government housing programme to accommodate the housing needs of low-income earners. The National Housing Department of the Ministry of Urban Wellbeing, Housing and Local Government is the implementing agency for PPR projects across the country. PPR Kerinchi is one of the 25 PPRs located in Lembah Pantai. It consists of six 20-storey blocks with a total of 1,896 unit of three bedroom flats.

Based on the number of housing units, the population was estimated in excess of 10,000 people. The population was made up of 49% Malays, 19% Chinese and 32% Indians. Most of the residents were blue-collar workers living in flats that were sold to them under the PPR when they were resettled from their squatter homes. In terms of respondents, 400 youths who live in PPR Kerinchi were selected as respondents to the questionnaire survey (Table 1).

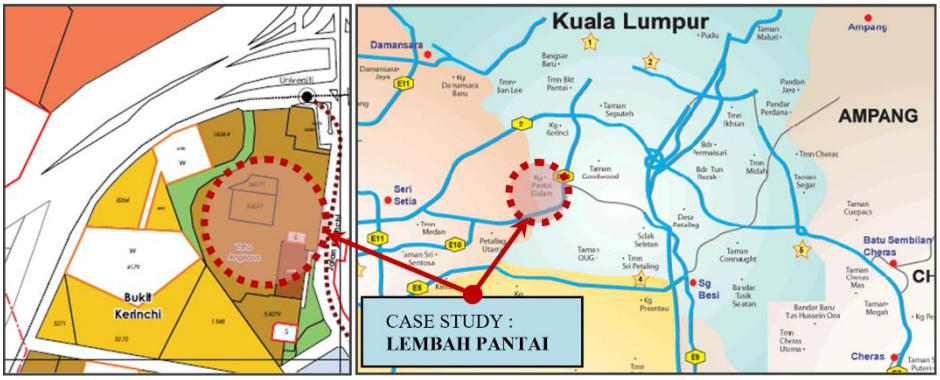

Figure 1 Case Study Area – Lembah Pantai

The second case study was Kota Kinabalu, Sabah (Figure 2). There are only 3 PPRs in Kota Kinabalu, thus the total respondents sampled for the survey was only 140 youths who were living in the PPRs in the area. Sample was selected using snowball sampling technique. Respondents were contacted through youth club leaders in Kota Kinabalu.

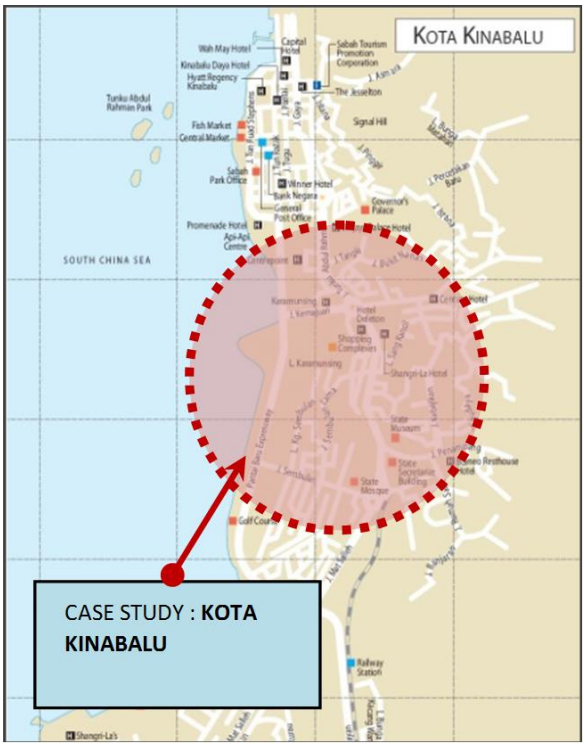

Figure 2 Case Study Area – Kota Kinabalu

For both case studies, the respondents were selected randomly according to several criteria to represent gender, age and ethnicity. They were then surveyed using a set of questionnaire that consisted two sections. Section A recorded the respondents' demographic background while Section B surveyed respondents' perception level on the outdoor recreational facilities provided in their neighbourhood.

Table 1 Number of Respondents by Case Study Area

Area	Nos.	%
Lembah Pantai, Kuala Lumpur	400	74.0
Kota Kinabalu	140	26.0
Total	540	100.0

Respondents were asked of their perception on eight types of recreational facilities, which were futsal court, badminton court, basketball court, tennis court, football field, gymnasium and jogging track. Respondents' satisfaction were recorded using 5-point Likert scale, with 1 being least satisfied and 5 being most satisfied.

ANALYSIS AND FINDINGS

Respondents Background

The results of the survey show that the highest percentage of respondents, which was 26% (139 respondents), were from households with income range of RM2,001-RM2,500. Meanwhile, 6% (32 respondents) of the respondents came from families with household income of RM500 or less, which was also the lowest income range in the questionnaire. 188 respondents were secondary school students, 273 were employed and 79 respondents were unemployed.

Availability and Use of Recreational Facilities

The results on respondents perception on the availability and use of recreational facilities surrounding their residence are as shown in Table 2 below. In general, the results show that respondents were more aware of the existence of facilities for popular sports such as futsal court, badminton court and football field nearby their residential area. However, most respondents were not aware of the existence of facilities of less popular sports nearby their residential area such as basketball court, tennis court and gymnasium. In Malaysia, futsal has become one of the trending sports among youths, and badminton and football have been receiving much attention in the media and probably two of the most popular sports in the country. Similarly, the facilities for these three types of sports have higher usage among the respondents (Table 2). Additionally, the popularity of these sports have also resulted in more of such facilities being provided. These have helped

to create awareness among the respondents on the existence of such facilities in the area. Basketball, tennis and gymnasium are less popular sports among youths in Malaysia. Thus, facilities for these sports are not widely provided. In the event where such facilities were provided, level of use among respondents was quite low (Table 2).

Table 2 Type and Availability of Recreation Facilities in Urban Areas

Types of Recreation Facilities	Availability of Recreation Facilities		The Use of Recreation Facilities by Respondents	
	Yes	No	Yes	No
1. Futsal Court	474 (88%)	66 (12%)	314 (58%)	226 (42%)
2. Badminton Court	455 (84%)	85 (16%)	271 (50%)	269 (50%)
3. Basketball Court	34 (6%)	506 (94%)	25 (5%)	515 (95%)
4. Tennis Court	24 (4%)	516 (96%)	18 (3%)	522 (97%)
5. Football Field	479 (89%)	61 (11%)	282 (52%)	258 (48%)
6. Gymnasium	29 (5%)	511 (95%)	22 (4%)	518 (96%)
7. Jogging Track	379 (70%)	161 (30%)	253 (47%)	287 (53%)

Respondents Perception on Recreational Facilities

Mean analyses were conducted to determine respondents' perception on the provision of recreational facilities in urban area. The results are as shown in Table 3 below.

Table 3 Respondents' Perception on the Physical Aspects of Recreational Facilities

Recreation Facilities Provided in Urban Areas	Sufficiency		Usage Satisfaction		Distance		Accessibility		Maintenance	
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank
1. Futsal Court	3.62	1	3.57	3	3.85	2	3.85	2	3.63	2
2. Badminton Court	3.56	3	3.58	2	3.86	1	3.88	1	3.69	1
3. Basketball Court	3.34	5	3.31	6	3.46	6	3.39	6	3.39	5
4. Tennis Court	3.33	6	3.30	7	3.17	7	3.30	7	2.96	7
5. Football Field	3.31	7	3.46	4	3.60	4	3.71	3	3.47	4
6. Gymnasium	3.59	2	3.43	5	3.54	5	3.51	5	3.39	5
7. Jogging Track	3.47	4	3.62	1	3.68	3	3.68	4	3.60	3

Note: TR – Total Respondents

The results in Table 3 show respondents perceived that futsal court provision is most sufficient (mean 3.62) compared to other recreational facilities. The lowest ranked facilty was football field, with mean 3.31. The popularity of football may have led to high demand for football field, thus making it least sufficient among the facilities surveyed.

In terms of usage satisfaction, the highest ranked facility was jogging track, with mean 3.62. Meanwhile, the lowest ranked was tennis court, with mean 3.31.

In terms of distance of facilties from residential areas or users, badminton court received the most favourable response from respondents, with mean 3.86. Similarly, badminton court also ranked first in terms of accessibility and maintenance, with mean 3.88 and 3.69 respectively. This was followed by futsal court, which ranked second in all the three aspects with mean 3.85 for distance, 3.85 for accessibility and 3.63 for maintenance. Meanwhile, tennis court was the lowest ranked facility in all the three aspects. The mean for tennis court distance was 3.17, for accessibility 3.30 and for maintenance 2.96.

The results also show that popular sports in Malaysia generally received better perception from the repondents as compared to the less popular sports. In every aspect, bar sufficiency, futsal court, badminton court and football field ranked higher than tennis court, gymnasium and basketball court. This result corroborates the earlier finding where more respondents were aware of the availability of recreational facilities of the popular sports (Table 2).

DISCUSSION

In overall, respondents' perception of the recreational facilities in urban areas is acceptable. The mean analysis returned a value of greater than 3 for every aspect of every type of recreational facilities, except for tennis court which received mean 2.96 for maintenance aspect. However, none of the recreational facilities received mean value of more than 4 (satisfied) or mean value 5 (most satisfied) in any of the aspects surveyed.

Due to high number of population in urban areas, demand for recreational facilities is also high. In the case of PPR, the population density is higher than many other parts of the urban areas, creating higher demand for recreational facilities. Therefore, it is crucial to ensure that the facilities are sufficiently provided. However, space to locate recreational facilities in urban areas may be scarce, thus hampering efforts to provide sufficient recreational facilities in the area.

While sufficient provision of recreational facilities is crucial, the location of the facilities is also important. Recreational facilities must be located in an area where they are accessible and close to the users, which in this case, the youth. Distance and accessibility are of great importance to users participation in active outdoor recreation. Generally, closer proximity to facilities has a positive impact on participation in active outdoor life (Gobster, 1995). Accessibility, however, is not necessarily consistent with distance and relates to the experience of proximity and access to a special area. Accessibility may be affected by infrastructure, among others, and good accessibility seems to be positively associated with participation in active outdoor recreation (Andkjaer & Arvidsen, 2015).

In the context of this study, youth from PPR are mostly from lower income households and they do not own personal transportation. Therefore, proximity of recreational facilities to residential areas is very important to allow these youth to easily access the facilities. Additionally, public transport linkage between residential areas and farther recreational facilities is also vital.

Usage of recreational facilities by youth is also affected by their lifestyle. Youth nowadays are often more occupied with their electronic devises such as smartphones, computers and others. This make it even more important that provision of recreational facilities, especially in urban areas, can entice youth to visit and use the facilities. Therefore, provision of such facilities must be well planned. All the important aspects of recreational facilities provision such as numbers, distance, accessibility and maintenance are considered.

CONCLUSION

This study looks at the perception of youths in PPR on the provision of recreational facilities in their area. It found out that respondents were more aware of the provision of facilities for popular sports. It also found out that, in overall, respondents find the level of provision of recreational facilities in their area as acceptable. It is hoped that these findings would assist the relevant parties such as the local authorities and the sports ministry in planning for improved provision of recreational facilities in urban areas in the future. Such facilities is important in order to create a channel for youths, especially in PPR, to participate in active outdoor lifestyle. This, in turn, would lead to a healthier society, both socially and health-wise.

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HUMAN INTERACTION IN URBAN SPACES: A QUANTITATIVE ANALYSIS IN URBAN PARK, SHAH ALAM CITY, SELANGOR

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Abstract

This paper aims to provide valuable insight of the various dimensions of human needs' towards open spaces. This study employed a mixed method research design involving both quantitative and qualitative methods that were utilised to identify and evaluate the human-human interaction and human-nature interaction in the area of study. Primary data was gathered by using questionnaire survey that was administered to 861 respondents who were visitors to public parks. The finding of this study is intended to show the main domains that reflect human needs' toward open spaces together with perceived benefits to the open space users.

Keywords: human-human interaction, human-nature interaction, open spaces.

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INTRODUCTION

Historically, mankind has created open spaces for various reasons. Thus, open spaces are often viewed as the products of a complex society with different societal needs, interest and aesthetics, which evolved over time. Humans' relationship with open spaces is becoming increasingly complex due to the heterogeneous cultural and demographic dimensions of socio-economic, gender, type of activities and open space facilities. Hence, the growing scarcity of open spaces is of concern to the local authorities as there is a drastic reduction in good quality open spaces left in the urban areas.

The objectives of this paper are to identify the motives of urban dwellers in visiting open spaces, and to examine the human-human interaction and human-nature interaction in open spaces. This study employed a mixed method research design involving both quantitative and qualitative methods that were utilised to identify and investigate the human-human interaction and human-nature interaction in the area of study. Primary data was gathered by using questionnaire survey that was administered to 861 respondents who were visitors to public parks in Shah Alam. The findings of this study show the main domains that reflect human needs towards open spaces. It is hoped that the findings of this study would assist landscape planners and designers in understanding the preferred conducive composition and configuration of human needs towards open spaces.

HUMAN INTERACTION IN OPEN SPACES

Open space act as a positive channel for people engagement and interaction (Omar, Illia & Hanita, 2015). However, people value open space differently. According to Mutiara & Isami (2012), urbanites prefer their open spaces with a variety of facilities for recreational activities instead of only attractive natural areas. Meanwhile, Machabee, Oleson and Kinzig (2004) claim that socio-economic factor also determine the usage of open space, as residents of high-income neighbourhood were found to use their open spaces more than residents in the middle or low-income neighbourhoods.

According to Rasidi, Jamirsah and Said (2012), there is an increasing trend of research on the significance of open spaces. The development over the recent decades has resulted in the loss of forest, farm, forest fringe and other open space lands that somehow contributed to urban residents' quality of life. The growing scarcity of open space is of concern for local authorities since there is an alarming reduction in quality open spaces for urban community's recreational needs (Omar, Illia & Hanita, 2015). Rasidi, Jamirsah and Said (2012) emphasise on the need to maintain quality open spaces as Malaysia is in the quest of providing more urban and suburban landscapes. Hence, several questions are raised in this paper, which are: Why do people need open spaces? What is the type of

interaction they get from visiting open spaces? What are the benefits they get and do these benefits affect their quality of life?

RESEARCH METHODOLOGY

Theoretical Framework

Matsuoka and Kaplan (2008) identify major themes that directly linked to the open spaces including human-nature interaction and human-human interaction. The domains then applied in the study as the general guidelines. Under the nature needs, three variables were measured: contact with nature, aesthetic preference, and recreation or play. As for the human needs, the variables measured were social interaction, citizen participation and the sense of community. Table 1 below shows the framework.

Table 1 Theoretical Framework of Human Interaction in Open Spaces

Author	Nature needs			Human needs			Primary Data
	Contact with nature	Aesthetic Preference	Recreation / play	Social interactio privacy	Citizen Participation	Sense of Community	Quantitative/ Qualitative Data
Austin (2004)	●			●		●	Qualitative
Chiesura (2004)	●		●	●	●		Quantitative
Gobster (2001)	●	●	●		●	●	Both
Oguz (2000)	●	●	●	●			Qualitative
Ozguner & Kendle (2006)	●	●		●			Quantitative
Abu-Ghazzeh (1996)	●				●	●	Qualitative
Crow et.al (2006)	●	●	●	●			Quantitative
Dokmeci & Berkoz (2000)	●	●		●			Quantitative
Hull et.al (1994)	●					●	Qualitative
Lucy & Phillips (1997)	●					●	Qualitative
Vogt & Marans (2004)	●	●	●	●			Qualitative
Herrington & Studtman (1998)	●			●			Qualitative
Coles & Bussey (2000)	●			●	●		Both
Simson (2000)	●	●				●	Qualitative
Yuen & Hien (2005)	●	●	●	●			Qualitative

Source: Matsuoka & Kaplan (2008)

Variables Measured

This research explores multi-dimensional human needs in open spaces and the perceived benefits from the interactions towards the area. The design of the spatial configuration could serve as a platform for human-nature interaction or human-human interaction. In order to comprehend design qualities that encourages interactions, it is recommended to measure the open spaces properties (i.e. green quality, green setting, accessibility, facilities and amenities) and interactions (human-nature interaction and human-human interaction) of the open space through documented responses. The unit of analysis is the various range of age group of the open spaces of Zone A in Shah Alam, Selangor. The approach in dividing the variables into two major categories was for the purpose of systematic data collection and to gauge how daily usage pattern of open spaces relate to the interactions.

Methods of Data Collection

A total of 1,000 of survey questionnaires were distributed within the various open spaces in Zone A, Shah Alam, Selangor. Questionnaires were distributed randomly regardless the users' age, race and ethnicity. However, only 861 were completed by respondents. In this survey, respondents were provided with a survey form with subsections to determine their background, such as gender, income, companionship, mode of transportation to open space, frequency of visit and time spend per visit. Respondents also were asked their main purpose of visiting open space. This were divided into two subsections: the human-nature interaction and the human-human interaction.

Study Area

The selected study area is Zone A, Shah Alam, Selangor Darul Ehsan, Malaysia. Table 2 below shows the ratio and percentage of the survey respondents.

Table 2 Sample size for each open space

Study Area	Size (hectares)	Percentage of size	Sample Size
Taman Tasik Shah Alam	43.0	66.3	428
Section 7	9.89	15.2	134
Section 18	6.0	9.3	149
Section 8 Playground	4.0	6.2	100
Section 4	2.0	3.0	50
Total	64.89	100	861

Development of the Instruments and Procedures

The research instrument was developed based on literature analysis as well as the items tested on multi-dimensional human needs. Various useable items from human needs pattern studies were integrated to develop further the methods. Every measurement were structured using 5-level Likert Scale that were 1: Strongly Disagree; 2: Disagree; 3: Neutral, 4: Agree and 5: Strongly Agree.

RESULTS AND FINDINGS

The data from survey questionnaires were coded into SPSS software for statistical analyses. The main focused of the analyses was to understand the relationship of human-human interactions and human-nature interactions that took place in the open space area. Demographic attributes such as gender, race, age group and home distance to open space were also considered. The descriptive analysis in Table 3 provides an overall analysis of the respondents profile in the study area.

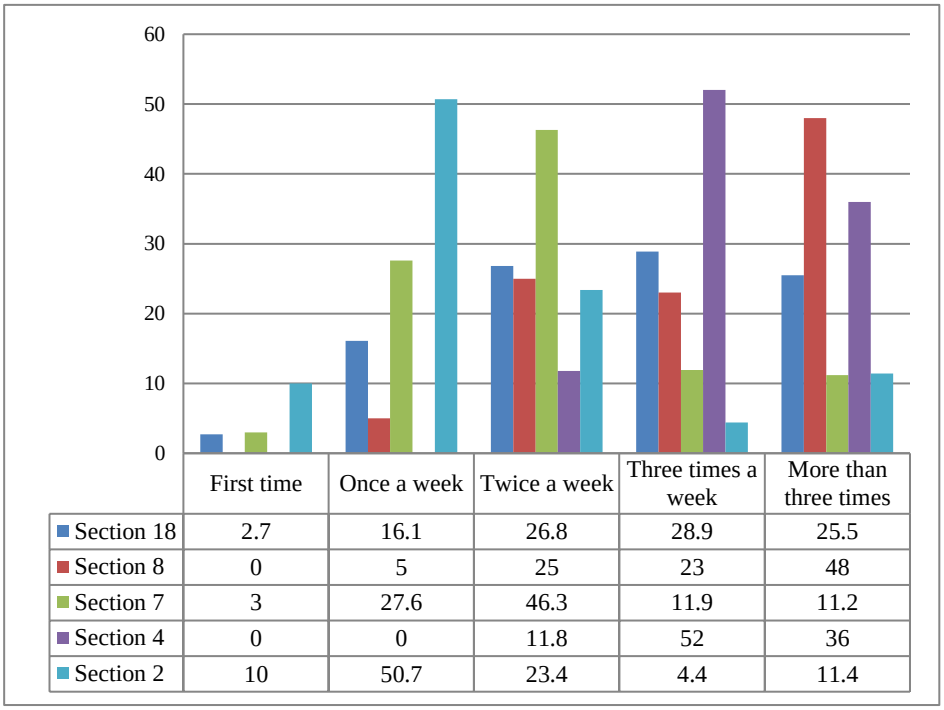
Table 3 Overall Descriptive Analysis on Profile of Respondents

Descriptive	Section 18		Section 8		Section 7		Section 4		Section 2	
Analysis	N	%	N	%	N	%	N	%	N	%
Gender										
Male	73	49.0	46	46.0	62	46.3	15	29.4	192	44.9
Female	76	51.0	54	54.0	72	53.7	35	68.6	236	55.1
Total	149	100.0	100	100.0	134	100.0	50	98.0	428	100.0
Age Group										
13-19	22	14.8	25	25.0	11	8.2	14	27.5	71	16.6
20-50	85	57.0	44	44.0	110	82.1	28	54.9	331	77.3
50-60	37	24.8	26	26.0	12	9.0	8	15.7	22	5.1
> 60	5	3.4	5	5.0	1	0.7	0	0	4	0.9
Total	149	100.0	100	100.0	134	100.0	50	98.0	428	100.0
Marital Status										
Single	43	28.9	25	25.0	99	73.9	14	27.5	264	61.7
Married	103	69.1	71	71.0	30	22.4	36	70.6	161	37.6
Divorce	3	2.0	4	4.0	5	3.7	0	0	2	0.5
Total	149	100.0	100	100.0	134	100.0	50	98.0	428	100.0
Race										
Malay	135	90.6	99	99.0	118	88.1	50	98.0	396	92.5
Chinese	7	4.7	0	0	6	4.5	0	0	13	3.0
Indian	6	4.0	1	1.0	9	6.7	0	0	17	4.0
others	1	0.7	0	0	1	0.7	0	0	2	0.5
Total	149	100.0	100	100.0	134	100.0	50	98.0	428	100.0
Types of Job										
Government	72	48.3	52	52.0	23	17.2	33	64.7	74	17.3
Private	34	22.8	28	28.0	24	17.9	3	5.9	101	23.6
Student	34	22.8	20	20.0	84	62.7	13	25.5	222	51.9
Others	9	6.0	0	0	3	2.2	1	2.0	31	7.2
Total	149	100.0	100	100.0	134	100.0	50	98.0	428	100.0
Neighbourhood Residents										
Yes	108	72.5	37	37.0	110	82.1	25	49.0	180	42.1
No	41	27.5	63	63.0	24	17.9	25	49.0	248	57.9
Total	149	100.0	100	100.0	134	100.0	50	98.0	428	100.0
Origin										
Home	121	81.2	79	79.0	111	82.8	42	82.4	272	63.6
College/School	18	12.1	7	7.0	13	9.7	1	2.0	112	26.2
Office	3	2.0	14	14.0	9	6.7	0	0	23	5.4
Others	7	4.7	0	0	1	0.7	7	13.7	21	4.9

Total	149	100.0	100	100.0	134	100.0	50	98.0	428	100.0
Distance										
< 1km	44	29.5	3	3.0	43	32.1	4	7.8	43	10.0
1-2km	72	48.3	62	62.0	51	38.1	37	72.5	100	23.4
2-5km	26	17.4	34	34.0	30	22.4	9	17.6	133	31.1
> 5km	7	4.7	1	1.0	10	7.5	0	0	152	35.5
Total	149	100.0	100	100.0	134	100.0	50	98.0	428	100.0
Mode of Transportation										
On Foot	110	73	43	43.0	23	17.2	16	31.4	122	28.5
Public	7	4.7	0	0	3	2.2	1	2.0	19	4.4
Motorcycle	8	5.4	3	3.0	69	51.5	3	5.9	86	20.1
Car	22	14	51	51.0	39	29.1	30	58.8	201	47.0
Others	2	1.3	3	3.0	0	0	0	0	0	0
Total	149	100	100	100.0	134	100.0	50	98.0	428	100.0

Frequency and Purpose of Visits

Figure 1 shows the result of total percentage of visit frequency of the respondents to the open spaces per week. Meanwhile, Figure 2 shows the respondents' purpose of visiting the open spaces.



	First time	Once a week	Twice a week	Three times a week	More than three times
Section 18	2.7	16.1	26.8	28.9	25.5
Section 8	0	5	25	23	48
Section 7	3	27.6	46.3	11.9	11.2
Section 4	0	0	11.8	52	36
Section 2	10	50.7	23.4	4.4	11.4

Figure 1 Total Percentage of Visit Frequency

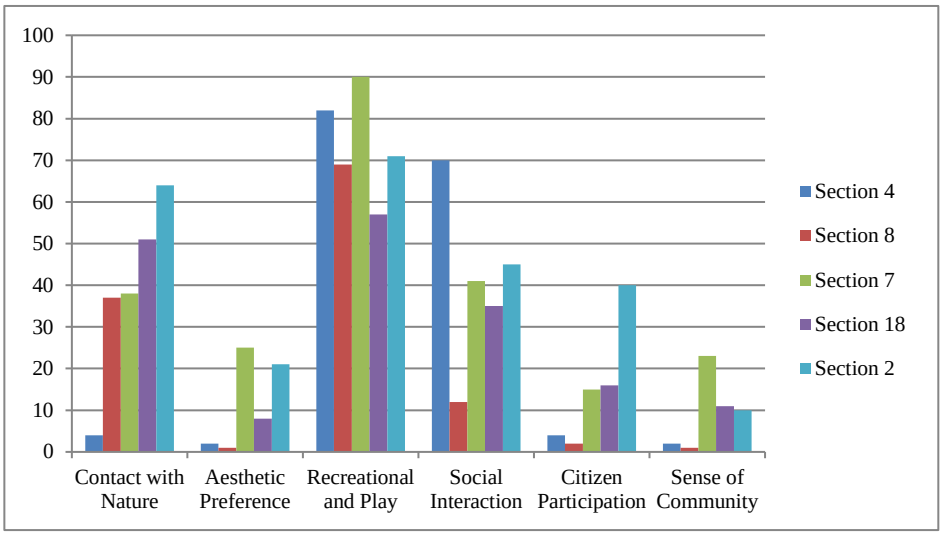


Figure 2 Purpose of Visiting Open Spaces

Human-Nature Interaction

To explore the human-nature interactions that respondents experienced in the open spaces, the questionnaire were divided into three parts that were contact with nature, aesthetic preference and recreational play. Table 4 below shows the overall results of human-nature interaction.

Table 4 Overall Analysis of Human-Nature Interaction

Overall Findings	Study Areas									
	Section 18		Section 8		Section 7		Section 4		Section 2	
	p-value		p-value		p-value		p-value		p-value	
Contact with Nature										
Unity with nature	0.0126	√	0.3443	X	0.1783	X	0.1569	X	0.2440	X
Unity with my self	0.2048	X	0.0731	X	0.0765	X	0.7860	X	0.1802	X
Freedom	0.0024	√	0.0569	X	0.1990	X	0.7138	X	0.2356	X
Recreational Satisfaction	0.6356	X	0.0985	X	0.0412	√	0.7886	X	0.1726	X
Adventure	0.1728	X	0.3911	X	0.0095	√	0.0588	X	0.7030	X
Happiness	0.4380	X	0.0779	X	0.0306	√	0.6805	X	0.3928	X
I think open space is important part of the city.	0.4594	X	0.0055	√	0.2102	X	0.2295	X	0.6561	X
Aesthetic Preference										
Unity with nature	0.1369	X	0.6109	X	0.0807	X	0.7747	X	0.9044	X
Unity with my self	0.0377	√	0.7310	X	0.0155	√	0.8888	X	0.1004	X
Freedom	0.1750	X	0.8179	X	0.0254	√	0.2529	X	0.1971	X
Recreational Satisfaction	0.1125	X	0.5780	X	0.0050	√	0.5740	X	0.2315	X
Adventure	0.3463	X	0.2680	X	0.0007	√	0.7260	X	0.8400	X
Happiness	0.0267	√	0.5099	X	0.0107	√	0.3293	X	0.8873	X

I think open space is important part of the city.	0.7971	X	0.6512	X	0.2499	X	0.6006	X	0.6193	X
Recreation and Play										
Unity with nature	0.4405	X	0.1579	X	0.0002	√	0.2953	X	0.0091	√
Unity with my self	0.5530	X	0.0857	X	0.0197	√	0.1181	X	0.0087	√
Freedom	0.6048	X	0.0886	X	0.0028	√	0.2575	X	0.0649	X
Recreational Satisfaction	0.9955	X	0.0492	√	0.0001	√	0.3626	X	0.0351	√
Adventure	0.6145	X	0.6607	X	0.0035	√	0.1913	X	0.1434	X
Happiness	0.4991	X	0.1774	X	0.0000	√	0.6294	X	0.0634	X
I think open space is important part of the city.	0.4553	X	0.0605	X	0.0001	√	0.1197	X	0.1779	X

√ : Null Hypothesis is rejected. There is significant relationship (p-value <0.0.5)
X : Null hypothesis is not rejected. There is no relationship (p-value > 0.05)

Human-Human Interaction

To determine the human-human interaction that the respondents experienced in the open spaces, the questionnaire were divided into three parts that were social interaction, citizen participation and a sense of community towards the open spaces. Table 5 below shows the overall results.

Table 5 Overall Analysis of Human-Human Interaction

Overall Findings	Study Areas									
	Section 18		Section 8		Section 7		Section 4		Section 2	
	p-value		p-value		p-value		p-value		p-value	
Social Interaction										
Unity with nature	0.1277	X	0.2097	X	0.6241	X	0.0149	√	0.0084	√
Unity with my self	0.2179	X	0.6136	X	0.6973	X	0.4781	X	0.0117	√
Freedom	0.1658	X	0.6695	X	0.6568	X	0.4208	X	0.2127	X
Recreational Satisfaction	0.4434	X	0.0908	X	0.8026	X	0.7859	X	0.1018	X
Adventure	0.2254	X	0.4801	X	0.8822	X	0.2625	X	0.2125	X
Happiness	0.0373	√	0.7493	X	0.7761	X	0.7512	X	0.0286	√
I think open space is important part of the city.	0.1206	X	0.4831	X	0.5874	X	0.1931	X	0.1395	X
Citizen Participation										
Unity with nature	0.7147	X	0.9540	X	0.0893	X	0.1569	X	0.0176	√
Unity with my self	0.7712	X	0.0993	X	0.0977	X	0.3442	X	0.0089	√
Freedom	0.4831	X	0.9287	X	0.1303	X	0.5347	X	0.0018	√
Recreational Satisfaction	0.2674	X	0.3303	X	0.8605	X	0.7886	X	0.0006	√
Adventure	0.9455	X	0.8981	X	0.5659	X	0.5487	X	0.0529	X
Happiness	0.6462	X	0.2857	X	0.1068	X	0.8503	X	0.0056	√
I think open space is important part of the city.	0.0864	X	0.0881	X	0.0868	X	0.8793	X	0.0023	√
Sense of Community										
Unity with nature	0.4535	X	0.0099	√	0.0826	X	0.0124	√	0.2132	X
Unity with my self	0.2936	X	0.0044	√	0.1102	X	0.8888	X	0.4400	X
Freedom	0.1800	X	0.8179	X	0.1609	X	0.7361	X	0.1796	X

Recreational Satisfaction	0.0385	√	0.5780	X	0.3750	X	0.3941	X	0.0803	X
Adventure	0.9776	X	0.6757	X	0.1932	X	0.0016	√	0.0882	X
Happiness	0.8554	X	0.5380	X	0.0831	X	0.6688	X	0.2955	X
I think open space is important part of the city.	0.5434	X	0.6512	X	0.0573	X	0.6006	X	0.6786	X

√ : Null Hypothesis is rejected. There is significant relationship (p-value <0.0.5)
X : Null hypothesis is not rejected. There is no relationship (p-value > 0.05)

Perceived Benefits of Open Spaces

For the perceived benefits in relation to the open spaces, the variables that represent the items by overall perception of human-human interaction, overall perception of human-nature interaction and average perceived benefits were created by using the regression model (Figure 3) to test whether these variables can significantly affect the perceived benefits. The results are shown in Table 6.

$$Y = \beta_{0+}\beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

Where,
Y = Perceived Benefit
X_1 = Human-nature Interaction
X_2 = Human-human Interaction
ε = error

Figure 3 The Proposed Regression Model

Table 6 Overall Analysis for the Proposed Model of Perceived Benefits

Model		Unstandardized Coefficients		Standardized Coefficients	Sig.	Dependent Variable: Perceived Benefit			Overall Result
		B	Std. Error	Beta		R-square	F-statistics	p-value	
Section 18									
1	(Constant)	2.685	.334		.000	0.059	4.004	0.021	
	Human-nature	.148	.075	.172	.051				X
	Human-human	.106	.065	.142	.108				X
Section 8									
1	(Constant)	2.162	.426		.000	0.18	10.444	0	
	Human-nature	.044	.091	.045	.634				X
	Human-human	.360	.083	.412	.000				√
Section 7									
1	(Constant)	1.572	.467		.001	0.206	15.685	0	
	Human-nature	.064	.129	.049	.619				X
	Human-human	.558	.130	.424	.000				√

Section 4									
1	(Constant)	3.240	.473		.000	0.04	0.927	0.403	
	Human-nature	.105	.105	.159	.321				X
	Human-human	.054	.117	.073	.650				X
Section 2									
1	(Constant)	1.262	.221		.000	0.301	56.474	0.000	
	Human-nature	.418	.065	.383	.000				√
	Human-human	.222	.054	.246	.000				√

CONCLUSION

In conclusion, this study has shown that human interactions are important to the open spaces as both elements respond well to each other. Apart from that, this study has also indicated that nature and human interactions needs elements of open spaces such as the green spaces, water elements and physical attributes to enhance the interactions between human-human and human-nature.

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PROMOTING SUSTAINABLE TRAVEL BEHAVIOR THROUGH TRANSPORT POLICY MEASURES

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Abstract

This paper examines how transport policy measures have influenced travel behaviour to promote sustainable transportation. Data were collected through a survey on 384 vehicle users to represent the 36 sections of Shah Alam, Selangor. This paper also studied the readiness of an urban population to reduce car usage. Majority of the respondents stated that the increase in petrol and toll prices would be the key factors to reduce car use, and more provision of public transport would encourage them to use public transport. However, Chi-square test showed that the willingness of the respondents to use public transport has a strong relationship with the frequency of driving a vehicle. The level of willingness to use public transport is lower when a car is used more frequently. Results also suggested that the majority of the respondents were not ready to consider cycling and walking as alternatives.

Keywords: Sustainable transportation, transport policy measures, travel behaviour

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INTRODUCTION

The number of vehicles in Malaysia have increased tremendously from 5 million in 1991 to 21.4 million in 2011 with an average annual growth rate of 7.5%. The growth in the number of vehicles in the country has been 3.3 times faster than the growth in the population (Ministry of Federal Territories and Urban Wellbeing, 2011). Road traffic has increased significantly over the years because most households today have access to two or more cars. In Shah Alam, the average number of vehicles owned per family is two, and the average number of family members with driving license is three. These figures indicate that virtually every family has a car and every family has more than one member with a driving license (Naásah N., 2013).

In Klang Valley 83% trips were made through private transport whereas only 17% trips each day were completed using public transport. The government has introduced various initiatives to promote more sustainable transport choices, including improved accessibility by public transport, walking, and cycling, and to reduce the need to travel by private car. Nevertheless, travel by private car remains the predominant mode of choice in major city centres. A number of studies have shown that some people might not always drive out of need, but because of choice (Handy et al., 2005). Car features provide a psycho-social value, which influences everyone to use a car rather than other modes of transportation. Therefore, the government should enhance transport policies that reduce the dependency and need to drive a car by providing alternatives other than driving.

RESEARCH BACKGROUND

The majority of the population is aware of the impact of motor vehicles toward the environment, and concurs that motor vehicles contribute greatly toward environmental issues, such as ozone depletion, acid rain, oil spills, noise pollution, air pollution and the greenhouse effect (Naásah N., 2013). Hence, if most people are aware of the dangers of motor vehicles to the environment, what prevents car drivers to change their travel behaviour?

Anable (2005) and Hagman (2003) suggest that the information on the negative environmental effects of car usage stimulated some awareness, but this awareness is usually insufficient to change behaviour. Majority of the public were aware of the dangers of motor vehicles on the environment, but they still refuse to use more sustainable modes, such as walking or cycling. Attitudes are evaluative responses to something (Steg, 2005) that results in a positive or negative reaction. Behaviour is subsequently guided by these beliefs. However, a positive attitude does not necessarily comprise behaviour change. Authors such as Garling and Axhausen (2003), and Wright and Egan (2000) argue that behaviour will change by influencing and changing attitudes if attitudes provide an explanation for behaviour.

Anable (2005) wrote that, "psychological factors including perceptions, identity, social norms, and habit" are increasingly applied to understand travel behaviour. The theory of planned behaviour (TPB) suggests that behaviour is guided by the beliefs of an individual on the likely consequences (i.e. attitude), subjective norms (i.e. what others expect from the individual) and perceived behavioural control (i.e. the presence of factors that may help or hinder the performance of their behaviour). TPB assumes that behaviour is always planned. However, this is not often the case in reality. Travellers are often seen as habitual individuals. Therefore, the manner in which they choose to travel is often done without consideration. Habits arise from the repeated performance of behavioural sequences that require little cognitive effort to obtain a certain goal (Triandis, 1977). Verplanken, Aarts and Knippenberg (1997) found that those individuals with strong habits are less likely to seek information and investigate the different choices available to them. Therefore, to break these habits, behaviour should become more conscious and deliberate through policy interventions to raise awareness. The transport policy measures in this matter have a significant role in changing travel behaviour.

What Are Transport Policy Measures?

Transport policy measures are instruments to reduce car use and commonly referred to as travel demand management (TDM) measures on the political agenda (Kitamura, Fujii & Pas, 1997). TDM measures are of two types, which can be classified as hard or soft. Hard transport policy measures include physical improvements of infrastructure for public transport, increased costs for car use and control of road space (prohibition and rationing of car use). Hard policy measures such as road pricing, parking fees, new public transport services, or improvement of bike and walk paths are seek to change the attributes of travel, modify the objective environment and discourage negative behaviour.

Road pricing (also road user charges) are direct charges levied for the use of roads, including road tolls, distance or time based fees, congestion charges, and charges designed to discourage use of certain classes of vehicle, fuel sources, or more vehicles that pollute the environment. These charges may be used primarily for revenue generation, usually for road infrastructure financing or as a transportation demand management tool to reduce peak hour travel and the associated traffic congestion or other social and environmental negative externalities associated with road travel, such as air pollution, greenhouse gas emissions, visual intrusion, noise, and road accidents (Johnson, Leicester & Stoye, 2012). The application of congestion charges is currently limited to a small number of cities and urban roads, and the notable schemes include the electronic road pricing in Singapore, the London congestion charge, the Stockholm congestion tax, the Milan Area C, and high-occupancy toll lanes in the United States.

Meanwhile, soft policy measures as defined by Bonsall (2005) are "positive encouragement of desirable modes." Soft transport policy measures are also referred to as voluntary-change measures (Loukopoulos, 2007), psychological and behavioural strategies (Fujii & Taniguchi, 2006), and mobility management tools (Cairns et al., 2008). However, soft measures most commonly induce psychological changes, such as information and travel planning, which seek to change attitudes toward travel modes and encourage positive behaviours. The aim of soft transport policy measures is to influence directly the decision-making process by changing or correcting the perceptions of people on the objective environment by altering their judgements on the consequences associated with the use of different travel options, and by directly motivating them to test new alternative travel options (Bamberg et al., 2011).

Frequently implemented examples of soft transport policy measures to reduce private car use include workplace travel plans (encouraging work commuters not to use their cars), school travel plans (encouraging parents not to drive their children to school), personalized travel planning (encouraging reduced car use by persuasion, customized information and other decision aids), marketing of public transport (mass advertising campaigns) and travel awareness campaigns (increasing awareness on problems associated with car use) (Cairns et al., 2008).

METHODOLOGY

A total of 384 respondents were selected for this survey using the stratified random sampling method. The respondents represented the 36 sections of Shah Alam. The selection of the sample was calculated based on the total population, which amounted to 336,590 (with 95% degree of confidence and 5% of margin of error). The respondents were provided with a survey form with several sub-item tests to gauge their level of readiness to reduce car usage. The respondents were asked to provide an opinion on the policy measure factors that could motivate them to reduce car usage and adopt sustainable travel modes. They were also asked to provide reasons if they are not motivated to use more sustainable modes of travel. However, one limitation of this study is the refusal of the residents to participate in the survey because of time factor. The questionnaire is quite detailed and takes about 15 to 20 min to complete.

RESULTS

The results of this study showed that 53.1% of respondents use a car to commute to work compared with 8.8% who use public transport (Figure 1). To encourage residents to support a sustainable transportation program, the respondents were asked to provide an opinion on the factors that would reduce the use of cars. The respondents were given several statements on hard policy measure to choose and rank which options would motivate them to reduce car use. Majority stated that

the increase in petrol prices would be a key factor to reduce travel and car use (Table 1). Other than that, more provisions on public transport and affordable public transport fares would also encourage them to reduce car use and opt for public transport as the main mode of travel. They also stated that the increase in toll prices would reduce frequent travel.

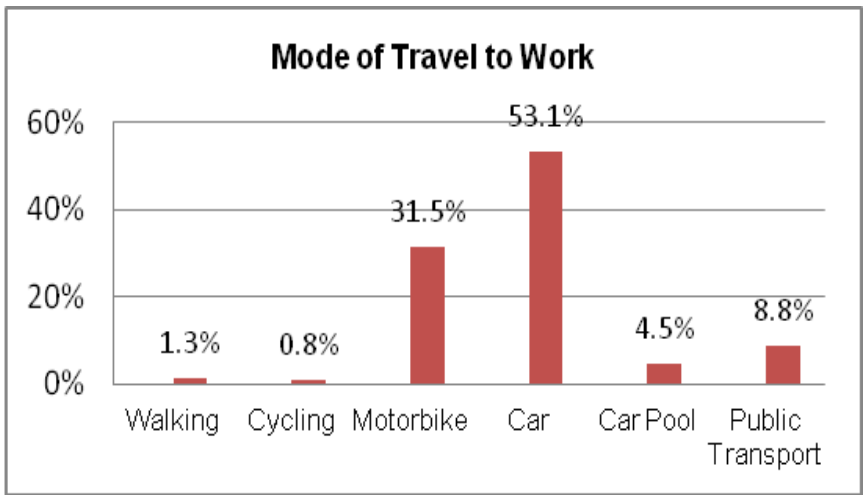

Figure 1 Mode of Travel to Work of Shah Alam Residents

Table 1 Rank of Opinions on Factors That Will Cause Car Use Reduction

Matters which causes reduction in car use	Rank					Mode
	1	2	3	4	5	
Petrol price increase	213 55.5%	49 12.8%	41 10.7%	44 11.5%	37 9.6%	1
Rising toll prices	44 11.5%	92 24%	70 18.2%	56 14.6%	122 31.8%	3
More public transport modes	55 14.3%	80 20.8%	110 28.6%	89 23.2%	49 12.8%	3
Cheaper public transport fare	35 9.1%	79 20.6%	63 16.4%	124 32.3%	83 21.6%	4
Car tax increase	41 10.7%	85 22.1%	100 26%	71 18.5%	87 22.7%	5

The Role of Road Pricing in Travel Behaviour

Table 2 shows that road pricing has an important role to influence the frequency of travel. The majority of respondents agreed with the three statements with mean values below 3.5, which indicate that all respondents concurred that the rising prices of petrol and toll will reduce their travel.

Table 2 Influence of Petrol and Toll Price Increases on Car Use Travel Decision

Matters which causes reduction in car use	Strongly agree----------						----------Strongly disagree	Mean
	1	2	3	4	5	6	7	
Increases in Petrol prices will reduce car travel	100 26%	63 16.4%	65 16.9%	77 20.1%	31 8.1%	12 3.1%	36 9.4%	3.15
Increases in toll prices will reduce the use of the toll highway	111 28.9%	77 20.1%	63 16.4%	62 16.1%	32 8.3%	12 3.1%	27 7%	2.92
Increases in toll prices will reduce long distance travel	86 22.4%	63 16.4%	84 21.9%	72 18.8%	31 8.1%	20 5.2%	28 7.3%	3.18

Figure 2 shows the importance of parking fees in the selection decision of shopping venues. A total of 64.8% of respondents said the parking fees are important factors in the selection of shopping venue, whereas 35.2% said it was not important. This result suggests that parking pricing can also be one of the measures to control the influx of cars into the city.

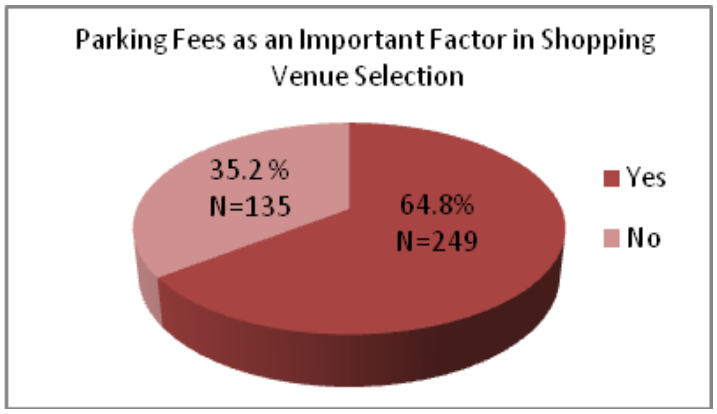

Figure 2 Role of Parking Fees in Shopping Venue Selection

Readiness to Practice Sustainable Modes of Travel

Majority gave negative feedback on the readiness of the respondents to use more sustainable modes of travel. Table 3 shows that the majority of the respondents chose "level 3" for their willingness to reduce car use, which indicates that they are "not ready." The majority also stated that they are not ready to reduce vehicle speed. Finally, the majority of the respondents chose "level 1" for their willingness to use alternative modes of travel, such as walking or cycling, indicating that they were "extremely not ready". Meanwhile, Table 4 indicates the reasons for them to refuse to walk or cycle.

Table 3 Readiness to Practice Sustainable Modes of Travel

Level of Readiness	Strongly agree----------Strongly disagree							Mean	Standard Deviation	Variance
	1	2	3	4	5	6	7			
	(Percentage)									
Readiness to reduce car use	10.7	15.4	26	19.5	13.3	6.8	8.3	3.63	1.691	2.860
Readiness to reduce car speed	8.1	10.2	19.8	20.8	18	10.4	12.8	4.13	1.751	3.067
Readiness to walk and cycle	20.3	19.8	17.2	17.2	10.2	5.2	10.2	3.33	1.892	3.581

Table 4 Reasons Why Respondents Do Not Like to Walk or Cycle

Reasons	Total	Percentage (%)
Hot weather	226	58.9
Walking and cycling are exhausting	202	52.6
Walking and cycling are not safe	156	40.6
Driving a car is more convenient	103	26.8
No proper cycle tracks and poor pedestrian walkways	83	21.6

Approximately 60% of the respondents did not like to walk because of the "hot weather" and 53% considered walking and cycling as "exhausting." Approximately 41% did not like to walk or cycle because it was "not safe". They also indicated that driving a car was more convenient than walking. "No proper cycle tracks and poor pedestrian walkways" was also one of the reasons why they refused to walk or cycle. These findings are similar to that Rose and Marfurt (2007), which revealed that distances and other aspects, such as weather conditions, physical abilities, and safety issues are often influenced by individual perception.

Many of the respondents did not walk or cycle even for a short trip. Majority preferred to use a car for their daily routine trips to nearby areas, such as to the grocery stores, recreation parks and the mosques although the distance is less than 0.5 km. Figure 3 shows that for trips to nearby places 47% of respondents used cars and 34% rode motorcycles. Meanwhile, only 14% of respondents walked and 5% cycled.

Figure 3 Mode of Travel to Nearby Places

This study also identified the respondents' willingness to use public transport based on the frequency of car driving. The chi-squared test results in Table 5 indicate a value of 27.306 and significant at 0.05 level, p = 0.001. This result indicates that the willingness of the respondents to use public transport is related to the frequency of driving a car. Therefore, the respondents who drove a care more frequently were less willing to use public transport.

Table 5 Willingness to Use Public Transport Based on Frequency of Car Driving

Frequency of driving	Willingness to use public transport			
	Not ready	Less ready	Ready	Total
Every day	93	41	74	208
	62.8%	50.6%	47.7%	54.2%
2 to 3 times a week	35	18	24	77
	23.6%	22.2%	15.5%	20.1%
Once a week	3	4	20	27
	2.0%	4.9%	12.9%	7.0%
2 to 3 times a month	8	10	16	34
	5.4%	12.3%	10.3%	8.9%
Never drove a car	9	8	21	38
	6.1%	9.9%	13.5%	9.9%
Total	148	81	155	384

Chi-square = 27.306 Significance = 0.001

Support on Environmental Campaign

This study also tested the support of the respondents for environmental campaign. The respondents were asked whether they agreed to the car pool, and park and ride concepts as a traffic congestion reduction program. Figure 4 illustrates that the majority supported these concepts.

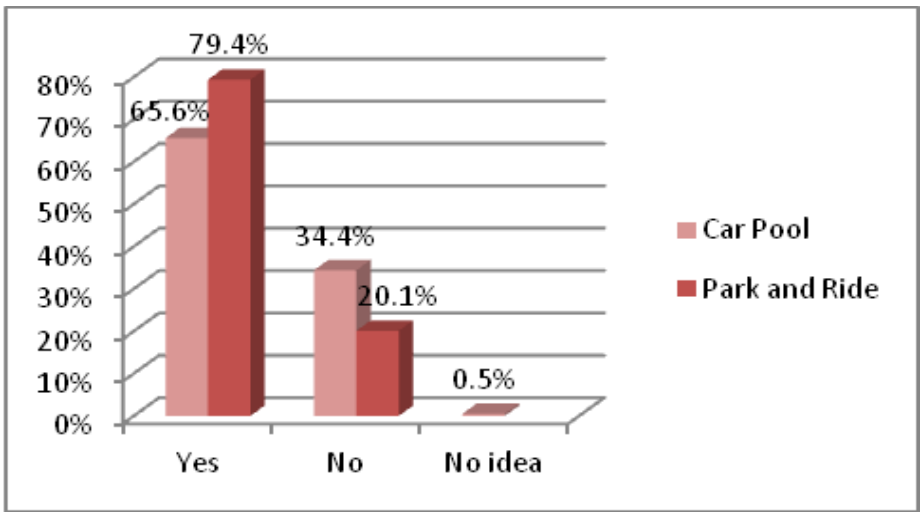

Figure 4 Support on Environmental Campaign to Reduce Traffic Congestion

Agreement with the Proposed Transport Policy

Table 5 shows the analysis on level of agreement with the proposed transport policy measures to reduce traffic congestion. For this analysis, the respondent was given a list of proposed traffic policy measures, and was asked to provide an opinion whether he/she agreed or disagreed with the suggestions. The results showed that *"increase the use of tolls for big cities"*, *"raise the price of petrol and diesel"* and *"increase the price of parking in the city centre"* were among the suggestions most disliked by the respondent, which indicate that the respondents disagree with the policy that is related to prices.

Table 6 Mean Analysis on Transport Policy Measure to Reduce Traffic Congestion

Transport Policy Measure to Reduce Traffic Congestion	Mean	Mode
Prohibition of vehicle entry in city center	5.01	1
Increase the use of tolls for big cities	5.51	10
Raise the price of petrol and diesel	6.81	10
Only authorized speed of 90 km/hr	4.73	1
Increase the price of parking in the city center	5.50	10
Closing the motorway in front of the schools	5.05	1
Make a commercial area as non-motorised area	4.53	1
Increase fines for vehicles that do not comply with traffic directions	3.37	1
Introduce free tickets to encourage the use of public transport	3.06	1
Introduce TOD (Transit Oriented Development)	3.53	1

**Minimum 1 Maximum 10 (1: most agree ---- 10: most disagree)*

SUMMARY

This study indicates that the majority of the respondents were not ready to consider cycling or walking as alternative modes of travel. Most Shah Alam residents are dependent on their cars. For instance, majority use their cars for their daily routine trips, such as trips to the grocery store, recreation park and mosque, although the distance was less than 0.5 km. However, majority supported the "car pool" and "park and ride" concepts as a traffic congestion reduction program. However, respondents who drive more frequently have lower level of willingness to use public transport.

Road pricing has an important role in influencing the trip frequency of Shah Alam residents. The result showed that the majority of the respondents stated that the increase in petrol prices and tolls would be key factors to reduce car use, and more provisions of public transport would encourage them to use public transport. Similarly, parking fees are also important factors in the selection of shopping venue, suggesting that parking pricing can also be one of the measures to control the influx of cars into the city. This result indicate a positive sign that road pricing will become one of the successful applications for hard policy measures implementation to control traffic congestions in Malaysia. However, the government has to tackle the implementation wisely because the residents extremely disagreed with the policies that were related to prices when they were asked regarding the proposed transport policy measures to reduce traffic congestion.

RECOMMENDATIONS

To ensure a sustainable transport campaign, the residents of Shah Alam, and Malaysia in general, should have mental and physical readiness to adopt more sustainable travel modes. Soft policy measures, such as campaigns, programs, promotions and advertisements, to promote the importance of environmental protection by using sustainable travel modes should be strengthened. The campaign could be spearheaded by non-government institutions, such as public transport corporations, local authorities, health organizations and environmental lobby groups. A coordinated approach could influence public attitudes toward car ownership and usage among the next generation of potential drivers and contribute toward restraining the demand for car travel.

However, individual differences among participants should be considered because people participate and stay with a program for different reasons. Individuals could have participated in the environmental programs to contribute to the environment, to save money, for health reasons, and others. Determining these reasons through research would be beneficial because the best way to provide motivational support is to directly appeal to the individual reasons of people to participate in soft policy measures. The application of soft transport policy for travel behaviour change has been successfully implemented in

experimental small-scale application by researchers in Japan (Fujii and Taniguchi, 2006). If Japan has successfully implemented its plan, Malaysia has no reason not to gain the same success.

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RESIDENTS' PERSPECTIVE ON CYCLING AS AN OPTION FOR TRANSPORTATION IN PUTRAJAYA

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Abstract

The Federal Government and local authorities, including Putrajaya Corporation, has introduced various initiatives to promote more sustainable transportation options such as encouraging the use of public transportation, walking and cycling in order to reduce the need to travel by car. This paper discusses the findings of the study done among the local residents in Precinct 1, 10, 11, 14 and 15 Putrajaya regarding their patterns of cycling as well as their perspectives on the use of bicycles as a mode of transportation. The study employs quantitative methodology. Primary data were gathered by direct interviews at respondent's home or at the local commercial area. The study analyses residents' awareness about the sustainability of cycling, their opinion on the lack of bicycle usage and their willingness to use bicycle as a sustainable mode of transportation. It was found that respondents were aware of the benefits of cycling but hesitant to adopt cycling as mode of transportation for their daily trips. Based on the residents' perspective and the pattern of bicycle usage in their daily life, several suggestions are outlined at the end of the paper with the aim of promoting cycling as a choice of transportation towards greener cities and more sustainable urban neighbourhoods.

Keywords: Cycling, sustainable transportation, urban neighbourhoods

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INTRODUCTION

The first thrust that the National Urbanization Policy was built upon, called for "an efficient and sustainable urban development" (Federal Department of Town and Country Planning, 2006). In line with this target, the Malaysian government had attempted to provide policies to bring about a better quality of life to the people. Among these include the various initiatives to promote more sustainable transportation in order to reduce the need to travel by car. The government has introduced initiatives such as promoting the use of bicycles in major city centres to reduce traffic congestion and air pollution. A study conducted by the Federal Department of Town and Country Planning (FDTCP) and the Ministry of Urban Wellbeing, Housing and Local Government (MUWHLG) (2013) reported that cycling (a sustainable transportation option) can reduce up to six kilograms of carbon in a day compared to the utilization of motor vehicles.

Even though there are indications that the use of bicycles in the city is growing, the majority of the people do not use bicycles as a primary mode of transportation. For some, the presence of bicycle infrastructure and safe streets may be among the factors they consider when choosing a place to live. However, this does not translate into their motivation to opt for cycling nor does it translate into actions towards reducing their carbon footprints.

The development of Putrajaya was based on the concept of garden city with a network of open spaces and recreational areas covering 38.83 percent of the total area. The Perbadanan Putrajaya, the local authority of the area, has also included integrated cycle lane in the planning of Putrajaya (Unit Perancangan Bandar Perbadanan Putrajaya, 2009). The authority has also introduced initiatives to promote more sustainable transportation options such as encouraging the use of public transportation, walking and cycling (Bonsall, 2005). Yosri Abu Mahsin (2000) reports that among these initiatives include the launching of several bicycling campaigns to inculcate a cycling culture while promoting a healthy lifestyle and improving fitness among the civil servants in Putrajaya. Unfortunately, despite these efforts, private car remains as the primary mode of transportation chosen by most residents in Putrajaya.

Therefore, the need to promote cycling as a choice of transportation in line with creating greener cities and more sustainable urban neighbourhoods has become the basis for undertaking this study.

CYCLING AS A MODE OF TRANSPORTATION

> *"Vehicles with zero emissions, zero fuel consumption and virtually zero impact on pedestrians, cyclists, and urban population densities might be "green" but then we might as well have rediscovered the bicycle or feet."*
>
> (Whitelegg, 1993: 323)

Many authors share the view that cycling helps protect the environment. Whitelegg (1993) expresses concern for the environment and explains that green transportation is often an important consideration in the amelioration of urban transportation problems. Martens (2004) states that bicycle is one mode of transportation that is efficient because of its ability to avoid traffic congestion; it does not consume any fuel and contributes to traffic management such as feeder trips made by car. Wen (2014) reinforces this by stating that the use of bicycles could reduce traffic congestion, lessen environmental pollution and emit zero carbon. Bauman et al. (2008) also agree that cycling has various benefits such as improving health, protecting the environment, becoming a mode of transportation, spurring economic growth and enhancing social ties.

The U.S. Department of Transportation (2015) define cycling as the use of bicycle for sports, transportation and recreation. 'Cyclist', 'bicyclists' or 'bikers' refer to people who are involved in cycling. There are two main purposes of cycling i.e. cycling for leisure and cycling for utility. Cycling for leisure involves pursuing and participating in the trip itself. Leisure cyclists include sports training cyclist, cycle tourists and recreational cyclist. On the other hand, utility cycling involves making a journey for the purpose of doing an activity at the trips' end such as going for shopping, getting education and getting to work. The New Zealand Land Transport Safety Authority (2004) grouped cycling into four types, namely the neighbourhood cycling, sports adults, recreation cycling and touring cycling. Konski Engineers (1977) categorized four types of cyclists such as follows:

i. Category I -The Racer, the Sportsman, the Randonneur, the Connoisseur of cycling
ii. Category II - The Tourist, the Commuter, the Recreationalist.
iii. Category III - The Shopper, the Newcomer; the Neighbourhood Rider.
iv. Category IV - Children Cyclists, including most children from 7 to 8 to 11 or 16 years of age.

PLANNING FOR CYCLE LANES

According to Konski Engineers (1977), among the factors that affect the magnitude of bicycle usage in a given area include the trip length, trip purpose, climate and topography. A cycle lane plan is the organization of the facilities and the most suitable treatment to the existing lane which will ensure that cyclists are safe and comfortable throughout most part of their journey (Bach & Diepens, 2000). Dorrestyn (1996) states that the facilities being provided will vary depending on the environment, surrounding development and the types of cyclists who pass through. A good plan produces cycle lanes which provide the highest level of service (LOS) for cyclists, considering safety measures, ensuring convenience and comfort, as well as integrate spaces for cyclists and other users in order to reduce conflict (Cumming, Barber & Smithers, 1999).

The Federal Department of Town and Country Planning (FDTCP) and the Ministry of Urban Wellbeing, Housing and Local Government (MUWHLG) (2013) divide cycle lanes into eight types such as follows:

i. Bike path (specific for cyclist, may share with pedestrians and in the urban areas only);
ii. Independent bike path (separated for roads, usually provided along the rivers or in the parks);
iii. Bike path adjacent to pedestrian walkways;
iv. Separated roadside cycle lane;
v. Controlled cycle lane (along the road bordered by separator sill, buffer or strip);
vi. Cycle lanes (along the road separated from motor vehicles by using road signage);
vii. Cycle trails (usually along low volume road and recreation areas, road sign provided); and
viii. Mixed used (could be dangerous to cyclist and cause conflict among road users).

EXISTING CONDITION IN PUTRAJAYA

Putrajaya applies the neighbourhood concept in planning its residential areas. With this concept, neighbourhoods within each precinct are integrated into the larger residential zones that are well served with basic facilities. Each neighbourhood is defined by roadways, open spaces or housing blocks and parks. In addition, each residential precinct must have at least one neighbourhood park and simultaneously located near a larger park beyond its boundary.

However, urban planning observers commented that the existing living condition in Putrajaya is far from what the plan envisages. Moser (2009) states that although the concept of New Urbanism emphasizes on dense building and walkability, the implementation of these principles in Putrajaya is still low. In terms of walkability for example, Moser notes that "it is a long hot walk to get to anywhere" and there are no trees that provide shade for the pedestrian. Moreover, there is no continuity from the public transportation terminals to the various places that people wanted to go. As such, the current scenario in most places in Putrajaya does not attract people to walk. Residents and visitors in Putrajaya also seem to ignore the policy of reducing automobile-dependence. Most people still use private vehicles to reach their destinations. One of the main shortcomings in Putrajaya planning is the failure to provide shade for pedestrians and cyclists along the streets especially along the broad formal avenues. Users are exposed to direct sunlight. The lack of shade along the major thoroughfare and residential streets discourages green forms of transportation such as walking and cycling.

RESEARCH METHODOLOGY

The study seeks to evaluate the resident's awareness and cycling pattern in Putrajaya towards promoting a cyclist-friendly environment for sustainable development. The study area covers Precincts 1, 10, 11, 14 and 15, with a total area of 1,204.54 hectares. The precincts were chosen due to their characters and function as the urban neighbourhoods or residential areas. The total number of houses in the precincts is 2,947. The selection of respondents excluded Precinct 1 as it is a commercial area, government offices area and public parks. The sample size was 116 respondents, which was derived using the "Raosoft Sample Size Calculator" with 92 percent confidence level. The sample was taken proportionately to represent the four types of houses in the study area - terraced houses (40 respondents), semi-detached houses (18 respondents), detached bungalows (18 respondents) and apartments (40 respondents).

Samples were selected using systematic sampling. For each Precinct, the starting point for respondents' selection was randomly determined and upon successful interview, subsequent respondents were systematically selected by skipping 3 houses and selecting the fourth house. For unsuccessful attempts (which include empty house, no cooperation or residents not at home), the next house was approached.

A questionnaire survey was used for the interview. Going house to house to get respondents proved challenging for the research team. During the survey, many residents were not willing to cooperate or were not at home. To overcome the lack of response, respondents were also approached and invited to participate in the survey at the nearby commercial area. Besides the residents' survey, observation survey was also conducted to evaluate the existing condition, infrastructure and facilities for cycling in the study area.

The data obtained were analysed quantitatively using the Statistical Package for Social Science (SPSS) software. Besides cross tabulation, correlation analysis was also undertaken for relevant variables. The research analyses residents' awareness including awareness for reducing the town car usage, awareness to use public transportation and awareness about the benefits of cycling in terms of health, environmental conservation and social life. In addition, the study also analyses the reason for constrained use of bicycles in respondent's neighbourhood and their willingness to use bicycle as a sustainable mode of transportation. Based on the residents' perspective and the pattern of bicycle usage in their daily life, several suggestions are outlined at the end of the paper.

FINDINGS AND DISCUSSION

Table 1 below summarizes the respondents' background. Additionally, it was also found that from the 116 respondents, more that 75 percent were new residents in Putrajaya, whereby they had stayed in the area for less than 7 years. The average household size was 4.09 and 61 percent of the households own at least a bicycle.

Table 1 Respondents' Profile

Variables	Attributes	Frequency	Percent
Gender	Male	69	59.0%
	Female	47	41.0%
Race	Malay	82	70.7%
	Chinese	22	19.0%
	Indian	12	10.3%
Marital Status	Single	42	36.2%
	Married	71	61.2%
	Divorced	3	2.6%
Age	18 and below	5	4.3%
	19 - 28	52	44.9%
	29 - 38	42	36.2%
	39 – 48	15	12.9%
	49 and above	2	1.7%
Level of Education	Primary School	2	1.7%
	SPM	18	15.5%
	Diploma	81	69.8%
	Bachelor degree and higher	14	12.1%

Modes of Travel

Table 2 shows the various modes of transportation that the respondents use for various trips daily. In terms of bicycle usage, less than 14 percent opted for cycling to go to school/college, work and shops. However, 86.21 percent stated that they use bicycle for recreation. The most popular choice of transportation to go to work was private car while private motorcycle was the preferred mode of transportation to go to the shops.

Table 2 Mode of travel and destination

Mode	School/ College		Work		Shop		Recreation		Total
	No	%	No	%	No	%	No	%	%
Public Transport	4	3.45	98	84.48	10	8.62	4	3.45	100.00
Car	1	0.86	102	87.93	11	9.48	2	1.72	100.00
Motor cycle	4	3.45	26	22.41	78	67.24	8	6.90	100.00
Bicycle	2	1.72	3	2.59	11	9.48	100	86.21	100.00
Walking	3	2.59	3	2.59	4	3.45	106	91.38	100.00
Total	14		242		114		220		

Awareness on Sustainability of Bicycling

Table 3 shows the respondents' level of awareness based on seven indicators that reflect the sustainability of bicycling. Respondents were unanimous for the first indicator whereby all of them agree to the statement that cycling contributes zero pollution and zero carbon. Respondents were also aware about the other four indicators of sustainability whereby only one or two respondents who answered "no" to these statements. These four questions/statements were about park-and-ride system, the fact that bicycle is an environmental-friendly mode of transportation, the benefit of cycling towards health and the contribution of cycling towards community ties.

Table 3: Respondents' awareness on sustainability of cycling

Indicators of awareness	Yes		No		Total	Percentage (%)
	n	%	n	%		
Do you know that with cycling, we have contributed zero pollution and zero carbon in Malaysia?	116	100.00	-	-	116	100.00
Do you agree that park and ride system can reduce the use of cars for travel in the urban area?	115	99.10	1	0.90	116	100.00
Do you agree that the bicycle is one of the types of vehicles that are safe for the environment?	115	99.10	1	0.90	116	100.00
Do you know that with cycling, you can improve health in your life?	114	98.30	2	1.70	116	100.00
Do you know that with cycling, you can strengthen community life in your neighbourhood?	114	98.30	2	1.70	116	100.00
Do you use public transport to an area of 10km-15km distance from your home?	78	67.20	38	32.80	116	100.00
Do you know there were eight (8) types of bicycle lanes in Malaysia?	24	20.70	92	79.30	116	100.00

The high level of awareness for the five indicators is a reflection of the residents' concern for preserving the environment and knew that bicycling contributes towards sustainability. It also proves that the various campaign programs on cycling were successful to educate the public. However, for specific knowledge about bicycling, the level of awareness was low. For example,

majority of the respondents (79.3 percent) answered "no" to the question on whether they knew that there were eight types of bicycle lanes in Malaysia.

Even though for most indicators on sustainability recorded a high level of awareness among the respondents, this is not translated well into practice. When asked whether they use public transportation to a destination of 10km-15km distance away, only 67.2 percent answered "yes". This shows that the awareness for using public transportation needs to be increased to encourage more residents switch from using their private car to a more sustainable form of transportation.

Opinion on the Lack of Bicycle Usage

Table 4 presents the responses from the respondents when asked about the reasons on why they think people were not using bicycle as a means of getting around the neighbourhood for their daily trips. The top most reason agreed by the respondents was the lack of education to residents. Sixteen respondents strongly agree and another 37 respondents agree that this contributed to the lack of bicycle usage. Another 15 respondents strongly agree that the lack of promotion as the main reason. For the other reasons listed in Table 4, more than 70 percent of the respondents expressed a strong disagreement for each item to be the cause for the lack of bicycle usage. Respondents strongly disagree that cycle lane was not well designed, cycle lane was not enough, cycle lane was not well maintained, appropriate infrastructure was lacking and they also disagree that cycling is unsafe and dangerous.

The respondents' opinion shows that neighbourhoods in Putrajaya were equipped with well-designed cycle lanes and reasonably good infrastructure for cycling and most residents were aware of this provision. Residents also felt that the neighbourhood streets and cycle lanes are safe for cyclists.

Table 4 Reasons for the Lack of Bicycle Usage

Reason	1	2	3	4	5	Total
Lack of education to residents	16	37	33	15	15	116
Lack of appropriate infrastructure	1	3	3	23	86	116
Lack of promotion	15	2	1	2	96	116
Not enough cycle lane	2	1	2	14	97	116
Unsafe and dangerous	1	1	3	14	97	116
Lack of maintenance	2	2	1	14	97	116
Cycle lane not well designed	2	2	1	13	98	116

Note: (1) Strongly Agree (2) Agree (3) Slightly Agree (4) Disagree (5) Strongly Disagree

Observation of the cycle lanes and infrastructure for cycling in the study area revealed that all cycle lanes and infrastructure were in good condition and

the provision was comprehensive. Cycle lanes in the study area were connected to all Precincts and their condition were good. Table 5 shows the provision of cycle lanes and the related facilities in the study area. Figure 1 - Figure 4 portray images of the cycle lanes and facilities.

Table 5 Provision of Cycle Lanes and Cycling Facilities by Precincts

Attributes	Precinct				
	1	10	11	14	15
Cycle lane *(Connected)*	✓	✓	✓	✓	✓
Public toilet	✓				
Rest area / bus stop	✓	✓	✓	✓	✓
Drinking water dispenser	✓	✓	✓	✓	✓
Lockers	✓	✓	✓	✓	✓
Security features *(Lighting)*	✓	✓	✓	✓	✓

Figure 1 Cycle Lane in Precinct 1

Figure 2 Cycle Lane in Precinct 10

Figure 3 Facilities for Cycling – Bike Parking

Figure 4 Public Toilet along the Cycle Route

Willingness to Implement Sustainable Transportation Options

As listed in Table 6 below, there were five indicators of willingness to implement sustainable transportation options analysed in this study. Feedbacks from the respondents revealed that 80 percent of the respondents were most willing and willing to take necessary actions in order to improve their health and to reduce carbon footprint in their daily lives. In terms of reducing travelling by car, 68.1 percent of the respondents were most willing and willing to reduce their car travel while another 27.5 percent were slightly willing to do so. Only five respondents (less than 5 percent of the respondents) were unwilling to take necessary actions for these three options.

Table 6 Willingness to Implement Sustainable Transportation Options

Attributes	Most willing (1)		Willing (2)		Slightly willing (3)		Unwilling (4)		Very unwilling (5)		Total	
	No	%	No	%	No	%	No	%	No	%	No	%
Willingness to improve health	63	54.31	30	25.86	18	15.51	3	2.58	2	1.72	116	100
Willingness to reduce carbon	59	50.86	34	29.31	18	15.51	3	2.58	2	1.72	116	100
Willingness to reduce travel by car	63	54.31	16	13.79	32	27.58	3	2.58	2	1.72	116	100
Willingness to cycle	35	30.17	19	16.37	57	49.31	3	2.58	2	1.72	116	100
Willingness to walk	33	28.44	19	16.37	59	50.86	3	2.58	2	1.72	116	100

Based on these three indicators, it can be concluded that in general, the residents in the study area are receptive to change and would want to adopt more sustainable living options. However, when asked whether they are willing to cycle and to walk for their daily trips, less than 50 percent of the respondents were willing to opt for these modes of transportation.

Therefore, from this analysis, it can be concluded that most respondents are willing and ready to reduce carbon, to improve health and to reduce car usage but are less willing to walk and cycle in their daily life. The midday heat and the nature of tropical warm weather coupled with the lack of shaded paths contributed in-part to this low level of willingness.

RECOMMENDATIONS AND CONCLUSION

The sustainability concept is evident in Putrajaya through the designation of almost 40 percent of its total area specifically for green and open spaces in the Putrajaya Master Plan. Cycling has become popular as more people became

aware of the concept of sustainability and wanted to be part of the movement for a greener future city especially in neighbourhoods experiencing constant traffic congestions. However, this study shows that majority of the respondents did not use bicycle as a primary mode of transportation in their daily trips to work, shops and colleges even though the provision of cycle lanes, and the related infrastructure and facilities, were excellent. The residents' survey found that the awareness among residents towards cycling to a destination of 5km to 10km from their home was not satisfactory. Only four respondents reported using bicycle on a daily basis and 47 percent of the respondents use the bicycle once a week, mostly for recreational purposes.

Based on the analysis and findings, several recommendations to increase the residents' awareness for cycling in the urban neighbourhoods are outlined. These recommendations are categorized into three stages i.e. short term, medium term and long term measures that can be applied in the neighbourhoods of Putrajaya.

In the short term, efforts should be targeted at improving safety and roadway behaviour among cyclists through educational programs, campaigns and promotion in the mass media. In the medium term, measures should focus on programs to promote cycling and increase awareness of cycling among the general public. For instance, program such as 'smart trips' can be implemented in which events such as riding a bicycle in the neighbourhood can be organised so that the population become more familiar and comfortable getting around using alternative mode of transportation. Other programs such as 'Take your cycle to the shop today' program, promoting cycling to work and promoting cycling to school can also be implemented. In the long term, efforts should be aimed at promoting cyclist-friendly environment for sustainable development in neighbourhood areas. An 'all ages and abilities bicycle network plan' can be prepared to plan and to provide an interconnecting system of bicycle lanes and facilities, which are comfortable and attractive for a broad array of users, such as children, youths, families and seniors in the study area.

CONCLUSION

Findings from this study found that the infrastructure and facilities along the cycle lane and the cycle lane signage were already in very good condition. The cycle lanes were also well connected throughout the several Precincts in the study area. Thus, with the implementation of the recommendations proposed in this paper, the cycle lane could be categorized into family trail, fitness trail and educational trail, and all the trails are connected throughout the neighbourhoods. These proposals could promote a cyclist-friendly environment, attract more residents to leave their cars at home and take the bicycle to the shops, schools or work.

This study is important to improve the quality of the environment as well as public health and fitness. The provision of cycle lane in the urban

neighbourhood can also enhance the value of land and property. By encouraging cycling within the neighbourhoods, the aim for sustainable development in the urban neighbourhoods could be materialized in Putrajaya.

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AN EVALUATION OF URBAN PUBLIC TRANSPORT ROUTE. CASE STUDY: HOP-ON HOP-OFF, KUALA LUMPUR, MALAYSIA

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Abstract

Urban public transportation system is a means of providing mobility to locals, visitors as well as tourists. KL Hop-On Hop-Off buses, for instance, are designed specifically for local and foreign tourists to move within the Kuala Lumpur (KL) city centre areas for the purpose of tourism. However, there is only one route provided by the KL Hop-On Hop-Off, with more than 20 stops. The duration for a complete route tour without any stop is too long; that is around 2-2 ½ hours. Coupled with the problem of traffic congestion in KL, passengers face the problems of punctuality and long waiting periods. Thus, this study was carried out to evaluate the existing route of the KL Hop-On Hop-Off bus services. GIS application and questionnaire survey were used to evaluate the route. As a result, this study proposes three new routes as the alternatives to the existing single route Hop-On Hop-Off bus service. With the new routes, duration of a single full route tour can be reduced based on the interest of tourist. Tourists will be able to concentrate on just one part of KL city centre for their one-day tour based on their interest either heritage, shopping or nature.

Keywords: Hop-On Hop-Off bus, route, satisfaction, tourist, walking distance

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INTRODUCTION

Transport has been a necessary element of tourism from the early days of the pilgrimage; but technological developments have enabled tourists to travel longer distances and have facilitated the rapid growth of destinations (Lumsdon, 2006). This shows the importance of transportation to the development of tourism industry. In terms of public transportation, an urban area, such as Kuala Lumpur, may consists of bus services, light rail transit (LRT), commuter rail, airport rail and taxi. In Kuala Lumpur (KL), the public bus services comprise the city bus and the tourist bus. The city bus service consists of Rapid KL, City Liner, Metrobus and Selangor Omnibus. At the same time, there is also a tourist bus service within KL city centre area, called "KL Hop-On Hop-Off".

"Hop-On Hop-Off" is a brand that is owned, operated and managed by isango! Limited (2015). A Hop-On Hop-Off is a type of tourist bus service that follows a circular route with fixed stops through a city and allows paying passengers unlimited travel for a day (or other period of time) with the freedom to disembark at any stop and re-board another bus to continue their journey. Throughout the world, there are many cities that have this type of tourist bus service such as London, Paris, Amsterdam, New York, Singapore, Barcelona, Madrid, Granada, Las Vegas and Washington DC (isango! Limited, 2015). Table 1 shows examples of Hop-On Hop-Off bus services in a few cities.

Table 1 Hop-On Hop-Off Services in Few Cities

City	KL	Penang		Rome	Singapore			London		
Route	1	City	Beach	1	City	Original	Heritage	Original	City	Museum
Frequency (minutes)	30	20-30		15-20	13	20-30	20	10-30	10 -20	10-30
Full Loop	2 hr 30 mins	No data		1 hr 40 mins	1 hr	1 hr 40 mins	1 hr	2 hr 15 mins		
Operating Hours	9.00am - 8.00pm	9.00am - 8.00pm		9.00am - 7.00pm	8.30am - 6.30pm	9.30am - 6.00pm	9.40am - 5.15pm	8.30am - 8.00pm	8.30am - 5.20pm	8.45am - 5.10pm
No. of designated stop	22 stops	33 stops		10 stops	21 Stops	24 Stops	19 Stops	32 Stops	35 Stops	17 Stops

Sources: EWSB (2014); isango! Limited (2015)

Kuala Lumpur also has its own version of Hop-on Hop-off bus service, which is managed and operated by Elang Wah Sdn Bhd (EWSB, 2014). It provides 22 designated stops around 40 attractions in KL (EWSB, 2014). However, Hop-On Hop-Off bus does not seem to attract many tourists to take the bus services especially during rush hours where tourists might have to wait for a considerably long time to board the bus. Traffic congestion in the city centre has often resulted in some of the passengers were unable to take the bus on time to

return to their starting point during rush hours (evening). Furthermore, most of the passengers were only able to visit a small number of the designated stops in a day. These prompted the authors to conduct this study to evaluate the existing route of the KL Hop-On Hop-Off bus. As mentioned by Lumsdon (2006) there is lacking of established body of research on the design of tourism bus services even in a developed country such as the United Kingdom.

PUBLIC TRANSPORT ROUTE PLANNING

A good public transport system is aimed to accommodate vast number of individual trips. It is designed to offer convenient links between all points where there is demand (Public-Private Infrastructure Advisory Facility, 2006). According to Ibarra-Rojas et al. (2014), transit network (routes) planning covers the following subjects:

a) Transit network (routes) design: Defines the lines layouts and associated operational characteristics such as rolling stock types and space between stops to optimise specific objective functions such as minimization of the weighted sum of operators' and users' costs.
b) Frequency setting for peak and non-peak hours.
c) Defines arrival and departure times of buses at all stops by meeting different goals such as meet a given frequency, satisfy specific demand patterns, maximise the number of well-timed passenger transfers, and minimise waiting times.
d) Determines the trips-vehicles assignment to cover all the planned trips with minimum operational cost.
e) Driver scheduling and rostering.

Route design deals with determining the origin, destination, intermediate stops, and path for each bus route in the network. An example of this type of research is a hybrid coverage model for strategic planning to expand service access and increase accessibility of bus stops. This includes the relocation of bus stops to maximal coverage locations in an existing network to minimise the number of bus stops and optimise the location of bus stops to create or extend the network (Sorussa, 2014).

In designing a bus route, there are seven types of bus services and routing, which are listed below (Grava, 2003):

a) Shuttle model: a single path between two points where the frequency of route depending on demand.
b) Radial patterns-through-running: provides services for the journey to work. It is effective as long as there is a concentration of employment.

c) Radial patterns-return-running: resembles the shape of a star in which to focus on important routes in the middle of it.
d) Grid network: relatively straight line, parallel routes where there are spaces between it and intersect the paths of the same character.
e) Feeder service: local routes to feed heavier transit modes such as commuter train in a city.
f) Trunk line: different buses will travel at the same route at different intervals.
g) Loops and circulation: bus moves in one way repeatedly on a fixed route.

RESEARCH METHODOLOGY

Case Study

For this particular research, KL Hop-On Hop-Off was chosen as the case study. KL Hop-On Hop-Off runs seven (7) days a week. The bus runs in a circular loop daily with the first bus is at 9.00am until the last bus at 8.00pm with a 30 minutes intervals. Throughout the route, there are 23 designated stops in KL city centre area. Passengers can purchase the bus ticket at the main ticket counter, authorised agents and via on-line. There are two types of ticket, one is valid for 24 hours and another for 48 hours. The route begins and ends at Jalan Ampang, which covers the following roads:

- JalanGereja,
- Jalan Raja Chulan,
- Jalan P. Ramlee,
- JalanPuncak,
- Jalan Pinang,
- Jalan Kia Peng,
- JalanStonor,
- JalanConlay,
- Jalan Bukit Bintang,
- JalanTengkat Tong Shin,
- JalanChangkat Bukit Bintang,
- JalanTun Perak,
- JalanTun Tan Cheng Lock,
- Jalan Sultan,
- Jalan Hang Jebat,
- Jalan Sultan Muhamed,
- Jalan Hang Jebat,
- Jalan Sultan Muhamed,
- Jalan Istana,
- Jalan Travers,
- JalanTunSambanthan,
- JalanStesenSentral,
- JalanDamansara,
- JalanParlimen,
- JalanCenderawasih,
- JalanPerdana,
- Jalan Sultan Hishammudin,
- Jalan Raja,
- Jalan Raja Laut,
- Jalan Ipoh,
- Jalan Pahang,
- JalanTunRazak,
- LorongKuda,
- JalanBinjai

Scope of Study

This study focus on the KL Hop-On Hop-Off route, distribution of tourist spots and shopping areas, and satisfaction of passengers (respondents) on the distance to bus stop from hotel, number of bus stop available, number of tourism destination that can be covered, duration of one complete route tour, frequency, and punctuality.

Questionnaire Survey and Sampling of Respondents

A questionnaire survey was carried out in January, 2016 to obtain views/feedback from passengers. The questionnaire covers the following aspects:

a) Background of respondents, i.e. age, origin, purpose of travel and type of ticket.
b) Satisfaction of respondents on the distance to bus stop, number of bus stop, number of tourism destination covered, duration of one complete route tour, frequency, and punctuality.

A total of 83 respondents were selected among passengers including both locals and foreign tourists, and from different age groups. Simple random sampling technique was used for this purpose. In general, the majority of the respondents (75.9%) were foreign tourists. About two-third of the respondents purchased the 24-hour ticket while around 80% of respondents did not travel in a group. The background of respondents is as shown in Table 2.

Table 2 Background of Respondents

Variables	Percentage (%)
Age	
21-30 years old	21.7
31-40 years old	25.3
41-50 years old	34.9
>50 years old	18.1
Origin	
Foreign	75.9
Local	24.1
Purpose of trip	
Leisure	86.7
Working	13.3
Type of ticket	
24-hour	66.3
48-hour	33.7
Travel in group	

Yes	20.5
No	79.5

Method of Analysis

Existing route of KL Hop-On Hop-Off was analysed based on the coverage of KL's tourist destinations (tourist spots and shopping areas) by using geographic information system (GIS) buffering technique via MapInfo. Meanwhile, the satisfaction of respondents (passengers) on the aspects of duration, the number of bus stops can be utilised, frequency and punctuality were analysed using cross-tabulation and frequency tests as available in Statistical Package for Social Sciences (SPSS). At the end of the study, alternatives of new routes were analysed based on the criteria of distance, number of destinations covered and identity/character of an area. For the purpose of calculating the travelling time for the new routes, general road condition in a working day (21 January 2016, Thursday) during the non-peak hour (10.30-11.30am) was used to model the new routes.

RESULTS AND FINDINGS

Concentration of tourist spots and shopping places

There were more than 50 tourist spots scattered in Kuala Lumpur city centre area. For the purpose of this study, KL city centre area was divided into four (4) quadrants. Based on the data (Figure 1), most of the tourist spots concentrated in quadrant 2 and 4. In quadrant 1, there were only five (5) tourist spots: the National Palace, Putra World Trade Centre (PWTC), Malaysian Parliament, National Monument and ASEAN Sculpture Garden. While in quadrant 2, there were 25 tourist spots including the most iconic buildings in Kuala Lumpur: the KLCC and the KL Tower. In quadrant 3, 13 tourist spots were identified, and most of them were natural/green areas and museums. In quadrant 4, there were 22 tourist spots, mostly historical attractions such as Dataran Merdeka, Stadium Merdeka, Petaling Street, Sultan Abdul Samad Building and also shopping complexes.

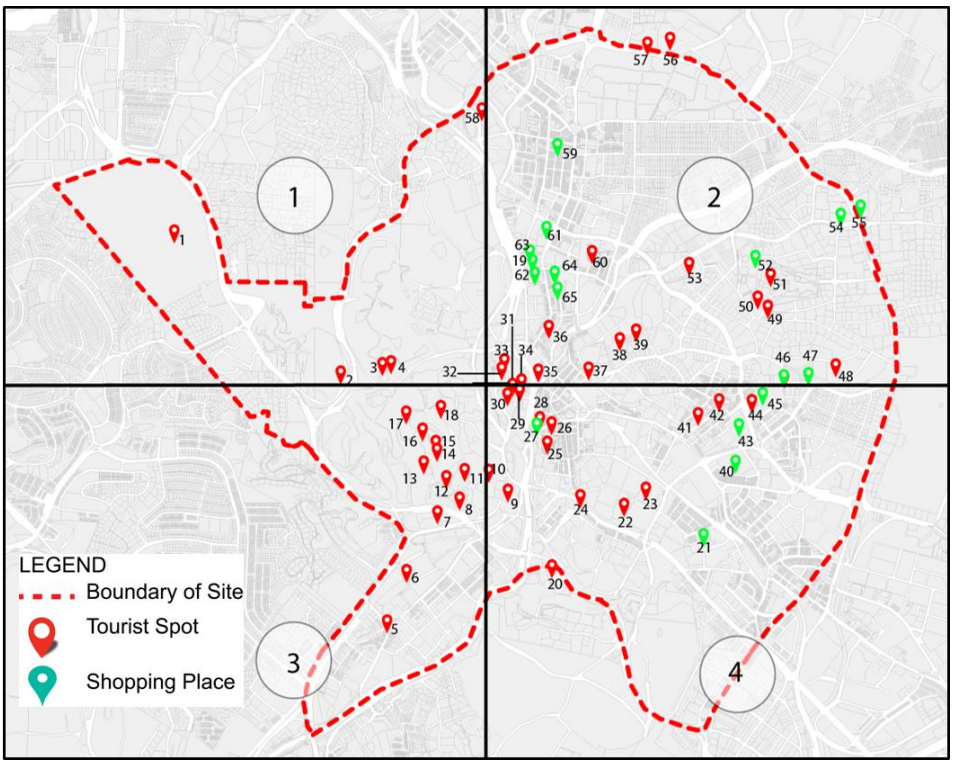

Figure 1 Distribution of Tourist Spots and Shopping Places

Existing Route and Location of Bus Stops

Currently, for KL Hop-On Hop-Off, there is only one route. The route is in a loop. This route has 23 stops along it. Based on observation conducted on 13th, 15th and 17th of January, 2016, one complete loop took 2½ - 3 hours. The frequency of service was 20-30 minutes. By referring to the buffering analysis with 400m for each bus stops (Figure 2), it is revealed that tourists can walk to more than one tourist spots from a bus stop. The 23 bus stops were covering 48 tourist spots and 17 shopping places in KL city centre area. There were only 11 tourist spots located out of walking distance from bus stops. Based on the satisfaction of respondents, most (95.2%) of the respondents were satisfied or felt neutral with the distance (by walking) between bus stops and tourist spots. Meanwhile, most of the respondents felt neutral or satisfied with the distance between bus stops and hotels (Table 3). Most of the respondents took not more than 15 minutes to walk from their hotel to the nearest bus stop.

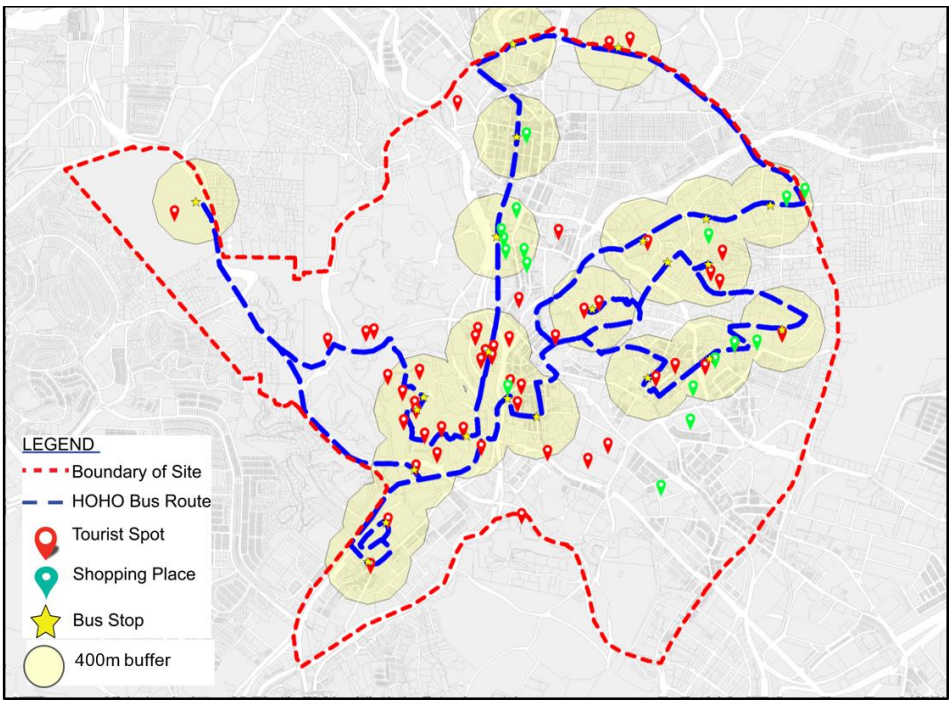

Figure 2 Existing Route, Location of Bus Stops and Buffering Analysis

Table 3 Satisfaction Level and Walking Distance from Hotel to Bus Stop

		Satisfaction level			Total
		Dissatisfied	Neutral	Satisfied	
Walk from hotel to bus stop (in min)	0-5	0	2	5	7 (8.43%)
	6-10	0	16	19	35 (42.17%)
	11-15	4	23	7	34 (40.96%)
	16-20	0	3	2	5 (6.02%)
	>30	0	0	2	2 (2.41%)
Total		4 (4.82%)	44 (53.01%)	35 (42.17%)	83 (100%)

However, out of the total 23 bus stops, most (97.59%) of the respondents only could utilise not more than 15 bus stops (Table 4). More than half (61.44%) of respondents were only able to utilise not more than 10 bus stops. Only 14.46% of respondents were satisfied with the number of bus stop that can be utilised by them (Table 4).

Table 4 Satisfaction Level and Number of Stop Utilized by Respondents

		Satisfaction level				Total
		Very Dissatisfied	Dissatisfied	Neutral	Satisfied	
No of stop utilized by respondent	<5	0	12	4	3	19 22.89%
	5-10	0	9	14	7	32 38.55%
	11-15	2	21	7	2	30 36.14%
	>15	0	0	2	0	2 2.41%
Total		2 2.41%	42 50.60%	27 32.52%	12 14.46%	83 100%

Furthermore, most of the respondents were only able to cover not more than 15 tourist destinations (Table 5), which contributed to the dissatisfaction of respondents on this matter. In the context of tourist destinations, only 7.23% of respondents were satisfied with numbers of attractions area covered by them (Table 5).

Table 5 Satisfaction Level and Number of Tourist Destinations Covered by Respondents

		Satisfaction level				Total
		Very Dissatisfied	Dissatisfied	Neutral	Satisfied	
No. of tourist destination covered	5-10	2	13	16	4	35 42.27%
	11-15	2	14	29	2	47 56.60%
	>15	0	1	0	0	1 1.20%
Total		4 4.82%	28 33.73%	45 54.2%	6 7.23%	83 100%

Regarding duration of one complete tour, most of the respondents were either neutral or dissatisfied with the duration (Table 6). About 66% of the respondents experienced 2 to 2½ hours for one complete tour without any stop. However, one-third of respondents experienced more than 2½ hours for one complete tour without any stop.

Table 6 Satisfaction Level and Time Taken to Complete One Tour

		Satisfaction level			Total
		Dissatisfied	Neutral	Satisfied	
Time taken to complete one tour (in hour)	2- 2 ½	14	32	9	55 66.26%
	>2 ½	21	6	1	28 33.73%
Total		35 42.16%	38 45.78%	10 12.05%	83 100%

In general, most of the respondents were not satisfied with the existing route of KL Hop-On Hop-Off. Around 58% of respondents were dissatisfied or very dissatisfied, 19% neutral, and only 23% of them were satisfied with the route. There was only one route available for the KL Hop-On Hop-Off service and it took too long to complete one complete tour without stop. Furthermore, most of the respondents were unable to utilise all of the 23 bus stops and visit the nearby tourist destinations.

The respondents, in general, felt that they were paying more than their ability to utilise the service. However, the respondents were satisfied with the current level of punctuality and frequency (waiting period) of the service.

Proposing New Shorter Routes

Based on the findings discussed above, an analysis was carried out to identify shorter routes for KL Hop-On Hop-Off service based on the following criteria:

a) Number of bus stop should be less than 10. Passengers (tourists) should be able to utilise most of the stops and cover most of the tourist destinations in the vicinity;
b) Duration to complete the new route should be not more than an hour, without stop; and
c) Clustering of tourist spots based on character.

As a result, three shorter routes are proposed as alternatives to the existing single route for Hop-On-Hop-Off bus in Kuala Lumpur (Figure 3). With these new routes, Hop-On Hop-Off bus can cover up to 6.15% more tourist destinations with four new bus stops. It will provide more choices of routes and tourist destinations for tourists. Masjid Jamek has been identified as the new common stop for each of the routes due to its strategic location, which is located in the heart of Kuala Lumpur and as a symbolic point of origin of Kuala Lumpur. With these new routes, tourists would be able to choose any attraction spots based on their interest more conveniently.

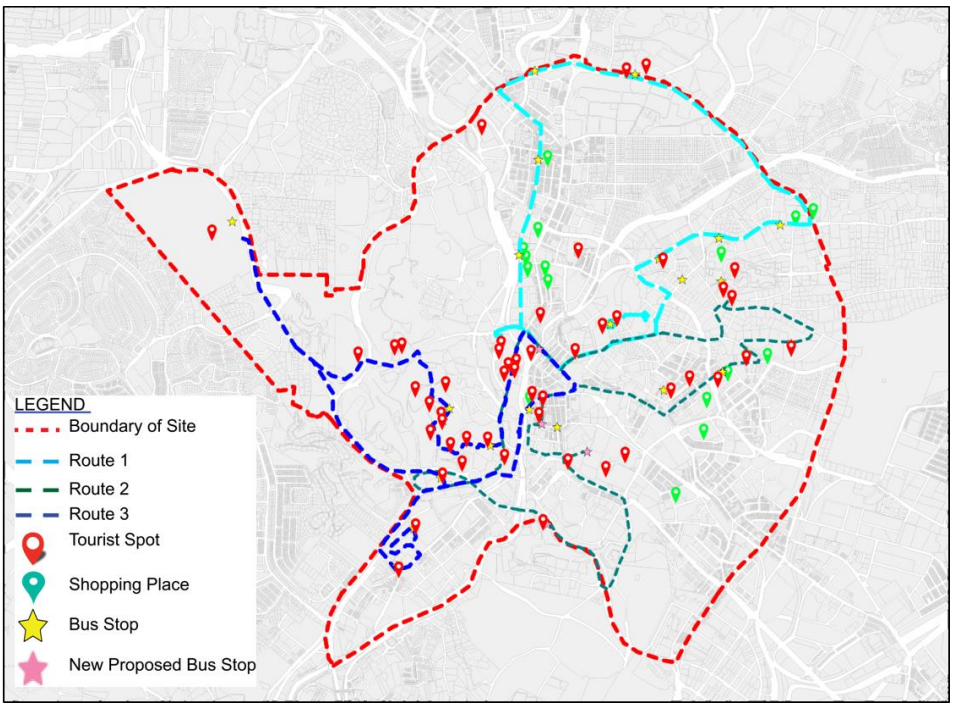

Figure 3 Proposed New Routes, Location of Bus Stops and Tourist Destinations

The proposed Route 1 has 9 bus stops with 23 tourist destinations (Table 7). The length is 12.85 km and duration to complete one loop is 37 minutes without stop. Most of the shopping places in Kuala Lumpur city centre, as well as iconic buildings in Kuala Lumpur such as KLCC, KL Tower and Masjid Jamek, are covered in Route 1.

Table 7 Coverage and Length of Route 1

Number of stop	Coverage	Duration (Minutes in normal working day)	Distance (km)
1 → 2	Jalan Ampang	2	0.75
2 → 3	Jalan Sultan Ismail	6	2.00
3 → 4	Jalan Raja Chulan Jalan Tun Perak	8	2.70
4 → 5	Jalan Tun Perak Jalan Parlimen	6	1.60
5 → 6	Jalan Raja Laut	4	0.85
6 → 7	Jalan Sultan Azlan Shah	4	1.40
7 → 8	Jalan Tun Razak	2	0.85

8 → 9	Jalan Tun Razak	5	2.70
Total		37	12.85

For proposed Route 2, there are 8 bus stops whereby 4 of them are newly proposed stops (Table 8). The length of the route is 15.9 km and takes 45 minutes to complete one loop without stop. Along this route, there are 25 tourist destinations that can be visited by tourists/passengers. This route emphasises on culture and shopping in Kuala Lumpur.

Table 8 Coverage and Length of Route 2

Number of stop	Coverage	Duration (Minutes in working day)	Distance (km)
9 → 10	Jalan Raja Jalan Tun Perak	4	0.5
10 → 11	Jalan Tun Perak Jalan Raja Chulan Jalan P. Ramlee Jalan Pinang	8	2.4
11 → 12	Jalan Pinang Jalan Kia Peng	5	1.5
12 → 13	Jalan Conlay Jalan Bukit Bintang	5	1.4
13 → 14	Jalan Bukit Bintang Jalan Pudu	6	2.2
14 → 15	Jalan Tun H. S. Lee	4	1.2
15 → 16	Jalan Istana	6	3.1
16 → 17	Jalan Damansara	7	3.6
Total		45	15.9

For Route 3, it has 10 bus stops with 26 tourist destinations (Table 9). The length is 16.5 km and takes 41 minutes to complete one loop without stop. Route 3 focuses on the scenic and panoramic areas of Kuala Lumpur due to the presence of green/natural areas and museums along the route.

Table 9 Coverage and Length of Route 3

Number of stop	Coverage	Duration (Minutes in working day)	Distance (km)
9 → 18	JalanTun Perak JalanTun Tan Cheng Lock	5	1.5
18 → 19	JalanDamansara	6	2.6
19 → 20	JalanSentral	3	1.1

20 → 21	JalanSentral	4	1.4
21 → 22	JalanDamansara	6	3.7
22 → 23	JalanTunkuabdulHatim	9	3.7
23 → 24	JalanCenderawasih	2	0.5
24 → 25	JalanPerdana	3	1
25 →26	Jalan Sultan Hishamuddin	3	1
Total		41	16.5

CONCLUSION

The findings of this study showed that existing single route Hop-On Hop-Off service for Kuala Lumpur did not draw maximum satisfaction from tourists/passengers. The route was affected by traffic congestion in the city centre and took too long to complete. As a result, this study proposes three new alternative routes that are shorter to complete. Each of the new routes focuses on the different types of tourist attractions in Kuala Lumpur. This would provide choices to tourists on which area they would like to visit based on their interests.

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THE IMPACT OF GENTRIFICATION ON LOCAL URBAN HERITAGE IDENTITY IN OLD QUARTER, MELAKA HERITAGE CITY

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Abstract

Gentrification represents a new trend of development towards the new forms of socio-spatial divisions of the city centre. It also restores the quality of urban development and life of the local community. However, there are various issues arising from this developmental process. These issues have been identified as the demand for physical development, economic worth and sociological evaluation of the community, which have an effect on the local identity of the study area. Therefore, the aim of this paper is to identify the impact of gentrification on the local urban heritage identity in the heritage city of Melaka. The study takes a quantitative research approach. This study also shows the positive and negative impacts to the local communities, and these effects may differ with other cities. The study evaluates the impact on the socio-culture and spatial structure in this area. Hence, recommendations of this paper place emphasis on the involvement of the local community in determining the direction of development. Apart from that, safeguarding the local intangible cultural heritage value in the urban development process should also be emphasised as it is intended to respect and protect the rights of the local community while creating a balanced development without compromising quality of cultural heritage assets of the historic city.

Keywords: cultural heritage, gentrification, heritage city, local community, urban identity

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INTRODUCTION

Gentrification is defined as an upgrading of the geographical area and the manifestation of middle-class values. It plays a significant role in the urban redevelopment sector (Bounds & Morris, 2006; Butler, 2007; Danyluk & Ley, 2007). Gentrification is a slow process and takes many years or in some cases, a decade for completion. It involves middle-class families shifting to economically deprived areas, where they purchase and restore the houses to raise property values. These new property values lead to higher rental rates and property taxes, and cause the displacement of the lower class families (Atkinson, 2000; Davidson & Lees, 2005). These issues are common in the urban redevelopment process in many developing countries and has sparked a universal debate on the reasons and impact of gentrification.

Like most cities, heritage cities are also affected by these processes. Heritage cities are usually linked with heritage preservation and is a significant part of the development process. Heritage preservation has customarily been viewed as the conservation, upkeep, renovation and refurbishment of buildings of a specific age (normally more than half a century), which are highly valued for their architectural charm or because of the people who were involved in the construction, design or related with different occupations of those buildings (Strange, 1999). However, heritage preservation involves much more than this. While the conventional perception of heritage preservation revolves not only around the building and its materials, it should also be extended to include the people, communities, stories, and the more detailed elements of the historical makeup for its reliability and validity (Hamnett, 2003; Lees, 1994)

Once a locality begins to degenerate, the historical buildings are usually vacated or simply left to crumble. But when gentrification occurs, the historical and domestic or common architecture of the buildings (particularly the houses) in a certain region or locality are preserved. This shows that the heritage preservation benefited in the process of gentrification. Gentrification restores the neighbourhood by repairing these historical buildings (Frank, 2005). This will drive up the resale value of the buildings, thus transforming the area and raising it to the level of the middle class, who are subsequently drawn to the area instead of avoiding them like in the past. Historical districts within cities are usually located in places where the urban housing values are cheap and populated with racial and ethnic minorities (Frank, 2005, Herman, 2009, Hamnett, 2003). Gentrification has a tendency to alter both of these features.

An uneasy relationship exists between gentrification and historic preservation, whereby the objective is usually to maintain the physical and social features of the area. Although gentrification may preserve the historical framework of a locality, it usually forces out the long-time residents, who cannot afford the higher rents, property taxes or upkeep of their buildings, and may avail the benefit of new facilities that come with the “upgraded” locality (Herman,

2009, Herman, 2009, Hamnett, 2003) . Langegger (2016) has examined the gentrification need to link the social production of public space with the municipal regulation of public space.

This paper illustrates the effects of gentrification on the local urban identity of Melaka as a heritage city. The clash between gentrification and the local urban identity of a heritage city has become a major problem that needs to be tackled. It also gives a review on the historic cultural assets, which comprise tangible heritage and intangible cultural elements, factors that define the local identity of the area. The development trends in Melaka were examined in order to ascertain the requirements of urban development and tourism. The quality of the existing cultural buildings was also assessed to determine the value of the local identity.

RESEARCH METHODOLOGY

This study was conducted in the Old Quarter of the heritage city in Melaka. Melaka city was selected because it represents a different method of gentrification in a heritage area. The need for a study such as this arose out of the work to bring about social change, which has had an effect on the quality of the local identity.

This study adopted a quantitative research approach. Data was gathered from 148 respondents via face-to-face questionnaire survey. The respondents were those living and working in this area, where most of them are from similar backgrounds and have formed their own ideas about the community. The majority of the people in the area are Chinese because in the past this area functioned as a residential and business centre for traders. The Malays and Indians are the minority groups. Besides the questionnaire survey, the community leaders were interviewed to gather secondary data in order to further enhance the study.

Descriptive and inferential statistics tools in the Statistical Package of the Social Science (SPSS) software were used to analyse the data. The data was analysed within the context of the research objectives, which aims to critically assess the effect of gentrification on the local urban identity in the Old Quarter, Melaka.

The Old Quarter of Melaka city is a historic residential and commercial area in the World Heritage Site core zone. This area was developed more than 5 centuries ago and is an excellent example of a historic colonial town located along the Straits of Malacca. A series of physical and social advancements during the 1600's to the 1800's left behind historical vestiges such as memorials, historic passageways, heritage areas, buildings, and burial grounds. It also incidentally led to the creation of a distinctive mix-culture formed by interracial marriages and various religious observances with their way of life. Presently, this area has been identified as an attractive place for tourists and rapid development is taking place all around the area as urbanisation takes place.

FINDINGS AND DISCUSSION

This section presents the analysis and findings of this study. This section also comprises a short discussion regarding the changes in the urban patterns and the challenges of gentrification in the study area based on the experience and views from the local community.

The study found that there were four main impacts of gentrification in the urban old quarter in Melaka city. These were identified through the views and opinions from the respondents. As shown in Table 1, gentrification in this area gives an impact towards changes of urban cultural heritage fabric (4.35), followed by the impact of decreasing the spirit of the place (4.27), Modification of social cultural value (3.85) and has created a Commodification of Cultural Heritage Value (3.71) in the study area.

Table 1 The Impact of Gentrification on Local Urban Heritage Identity

Impact	Means Value
Changes of Urban Culture Heritage Fabric	4.43
Decreasing the spirit of the place – 'Genius Loci'	4.27
Modification of social Cultural Value	3.85
Commodification of Cultural Heritage Value	3.71

Changes of Urban Culture Heritage Fabric

Since its development began hundreds of years ago, the four unique races (Baba and Nyonya, Chitty, Malay and Portuguese) have been living peacefully together in one place, thus promoting prosperity, well-being and consumerism among them. Every space in this area has been created to bring the various communities together such as the shops, markets, streets or places of worship. The community utilises the location and space to varying degrees, creating an urban neighbourhood with a distinctive identity.

After Melaka city was recognised as a historical city and Melaka was placed on the list of World Heritage Sites, there was a strong support for the development of the area. The municipal council, together with the Melaka Heritage Trust and other NGOs, worked together to enhance these activities. These has resulted in high increase in revenues both from the development and also from the tourism industry.

The improved development over the past ten years has given rise to growing concerns with regards to the process of development and conservation. Variety of tourist attractions were developed in the area. At the same time, many traders or building owners were competing to develop their premises or properties for the purpose of tourism. This study found that 72% of the respondents have refurbished their building unit (Figure 1). Meanwhile, 28% from the total respondents chose to preserve their building as it is. 17% of them are from the residential units.

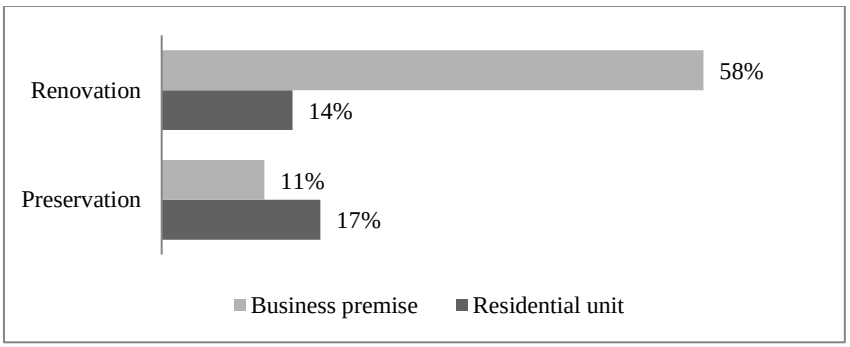

Figure 1 Building Refurbishment According to Building Use

Out of those respondents who have renovated their building unit, 35% did it to enlarge the internal space, 27% to improve the comfort of the internal space, 23% because of building maintenance purposes and 15% for beautification of the interior and the exterior façade (Figure 2).

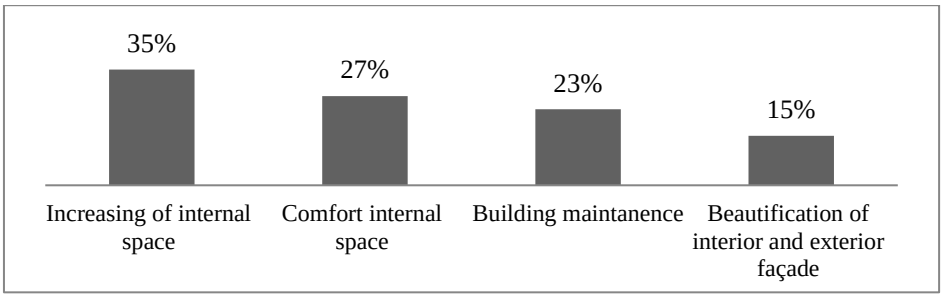

Figure 2 The Purpose of Building Renovation

In the study area, many ancient residential buildings have been refurbished into boutiques or budget hotels, and into cafés or restaurants, parallel with the current demand for tourism development. This, undoubtedly, has had positive and negative effect on the heritage quality of the built environment. Figure 3 shows that although almost half (47%) of the respondents retain the existing building design during the renovation, 53% of the respondents who have renovated their building units have change the design of the building, either partially (42%) or completely (11%). Thus, although the distinctive old town image and identity of the study area have been mostly preserved, some building owners have failed to do the same to their building units. They merely maintained the front façade of the buildings in the original style, while the back of the buildings were not in accordance to the specifications laid out in the guidelines. Additionally, some of the public areas have now been designated as private areas. For example, some small streets or alleyways were closed for private purposes (building extension). This situation has led to a loss of publicly owned areas, thus

limiting the social interactions/activities of the local community. These show that gentrification in this area has impacted the physical appearance of the historic centre and has played a role in changing the social fabric of the place.

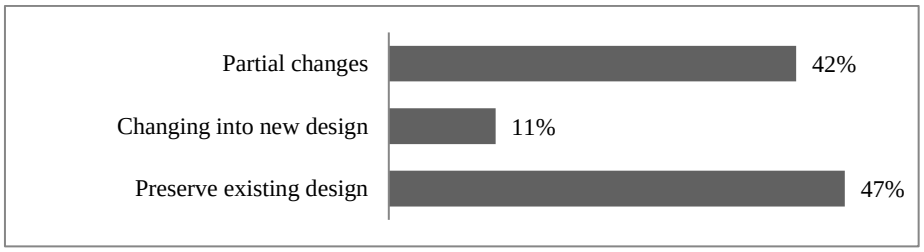

Figure 3 Building Renovation Pattern

Decreasing 'The Spirit of the Place - Genius Loci'

The Old Quarter has been a famous business district since the 1600's. It has become well-known among locals and tourists as a business district offering a range of daily essentials and services. For example, the wholesale and commercial centre of Melaka is located at Jalan Kampung Pantai, which claims to have the most number of retailers in town dealing with exclusive European and Chinese items. Here one can find traditional medicine halls, goldsmith shops, earthenware shops, wholesale liquor and tea companies, textile shops selling cheap Chinese materials, food stalls, milliners, shoemakers and pawnshops. The street is flourishing and business are brisk. The goods here are sold at much cheaper price than at other places due to the informal setting of the business premises. It is more interesting to shop in this district and shoppers/visitors can haggle over the price of the items they wish to purchase. This act of bargaining creates a special form of interaction between the shoppers and the traders, making this an attractive district for the local community and tourists alike.

The vibrancy of the district is heightened by the diversity of colours and sounds, and the flurry of activity among the hawkers and merchants, thus drawing crowds here, particularly during the festive seasons. In addition, as was stated earlier, every road or building section in the Old Quarter have their own character that is distinctive and exclusive to that area. This atmosphere is known as 'the spirit of the place' or 'genius loci'. It imbues the Old Quarter with a local urban identity of its own, which makes it a part of 'the outstanding universal value' of Melaka as a World Heritage Site.

However, the 'genius loci' of this district has been fading over the last five years. 81.8% of the respondents in this study concurred that this area has undergone a physical transformation that has affected the quality of the 'genius loci' and will have an impact on the local urban identity. Table 2 shows that most of the respondents agreed that the best place to meet is the coffee shop or '*kopitiam*'. The oldest *kopitiam* in this district has been in existence since the

1940s. In the *kopitiams*, local patrons can unwind and spend some time chit-chatting, and playing *mahjong* or checkers while having some local traditional food. Most of these coffee shops are no longer there today. Some shut down after the owner passed away and no next-of-kin was willing to continue running the business. Some of the *kopitiams* have also been transformed into modern upscale outlet with the interiors have been refurbished accordingly. Most of the traders are more interested in fulfilling the demands of tourists rather than those of the locals. Currently, the local community is making less use of the *kopitiams* and thus, a part of the local urban identity is gradually vanishing.

Table 2 Proportion of Missing Elements and Their Relationship in Local Socio Community

Elements		Coffee shop	Stall	Market	Place of meeting	The ambiance	Path way	Place of worship	Essential home
Missing Elements		24	16	10	18	21	5	4	1
Should Preserve		19	14	8	13	26	7	10	3
Relationship with Local community	Strong No Relationship	17	39	22	15	18	32	25	33
	No Relationship	10	16	19	19	15	19	31	50
	Related	51	34	41	31	44	43	19	17
	Strongly Related	23	11	19	35	23	6	25	0

Table 2 also shows that strong bond between the elements (coffee shops and the ambiance) and the social interaction among the local community. It has created a local urban identity and it is their hope that this element will be preserved to ensure that this identity will not be completely lost.

Local community also felt that urbanisation is one of the main causes for the fading genius loci. During interview, they revealed that modern businesses have indiscriminately defaced or removed buildings, revising the stories of the architecture, place, people and their lives. The departure of the local community leaves very little hope for its recovery. It is depressing for them to see their neighbourhood disappearing, with the people being forced to leave the place, where they were born and bred. There have been moments when they have felt uneasy in their own place because they feel 'unfamiliar' with the neighbourhood.

Modification of Urban Socio-Culture

Although the Old Quarter is located on prime land in the historic city of Melaka, property value was once considered low at between approximately RM700 (USD220) to RM1,250 (USD400) per square meter. However, since the repeal of

the Rent Control Act 2000, the value went up to RM 5,000 (USD 1,600) and above per square meter (Jabatan Penilaian dan Perkhidmatan Harta, 2012). During interview, local community informed that some owners of business premises and residences located in this area are prepared to sell their property to either foreign or local investors in exchange for good profits. They are also prepared to move out from the area.

The increase in property value had also increased rent. As a result, some local tenants, who have been living here for the past 70 years, were recently forced to vacate their premises as they refused to pay the higher rental fees. Prior to this, they would often hold various cultural activities and celebrations of religious festivals here. They would feel happy if they could live among their people together, and they appreciated the culture and the history that they had inherited from their ancestors. They had created a life for themselves based on the expression of their local culture through their daily activities.

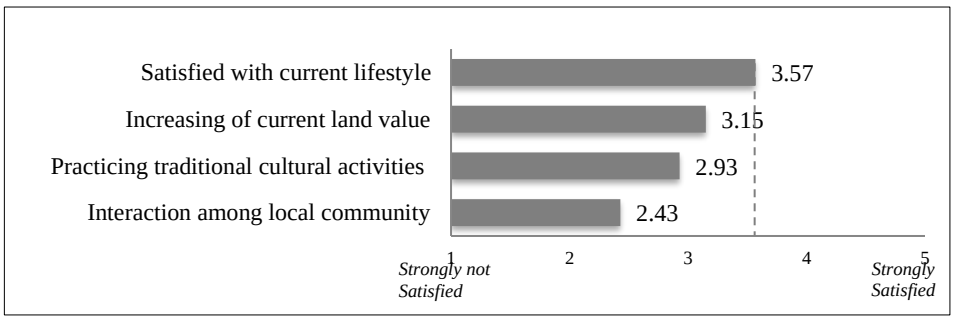

Figure 4 Urban Socio-Culture Life Satisfaction Level among Local Community in the Study Area

Figure 4 shows that majority of the respondents were satisfied with their current lifestyle (3.57 mean value), followed by satisfied with the increasing of current land value (3.15 mean value). However, respondents were not satisfied with the current practice of traditional values (2.93 mean value) and the level of interaction among local community (2.43 mean value). This indicates that gentrification has given both positive and negative impacts to the community socio-culture lifestyle. Many of the respondents were satisfied with their current lifestyle because they are earning monthly income through renting out their retail space. But many were not satisfied with the level of social interaction among the local community because most of the business operators are not locals who reside in the area. Instead, they just come to the area to operate their businesses during the day. During weekdays, when business is low, some areas are very quiet and create an uncomfortable feeling for some people. According to some respondents, this situation was less common in the last 20 years. Here it shows that a change in this area also affects the socio-culture of the local community.

Migration and Employment Opportunities

The gentrification process has also encouraged the migration of outsiders into the area. Many foreign and local investors are interested in conducting their businesses here. The majority of them are running boutiques and budget hotels, cafes and restaurants, handicraft and souvenir shops, antique shops, art galleries and others. These are high-income generating businesses. This study has found that majority of the communities' traders (60%) targeted their business to tourists, while only 40% aimed to serve both locals and tourists (Figure 5).

As they learn about the local culture, they also begin to appreciate and practice it in their daily lives. Surprisingly, more than half (53%) of the respondents (traders) are selling local products. Some of the traders have been operating their family businesses here for more than sixty years. They have been involved in promoting products that reflect their tradition, culture and identity such as wooden clogs, 'baju kebaya', beaded shoes, wood carvings, batik paintings, and traditional toys and games. The modern craftsmen are also involved in this industry. In addition, cultural performances such as dances, traditional songs, theatre and martial arts, are often held in the area for tourists. The locals, belonging to various ethnic and age groups, participate in these performances. The NGOs are working together with the government to help in the promotion of these products and to make the facilities available to all.

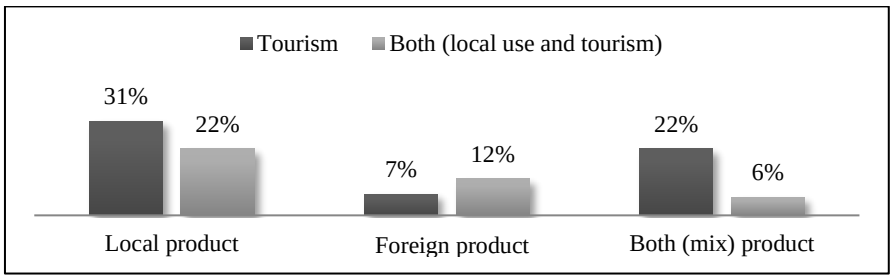

Figure 5 The Proportion of Business Product In Study Area

However, this study found that 19% of traders have been selling foreign product such as handicrafts and souvenirs from other countries, which do not reflect the local identity and image of the community. Here, it shows the process of gentrification formed on the commodification of local product and it is feared that this will affect the authenticity and image of traditional local products.

RECOMMENDATION

Based on the findings of this research, several recommendations are formulated. These recommendations may also be applicable to areas with similar characteristics and problems.

Local Community Participation

Locals should be participating in the process of developing plans and policies for managing urban heritage. They are the experts of their own locality and have the right to be involved in the process. One of the suitable methods to use in developing urban heritage management policy is the Stakeholder Consultation Model, which is a community-based and holistic method. It focuses on the participation of the local community and organisations with regard the objectives of government policy because the locals are in agreement on the value of their cultural heritage.

Building Ownership Control Policy

The government needs to come up with a new policy to solve the problem of outside traders becoming owners of buildings in the area. The objective is to solve the marginalisation of minority groups (local community) and to protect the rights of the locals. In reaction to the gentrification process, the local government has to work with non-profit organisations and the private sector to provide assistance for long-time residents who want to continue living in their neighbourhoods.

Consideration of Intangible Cultural Heritage Value in the Process of Urban Development

The development process of heritage area must not only consider the tangible cultural heritage, but also the intangible ones. It is recommended that both types of heritage must be safeguarded so that balanced development can be achieved in the heritage area. In addition, preserving both tangible and intangible hertage assets can also help to retain the local population to stay in the area as well as to respect and protect the rights of the community. Indirectly, this will give a positive impact on the process of gentrification of the area.

CONCLUSION

Studies have shown that gentrification could be a recommended way of developing an urban heritage area. It benefits the area in several ways, especially in terms of heritage conservation and improved economic climate of the area. However, gentrification is not without its shortcomings. If uncontrolled, gentrification can dilute the image and identity of the area resulting in local community being marginalised and isolated in their own birth place. Gentrification has also been shown to replace locals with outsiders. In the case of Malacca, its 'living heritage' identity is the outstanding universal value for being listed as World Heritage Site. The local urban identity will be totally lost if the locals continue to move out from the area.

A sustainable urban heritage site is created when the 'spirit of the place' is maintained, the local urban identity is preserved and the rights of the community are protected. Urban planners and decision makers should not be guided merely

by the desire to earn high urban economic revenues, but they should work to preserve the Universal Outstanding Values of the heritage assets and protect the rights of the community. The key point here is, local community must be directly involved in determining the future direction of development in their urban heritage area.

Nevertheless, there are still some gaps to be filled in the future such as the lack of information and the limited sources of information. A higher level of research must be carried out quantitatively especially to identify the cause and effect, and the connection between the various cultural heritage elements and development pattern of the heritage area.

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NOTES TO CONTRIBUTORS AND GUIDELINES FOR MANUSCRIPT SUBMISSION

INTRODUCTION

The Journal of the Malaysian Institute of Planners or PLANNING MALAYSIA is a multidisciplinary journal related to theory, experiments, research, development, applications of ICT, and practice of planning and development in Malaysia and elsewhere.

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