LIVEABILITY ANALYSIS OF GATED AND NON-GATED LOW MIDDLE INCOME COMMUNITIES IN KUALA LUMPUR, MALAYSIA

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ABSTRACT

The aim of this paper is to examine the liveability conditions in gated and non-gated low middle income communities in Kuala Lumpur where rapid urban growth has led to many disruptions in the urban living environment. Hence, a livability framework was developed with dimensions from housing condition, economic condition, functional environment, social relations and community safety towards achieving the research objectives of – a) to study the liveability level in gated and non-gated communities, b) to compare the level of liveability between gated and non-gated communities, and c) to determine the dimensions and indicators which influence the level of liveability in both communities. Residents' views were collected through a questionnaire survey which consisted of twenty-four indicators of liveability belonging to five dimensions from three communities in Kuala Lumpur. Two communities belong to non-gated and one community had gated living status. The findings of the research revealed that gated community has a better living conditions compared to the non-gated community. Thus, this research can be used as a turning point to improve the living environment of both gated and non-gated community

Keywords: Liveability, gated and non-gated communities, quality of life, living environment,

INTRODUCTION

Studies on the liveability of cities have been on the increase due to their perceived aftermath significant contributions to the quality of life (QOL). Although the quality of life (QOL) has been studied from different disciplines, however, it does not mean absence of diseases or sickness rather QOL depends largely on the living environment that encompasses both the built and natural environment. Malaysia is currently experiencing a high rate of urbanization and housing challenges which require immediate policy attentions. According to World Urbanization Prospects, Malaysia has 72.8 per cent of its population living in urban areas in 2011. This is expected to increase to 77.9 per cent by 2020 with an average urban growth rate of 2.1 per cent between 2015 and 2020.

Rapid urban growth in any country is spatially manifested in imbalanced distribution of urban population where some cities grow at a higher rate over other cities. At the micro level, rapid growth of the cities often leads to imbalanced development pattern which is manifested in some neighbourhoods which prosper while others deteriorate. Usually, it is the low income neighbourhoods which face a decline of liveability and pose enormous challenges that include providing adequate urban services and

amenities, alleviating urban poverty, designing new infrastructure and establishing governance systems for authorities managing the cities. Therefore, it is necessary to investigate the liveability of low middle income communities who are under stress in Kuala Lumpur - a city which is growing faster than other cities of Malaysia, with accompanying problems of congestion, environmental degradation and above all, a rise of crime rate (Sidhu, 2005; Mohit and Hanan, 2012).

AIM AND OBJECTIVES

The aim of this paper is to examine the level of livability of low middle income communities in Kuala Lumpur that consist of gated and non-gated neighbourhoods and make a comparative study between the two in order to fulfill the following objectives:

Objectives

a) To develop a community liveability framework with appropriate dimensions and indicators.
b) To investigate the level of liveability in gated and non-gated low middle income communities in Kuala Lumpur.
c) To compare the level of livability for both gated (GC) and non-gated (NGC) low middle income communities.
d) To provide recommendations that will help to improve the level of liveability and living conditions of both GC and NGC residents.

LITERATURE REVIEW

The term "liveability" is closely related to the living environment. According to Cambridge Advance Dictionary (2008) the world "Liveable" means a place or a building fit for living. Liveability is a concept that describe the existing conditions of a particular area or a city in relation to what ought to be and the reality of the situation of the inhabitants. Also, environment has been defined as the external conditions that can affect the life of an individual or group of citizens (Omuta, 1988). The problem with the concept of liveability has been that scholars created definitions that were appropriate for their research. Consequently, various meanings, definitions, dimensions and indicators of liveability circulate in the literature (Van de Heuvel, 2013).

The Centre for Liveable Cities Singapore in 2011 define liveability as the city with excellent planning, create a lively, attractive and secure environment for people to live their life, work and play. It also encompasses good governance, a competitive economy, high quality of life and environmental sustainability. Economic Intelligent Unit (2011) described liveability as one of the determinants of quality of life. Shuhana et al., (2012) opined that high quality of living will affect citizen's lifestyle, health condition and shows stability of the built environment. Liveability according to Castellati (1997) means experiencing oneself as a real person in the City. Similarly, Southworth (2007) consider it as determinant of how well the City works for its inhabitants. Pacione (2003) opines that liveability is a relative term of which the actual meaning depends on the place, time and purpose of the assessment, and on the value system of the assessor.

From empirical perspective, many cross-cultural studies have been conducted to examine liveability of cities or areas or communities. Chaudhury (2005) examined the liveability of the capital city, Dhaka and the third largest city, Khulna, Bangladesh. The evaluation focused on consumer goods, utility services, housing affordability (rent), social security and environmental conditions. The study

findings showed that economic growth of Dhaka makes it more liveable than Khulna. However, the residents of Taman Melati in Kuala Lumpur Malaysia have expressed to continuing living in the area. The residents were satisfied with their living environment although their satisfaction was low on some physical environmental parameters such as noise pollution, air pollution and no brightness of streetlight at night. Non brightness of the streets light at night is linked to insecurity of the resident at night. The study seeks the perception of residents of residential environment areas of Taman Melati on air, noise, streetlight illumination, and traffic volume through the questionnaire survey. The study recommends improvement of the physical environment of Taman Melati especially in terms of safety (Abdul Azeez *et al.,* 2010). Similarly, the quality of the living environment of Seremban in the state of Negeri Sembilan, Malaysia had been assessed to be moderate; this is based on the perception of the urban dwellers of Seremban. Seremban according to Azahan *et al.,* (2009) has the potential to provide a better living condition to inhabitants if the planning authority takes cognizance of its potentialities. Leby and Hisham (2010) studied social, physical, functional and safety dimensions of neighbourhood liveability in Malaysia. Also, urban density and liveability relationship of Fairfield, Newtown in New Zealand and Churton Park in Canada was investigated through a triangulation methodology i.e. quantitative, qualitative and literature review. The measured variables include - connectivity, accessibility, mixed use and density. The study results revealed that more amenities are needed in the area, and improvement of the existing facilities is required. However they (residents) believed their neighbourhood is liveable (Betanzo, 2009).

Omuta (1988) investigated the environmental problems of Benin City, Nigeria through conceptual standards such as employment, housing, amenity, education, nuisance and socio-economic dimensions. The study adopted stratified random sampling of which twenty-one neighbourhoods of Benin City serves as units of assessment. The study analysis shows that the quality of life in the areas and overall environment and liveability of the city is too low. Furthermore, Olajuyigbe et al., (2013) assessed the quality of life of Benin City and found that the quality of life of the area is below average. Hypothetically one would have expected to see improvement in the area to follow its current status as the state capital. The study used Geographical Information System (GIS) Approach; twelve determinants grouped into three different domains of life were used to assess the QOL such as social, economic and physical. Asiyanbola et al., (2012) studied neighbourhoods' liveability of Ago-Iwoye and Ijebu-Igbo in Ogun State, South-West Nigeria. The findings show that necessary facilities and amenities in the areas were in a disrepair state. Ekop (2012) conducted principal component analysis to explain the variability of the set of data input for housing quality of Calabar metropolis, Nigeria. The inter-correlations of the data set revealed that socio-economic, housing characteristics and neighbourhood features are essential determinants of the liveability of the Calabar metropolis.

Besides informal housing environment/settlement, Ilesanmi (2012) examined the quality of public housing in Lagos state, Nigeria. His finding shows that public housing in Lagos State, Nigeria were of the low quality. Some studies on public housing in Nigeria focus on housing policies (Aribigbola, 2008; Olotuah, and Bobadoye, 2009). Some researchers focus on housing delivery strategies (Olayiwola, Adeleye and Ogunshakin, 2005; Makinde, 2013; Ifesanya, 2012) and a number of researchers examine public-private partnership in housing development (Musa and Usman, 2013; Ibem, and Aduwo, 2012). It is against the above background this study is critical given that a study on the liveability of low middle income communities is still almost not being researched in Kuala Lumpur in particular and Malaysia in general.

CONCEPTUAL FRAMEWORK

Based on the literature review and an analysis of various definitions provided by different authors, a conceptual framework has been developed which consists of five dimensions and 52 indicators for assessing the liveability of low middle income residents of Kuala Lumpur, Malaysia (Fig.1).

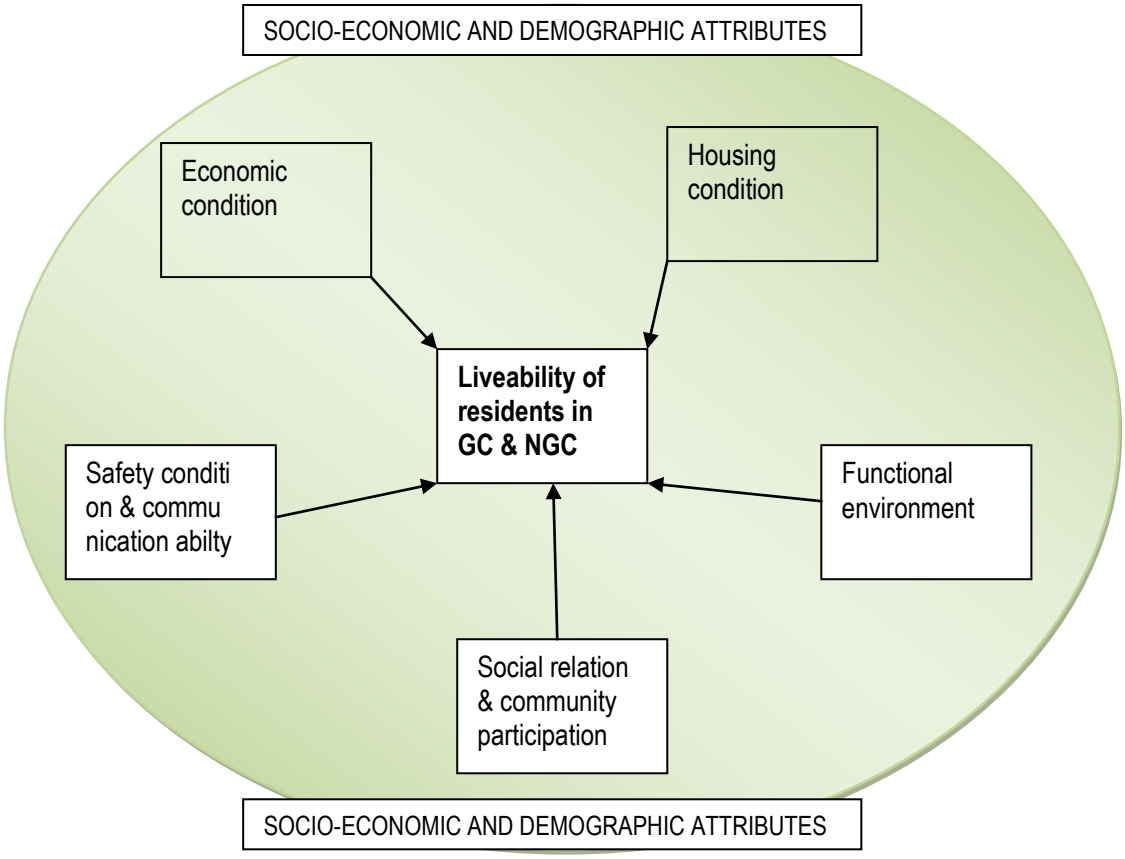

Fig. 1 Liveability framework developed based on literature review.

The framework so developed indicate that five dimensions determine liveability of gated (GC) and non-gated communities (NGC) and all these dimensions and their indicators are impacted by the socio-economic and demographic attributes of the residents.

METHODOLOGY

Methodology of the study includes research design, sampling frame and design, and sample selection. Then, it explains data collection and techniques of analysis as well.

Research Design

Based on an analysis of different definitions of liveability, five dimensions and 52 indicators were derived/ elicited to describe the livability condition of GCs and NGCs. We adapted Heylen's (2006) model of the perception of residential environment to fit model as shown in Fig.2. Based on the research design, appropriate/ relevant indicators were developed as shown in Table1.

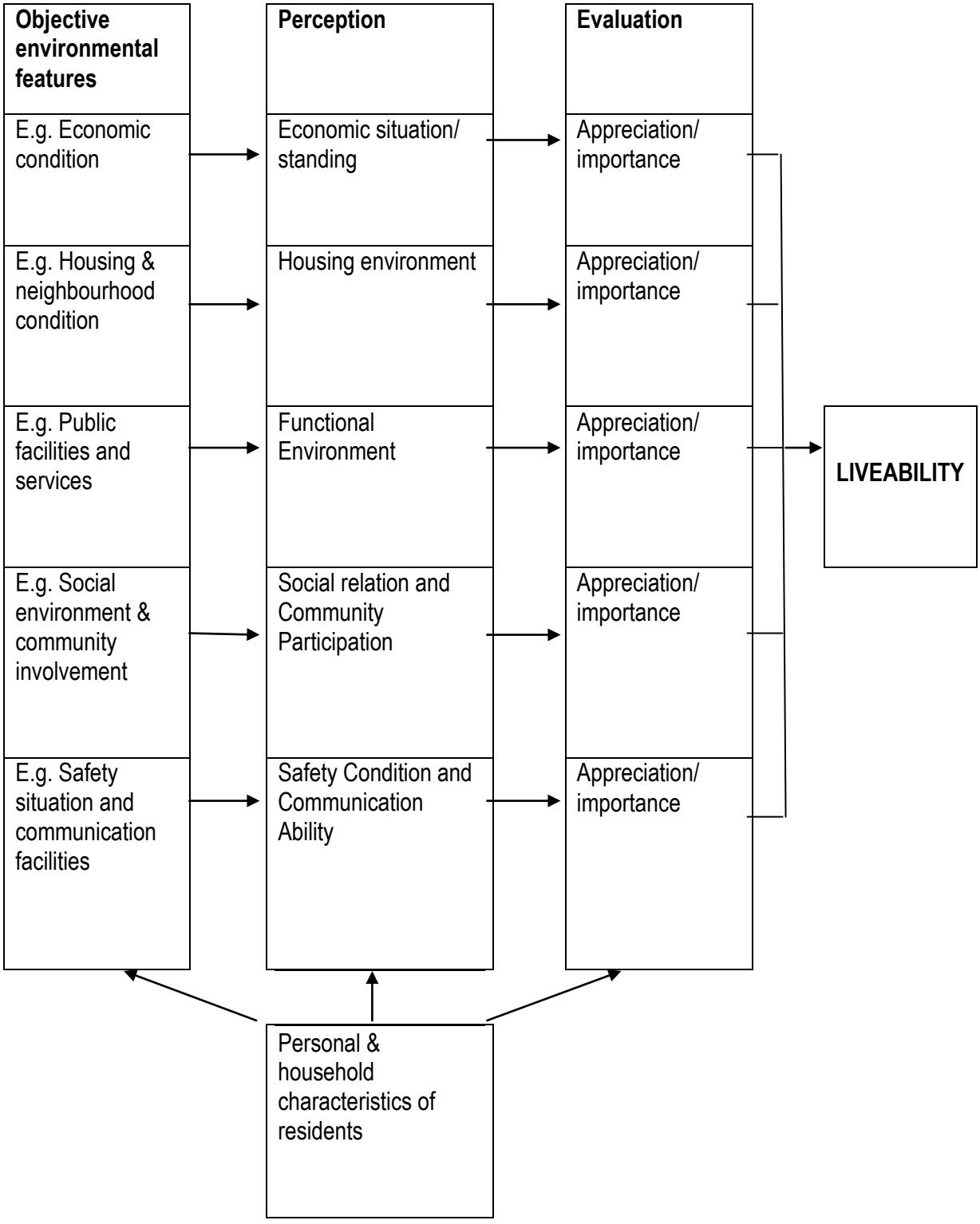

Fig.2 Model of Liveability based on the perception of objective condition.
(Source: Adapted from Heylen, 2006).

Data Collection and Analysis

Both primary and secondary data were collected for the study. Three methods - observations, interviews and questionnaire survey, were used for primary data collection while secondary data collected were from government publications and reports, books, scientific articles, dissertations and relevant portion of academic literature. A questionnaire was designed for field survey which was administered during January-February 2015. The questionnaire contained close-ended questions measured at 5-point likert-scale. Likert-scale questions enable the respondents to choose the rank given which represents their level of satisfaction towards several liveability aspects of their neighborhood areas.

Table 1: Dimensions and indicators used in the study.

Dimensions	Indicators	Dimensions	Indicators
Economic condition	a) Monthly household income b) Dependency rate c) Monthly payment/loan d) Travel time and cost	Social relations and community participation	a) Social relations and community involvement b) Opportunity to engage in community c) Community activities
Housing condition	a) Size of living area b) Number of bedrooms c) Maintenance of facilities d) Housing area cleanliness e) Solid waste management f) Parking	Safety condition and communication ability	a) Availability of security service b) Safety from road accident c) Quality of communication service d) Communication ability
Functional environment	a) Accessibility and provision of facilities b) Recreational facilities c) Public transportation service d) Employment opportunity e) Suitability for all ages	Socio-economic and demographic attributes	a) Age, sex, ethnicity, marital status b) Education c) Income d) Occupation e) Length of residency f) Ownership of transport g) Loan/ savings

Data analysis was done by using SPSS version 21. Both descriptive and inferential statistics were used to make the data meaningful

Sampling Design

A two-stage sampling was used for this study. These are – (a) selection of study neighbourhood from gated and non-gated clusters; and (b) selection of households for questionnaire

survey from each GC and NGC. Based on the location and type of neighbourhood, three low middle income communities were selected for questionnaire survey. These are – Mahsuri Apartment as a gated community and Andhika Flat and Taman Sentul Utara as non-gated communities. The selection of sample size is presented in Table 2.

Table 2: Sample size

Type of community	Study area	Total unit	Sample size	Percentage (%)
Gated community (GC)	Mahsuri Apartment	800	70	8.8
Non-gated community (NGC)	Andika Flat	240	50	20.8
	Taman Sentul Utara	1920	30	1.6
TOTAL	-	2960	150	31.2

Source: Field Survey, 2015

STUDY AREA

The selected study sites for this research included three housing areas – two of which are Mahsuri Apartment and Andika Flat which are located in Setiawangsa, and another one is Taman Sentul Utara Flat which is located in Sentul town. Setiawangsa is a suburban area which is situated at the eastern part of Kuala Lumpur at approximately 4 kilometers from the city centre. According to Kuala Lumpur Structure Plan 2020, Setiawangsa is located in strategic zone of Wangsa Maju – Malur which consists of an area of 46.5858 sq. km with a population of 380,000 (2005). The population of the area is projected to be 443,712 by the year 2020. Total employment provided in the area in 2010 was 135,000 and is projected to increase to 160,000 by the year 2020. The zone is predominantly residential with some commercial centres.

Sentul is a satellite town of Kuala Lumpur and is divided into two parts - West Sentul and East Sentul. It is located at the northern part of Kuala Lumpur City centre in strategic zone of Sentul – Manjalara. Sentulis a highly accessible through Duta – Ulu Kelang Expressway (DUKE), Middle Ring Road 2 (MRR2), Jalan Ipoh and Jalan Kuching.

ANALYSIS AND FINDINGS

This section has been organised with socio-economic and demographic attributes of residents followed by the factors that determine the liveability conditions of gated and non-gated communities. The factors include - economic and housing condition, functional environment, social relations and community participation, and safety and communication condition of the residents.

Socio-Economic and Demographic Characteristics of Respondents (20 indicators)

The main findings of socio-economic and demographic characteristics of gated and non-gated community residents are summarised as follows:

- 62.5% respondents of GC are female while 54.3% of NGC respondents are female.
- Majority of NGC respondents are between 51-60 years while majority of GC respondents are between 31 and 40 years. Mean age of NGC and GC respondents are 44 and 39, respectively.
- 88.6% of GC respondents are Malays, followed by 5.7% Chinese and 5.7% Indian while 94^% of NGC respondents are Malays followed by 5.0% and 1.2% of Chinese and Indian respondents, respectively.
- 75% of both GC and NGC respondents are married while 21.9% of total respondents were single or unmarried and 3% were divorced and widower.
- Whereas 78% of NGC residents owned houses, the corresponding figure for GC residents is 53% who owned houses.
- Mean house price of GC is RM290,357 while the mean house price of NGC is RM71,153 which indicates that majority of houses in GC are apartments while NGC houses are dominantly low cost flats..
- For GC, the mean of monthly housing payment (rent/ loan) is RM760.50, while the mean monthly housing payment for NGC is RM480.45
- Residents of GC showed higher level of educational achievements compared to NGC residents.
- Mean monthly household income of GC residents is RM5,300 while the mean monthly household income of NGC residents was RM2,300.
- Mean family size (4.9) of NGC residents is slightly higher than GC residents (4.4).
- Mean number of working members in GC households is 2.2 as compared to 2.3 in NGC households.
- Mean duration of residency of GC residents is 9.3 years compared to NGC residents in which case it is 10.3 years..
- On average GC residents moved to Kuala Lumpur 15.4 years ago compared with the NGC residents who moved to Kuala Lumpur 20.7 years ago.
- Vehicle ownership of GC residents is 1.9 as compared with NGC residents in which case the average is 1.7.
- Mean monthly savings of GC residents is RM328 compared to the NGC residents' mean monthly which is RM118.
- Mean monthly loan payment of GC residents is RM436 while for NGC residents the amount is RM191.
- With regard to the ownership of amenities, GC residents are better off than their counterpart NGC residents.

Economic Condition of Residents (8 indicators)

- GC residents are little over slightly satisfied with monthly household income with mean satisfaction score (MSS) of 3.37 compared to NGC residents who are dissatisfied (MSS-2.90) with their monthly household income.
- GC residents are little over slightly satisfied with their daily travel cost and time with mean satisfaction score (MSS) of 3.14 compared to NGC residents who are dissatisfied (MSS-2.76) with their daily travel cost and time.
- Further. GC residents are little over slightly satisfied with the rising cost of living with mean satisfaction score (MSS) of 3.21 compared to NGC residents who are dissatisfied (MSS-2.64) with the rising cost of living in the city.

- Most of the GC residents stated that the housing loan or rental did not give much impact to them where the MSS is 3.42 while most of NGC residents perceived adversely the impact of housing loan or rental with MSS of 2.64.
- Majority of the GC and NGC residents feel satisfied with the accessibility to public transport with MSS are 4.04 and 3.88, respectively. This is because the location of both gated and non-gated community areas are nearby and highly accessible to public transportation services.
- On the overall economic condition both GC and NGC residents are little over slightly satisfied with MSS-3.40 and 3.11, respectively. However, the GC group appears to be slightly in a better economic condition compared with the NGC group.

Housing Condition of Residents (15 indicators)

- On the housing unit characteristics such as house area, number of toilets, size of living and kitchen areas, GC residents are more than moderately satisfied (MSS>3.5) compared with the NGC residents whose satisfaction levels are below the moderate levels (MSS<3.5).
- Whereas GC residents feel satisfied with the affordability of renting or owning the house with MSS of 3.52, NGC residents feel slightly satisfied with the affordability of renting or owning a house where the MSS is 3.35 which indicates slightly satisfied.
- On housing maintenance such as cleanliness of housing area, conditions of staircase and lift, lighting, maintenance of common areas and solid waste management, the GC residents have expressed satisfaction (MSS>3.5) compared to NGC residents who have expressed dissatisfaction with those variables except lighting in which aspect they have expressed slight satisfaction with MSS of 3.01.
- Parking is a common issue in low middle income housing areas and in this regard, GC residents are fairly satisfied with MSS of 3.30 while the NGC residents are very dissatisfied with MSS of 1.88.
- On the level of neighborhood satisfaction, GC residents have expressed their better satisfaction with MSS=4.0 while the NGC residents have revealed their moderate satisfaction with MSS=3.51
- On overall housing condition, GC residents are satisfied with MSS=4.0 while the NGC residents are moderately satisfied with MSS=3.53.

Functional Environment (16 indicators)

- On the adequacy of public transport, health and educational services both GC and NGC residents expressed their high level of satisfaction.
- On the upkeep, accessibility and provision of recreational facilities, GC residents are satisfied with MSS>4.0 while the NGC residents are moderately (MSS>3.50) satisfied.
- On the provision of pedestrian and bicycle paths, GC residents are more than moderately satisfied while NGC residents are slightly satisfied with those provisions.
- GC residents are quite satisfied with environmental conditions such as protection and conservation of natural environment, socially inclusive environment and liveable built environment while the NGC residents are moderately satisfied with those environments.
- On the satisfaction of neighbourhood suitability for children, teens, elderly and disabled people, the GC residents are quite satisfied compared with the NGC residents who are a little over slightly satisfied.
- Residents' overall satisfaction with function environment shows that whereas the GC residents are quite satisfied (MSS>3.5), NGC residents are little over slightly satisfied (MSS<3.5).

Social Relation and Community Participation (10 indicators)

- With respect to residents' supports from friends, family and neighbors during needs, both GC and NGC residents are satisfied on those social aspects.
- On the opportunities for social interactions, sports, recreation, arts and culture, the GC residents have expressed their moderate level of satisfaction (MSS=3.5) while the NGC residents are slightly satisfied (MSS=3.0) with those social aspects.
- On the acceptance of non-Malaysian neighbor, the GC residents are fairly satisfied while the NGC residents have expressed their dissatisfaction with it.
- On the level of involvement in local community affairs, both GC and NGC residents have expressed their fair level of satisfaction.
- On the effectiveness of local authorities dealing with community/ neighbourhood needs, both GC and NGC residents have expressed their moderate level of satisfaction.
- Residents' overall satisfaction with social relations and community participation indicates that both GC and NGC residents are moderately satisfied with this component of liveability.

Safety Condition and Communication Ability (8 indicators)

- On the safety of residents from crime and accidents, the GC residents are quite satisfied compared to the NGC residents who are dissatisfied with safety condition.
- Regarding police protection, the GC residents are quite satisfied while the NGC residents are fairly satisfied.
- On the availability of fire brigade and security services, GC residents are quite satisfied but the NGC residents have divided perceptions. Whereas NGC residents are fairly satisfied with the availability of fire brigade, they are dissatisfied with the security services.
- On the level of safety in public areas, the GC residents are quite satisfied while the NGC residents are moderately satisfied.
- On the satisfaction with internet services, the GC residents have expressed their satisfaction; on the other hand the NGC residents are fairly satisfied with this service.
- Overall satisfaction with safety and communication indicates that whereas the GC residents are quite satisfied, the NGC residents are fairly satisfied.

Comparison of Liveability Conditions Between Gated and Non-Gated Communities

Attempts were made to compare the different components of liveability between the GC and NGC residents through the radar diagram (Fig.3) which shows that all the components of liveability such as economic condition, housing condition, functional environment, safety condition including the overall liveability except social and community relations, the GC residents are better-off then the NGC residents. This probably justifies why communities who can afford intend to live within gated and guarded environment in Kuala Lumpur in Malaysia.

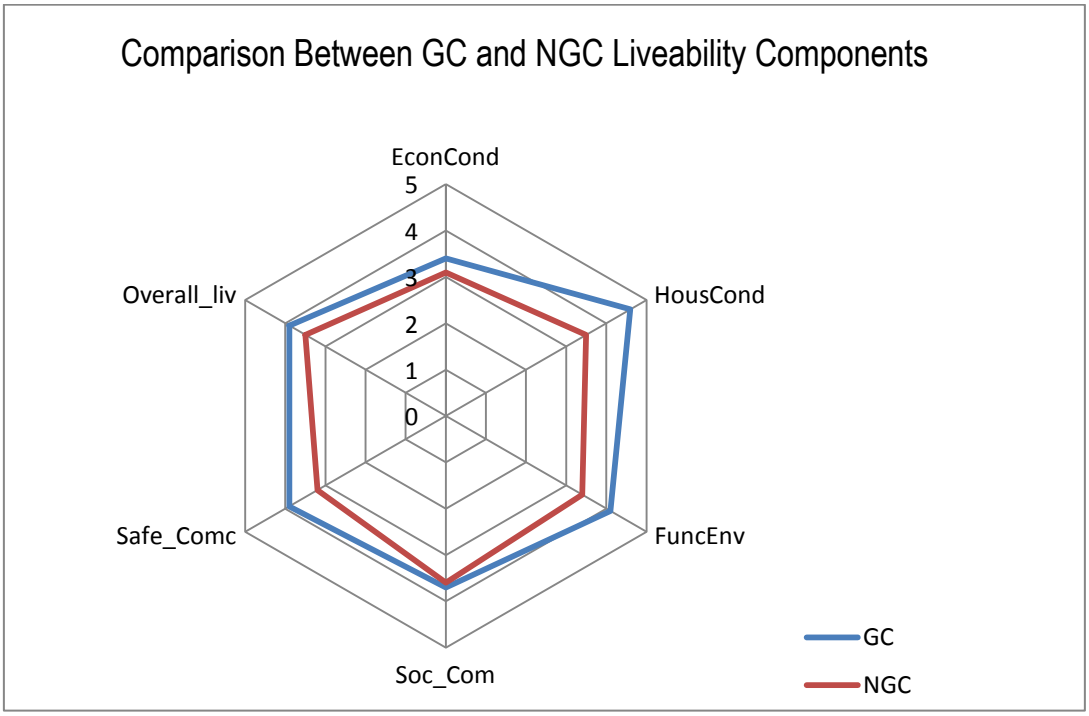

Fig.3: GC and NGC residents' liveability analysis by components.
(Source: Field Survey, 2015).

RESIDENTS' SUGGESTIONS TO IMPROVE THEIR LIVABILITY CONDITIONS

The residents of both GC and NGC were asked to suggest measures which can improve their liveability conditions. The suggested measures are ranked in order of their importance and the result of the exercise has been presented in Table 3.

Table 3: GC and NGC residents' suggestions to improve their livability conditions

SUGGESTIONS FOR IMPROVEMENT	GATED COMMUNITY (n=70)		NON-GATED COMMUNITY (n=80)		TOTAL (n=150)	
	(%)	Rank	(%)	Rank	(%)	Rank
Water and sewerage system	38.6	5	76.2	7	57.4	6
Public transportation	21.4	7	75.0	8	48.2	7
Community organizations	40.0	4	81.2	5	60.6	4
Education service	10.0	10	53.8	9	31.9	9
Health service	10.0	9	53.8	10	31.9	10
Parks and recreational facilities	31.4	6	85.0	3	58.2	5

Garbage collection	48.6	2	87.5	1	68.1	2
Market and shopping facilities	20.0	8	76.2	6	48.1	8
Infrastructure, bicycle and pedestrian facilities	45.7	3	81.2	4	63.5	3
Public safety	54.3	1	85.0	2	69.7	1

Source: Field Survey, 2015

It appears from Table 3 that a large percentage of NGC residents have given suggestions on improvement items than the GC residents. This indicates that NGC residents' liveability environment is not as good as GC residents' living environment. Despite the fact that GC residents' liveability is better than NGC, yet GC residents' have given suggestion towards further improvement of their living environment. In order of priority these improvement suggestions include – public safety, garbage collection, infrastructure, bicycle and pedestrian facilities, community organization, water and sewerage system, park and recreational facilities. Based on priority, the improvement suggestions by NGC residents, in order of priority, are – garbage collection, public safety, infrastructure, bicycle and pedestrian facilities, park and recreational facilities, community organization, market and shopping facilities, water and sewerage system, public transportation – all of which reflect the needs of more than 60% of the residents. However, majority of the items suggested for improvements are common both for GC and NGC residents.

CONCLUSION AND RECOMMENDATION

This paper has identified the key factors and indicators of low middle income residents' living conditions within gated and non-gated environment. The findings of the study indicate that gated community is better off than non-gated community in terms of liveability assessment and the five components that were used to study community liveability. In all five components and their indicators, the NGC residents have expressed lower level of satisfaction compared to the GC residents. This difference provides a justification as to why communities in Kuala Lumpur like to live in enclosed environment. Nevertheless, the study findings also indicate that although more than 60% NGC residents have suggested improvement of living environment items such as garbage collection, public safety, infrastructure, bicycle and pedestrian facilities, park and recreational facilities, community organization, market and shopping facilities, water and sewerage system, public transportation; similarly a significant percentage of GC residents suggested for further improvement of their living environment items such as public safety, garbage collection, infrastructure, bicycle and pedestrian facilities, community organization, water and sewerage system, park and recreational facilities. There are a lot of similarities of the items suggested for improvements by these two communities which indicate that living within enclosed environment marginally enhance liveability of the residents. This implies that despite differences in liveability by the two communities the scope for improvement still exist in the neighbourhood. Therefore, in order to reduce the liveability gap between the two communities, some improvements need to be adopted to non-gated community and help them to achieve a better quality of life. Provision and maintenance of basic facilities should be strictly taken into action. Finally, this research hopefully can be used as a benchmark for local authority to implement key strategies to enhance the quality of living environment in Kuala Lumpur

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