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Access to Parks and Recreational Opportunities in Urban Low-Income Neighbourhood

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Abstract

Dissatisfaction with the living condition and many of the associated issues can be traced to the inability of the city to meet the basic need of its inhabitants. One of the fundamental components of the people's well-being is the feasibility of recreational opportunities. This study attempts to identify the involvement of the low-income community in recreational activities. Four low-income public housings in Kuala Lumpur were selected as the site studies. Findings show that community participation is an essential ingredient in creating a sustainable neighbourhood. The insight gained from this study would be useful in seeking to improve the quality of the recreational aspects of the low-income communities in Malaysia.

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1. Introduction

Low level of physical and recreational activities are more prevalent among lower income, less educated, and unemployed populations compared to higher income individuals. Many suggested that due to the lack of

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opportunities for near-home and at no-cost outdoor activities are among the factors that contributes to the inactive living (Oreskovic ,Kuhlthau, Romm, & Perrin, 2009; Lovasi et al., 2013 ;Ward Thompson, Roe, & Aspinall, 2013). Throughout the past ten years, concerns on the issue of living quality among low-income people have been given much attention. Growing number of Malaysian studies on assessing the quality of life among low-income population suggested that neighbourhood environment such as access to public facilities, amenities and recreational facilities are found to be among the principal indices of living satisfaction (Mohit, Ibrahim, & Rashid, 2010;Aziz & Ahmad, 2012; A. E.Hashim, Samikon, Nasir, & Ismail, 2012; Karim, 2012; Teck-Hong, 2012; Zainal, Kaur, Ahmad, & Khalili, 2012). Although these studies suggested that recreational facilities are important in the living satisfaction, very limited local reference has investigated the recreational accessibility and opportunities that are available for the low-income residents. Hence, this study differs as it looks specifically into the availability of green space and recreational provision in deprived communities in key urban areas of Kuala Lumpur. This study also explored the perceptions of quality and its significant impact on access to recreation from both professionals and local communities.

2. Literature review

2.1. Parks, recreation and socio-economic status

Parks, recreation and socio-economic status has a longstanding relationship. In the 18th century, parks were exclusively for people with high socio-economic status. Private and forbidden garden were among the earliest form of parks and green spaces that these were depicted as the symbols of power and luxury. The roles and perceived definition has simultaneously evolved with the dynamic of people and time. It is no longer perceived as merely recreational ground, but has extended its capability in contributing towards sustainable city and people's well-being (Al-hagla, 2008; Chiesura, 2004; Thompson, 2002) .

Equality in access to better quality of life and living environment regardless socioeconomic status has been discussed seriously around the world (Abercrombie et al., 2008; Adler, Boyce, & Chesney, 1994; Castonguay & Jutras, 2009; Crawford et al., 2008). Disadvantage in accessibility to park facilities and poor park conditions in low-economic population are proven to influence low level of park use and recreational activities and thus, reflected in the poor health status commonly associated with poor people.

In fact, growing number of research has been looking into the differences and how it affect the quality of life of people in different economic status (Abercrombie et al., 2008; Dahmann, Wolch, Joassart-Marcelli, Reynolds, & Jerrett, 2010; Floyd, Taylor, & Whitt-Glover, 2009; Thompson, Aspinall, & Roe, 2014; Veitch, Salmon, Ball, Crawford, & Timperio, 2013). These studies highlighted that people with economic disadvantages have less opportunities to recreational access due to lack of parks and open spaces in their neighbourhood. The provision of park facilities and amenities were noticeably varies and influenced by the socioeconomic factor especially in terms of quality (Godbey, Caldwell, Floyd, & Payne, 2005).

2.2. Access to parks and recreational opportunities in low-income housing

Through historical evolution, the function and benefits of parks has changed. It has become a decisive force in the development of recreational opportunities in many Asian countries like Malaysia and Singapore (Yuen, 1995). Significant changes can be seen in present as the amount of open spaces allocated in every residential development has increased the opportunities for recreation within the proximity of the neighbourhood. Accordingly, Malaysia has implemented the open space and recreational policy in every residential regardless of socio-economic status. Recreational areas in a neighbourhood that meant for recreation, sports and social activities for population catchment between 3,000-12,000 residents is classified as a neighbourhood park (Federal Department of Town and Country Planning , 2011). Hence, it is important to note that, based on the population size in the study areas, the use of "neighbourhood park" in this study is to represent the green open spaces provided in the low-income public housing that are meant for recreation.

Low-income neighbourhood in urban areas is normally found as a walk-up flats with high density of residents built on constraint land. Unlike neighbourhood with individual private yard, open space in low-income

neighbourhood is more of a necessity rather than luxury as it provides extended space for the residents to move around and more importantly, access to nature and fresh air. The availability of outdoor green space is essential in making the housing conditions more livable. These spaces become more crucial in high density living environment where private open spaces are reduced to mere balconies or worse, corridors. In housing for the low-income group, open spaces become more of a necessity, providing extra room for dwellers to move around and away from confined living quarters.

In Malaysia, high-density walk-up flats are the most common structure that sheltered the living of low-income people in urban area such as Kuala Lumpur. A study by Ghazali (2013) highlighted that, with no access to private garden, the residents’ of walk-up flats desire for outdoor space is higher than one having private yard. These suggested that in such limited spaces, the availability of appropriate outdoor green space is essential in making the housing conditions more livable. It becomes more of a necessity, providing extra room for residents to move around and away from confined living quarters.

2.3. Parks and quality of life

Dissatisfaction with the living condition in the low-income neighbourhood and many of the associated issues can be traced to the inability of the city to meet the basic need of its inhabitants. One of the fundamental components of the people’s well-being is the feasibility of recreational opportunities. The presence of parks in urban neighbourhood setting is not only for the human well-being, but ultimately for the city’s well-being. According to Chiesura (2004), urban nature placed significant importance in contributing to sustainability of city through improving the well-being of city people.





3. Methodology

This research undertakes quantitative approach. The methods included: (i) survey questionnaires among the residents of low-income public housing, and (ii) environmental quality audits of the neighbourhood parks by selected expert panels.

3.1. Study sites

In order to better research this situation, four (4) government public housings locally known as PPR (Projek Perumahan Rakyat) located in Kuala Lumpur were chosen as it provides controlled parameters in terms of socio-economic status and accessibility to park and recreational facilities. The National Housing Department has standardized the public housing design in Malaysia to ensure the basic requirements are provided. The provision of green open space and recreational facilities are among basic facilities that has been an integral part of the government public housing development.

Table 1. Tabulation of study sites

	NP 1	NP 2	NP 3	NP 4
Layout Plan				
Housing Name	PPR Desa Tun Razak	PPR Lembah Pantai	PPR Batu Muda	PPR Air Panas
Year Built	2002	2005	2008	2004

No. of Residents	9,241	7,576	10,315	9,990
Size of NP	2.1 acre	2.2acre	4.7 acre	5.1 acre

Note: NP = Neighbourhood Park

The selection criteria were based on several aspects. First, Kuala Lumpur is selected to be the geographical location as it is identified as the most urbanizing area in Malaysia. Secondly, out of 29 PPR housings in Kuala Lumpur, 4 were identified to represent the most populated from each district zoning of Kuala Lumpur. The size of the four green open spaces in the selected PPR housings range in between 2 to 5 acres (equivalent to 0.8 to 2.0 hectare) and the population size range in between 7,000 to 10,000 residents.

3.2. Field survey

The survey questionnaire was designed to understand the participation of the residents in relation to the use of the neighbourhood parks in each PPR as the recreational resource. Part 1 of the questionnaire used socio-demographic background such as gender, age, race, marital status, occupation, and years of residence to identify the characteristics of the participants. Part 2, related to participation of the residents based on information such as park visitation, frequency of visit, time and duration of visit, activities and facilities used in the park. Part 3, is mainly on the perceived quality using of the recreational facilities; its condition, safety, accessibility (likert-scaled questions). Lastly, Part 4; is to identify the motivation and barriers to recreational access. Modules of questions were replicated those from other international survey on recreational spaces such as survey by Parks and Recreation Department of Ontario Municipal (Armstrong, Reynolds, & Milton, 2012). Another reference used in developing this instrument was adapted from the Neighbourhood Park Survey by Abdul Malek, Mariapan, Kamal, & Shariff (2011).

3.3. Quality audits

The principal aim of the quality audits, carried out in each of the four study sites, was to assist the interpretation and analysis of the survey questionnaire. The aim was to gather perceptions both from professionals and from the local community about the quality of the neighbourhood parks. This research used an existing assessment tool named Quality Neighbourhood Parks Criteria (QNPC) developed by local researcher and practitioner in the field of landscape architecture, parks and recreation (Abdul Malek, Mariapan, & Mohd Shariff, 2012).

QNPC was developed based on needs, preferences, use pattern as well as overall satisfaction of the park users. There are 15 assessment criteria that were set in the QNPC as stated in Table 2.

Table 2. Description of QNPC Criteria

QNPC CRITERIA			
1.	Distance	8.	Safety
2.	Location		a) Safety features
3.	Facilities		b) Safe from graffiti
	a) for organized activity	9.	Nature preferences
	b) organized activity	10.	Design preferences
4.	Accessibility	11.	Participation
5.	Landscape elements	12.	Natural surrounding
	a) play equip. for children	13.	Basic facilities
	b) park zoning	14.	Activities
	c) ponds		a) daily/routine
	d) trees		b) passive
6.	Maintenance		c) active
7.	Ambience	15.	Satisfaction

Each of the criteria was scored based on the level of importance which is scored as excellent (5), acceptable (3) and poor (2). Total score is then classified based on the QNPC scoring index as shown in Table 3.

Table 3. QNPC Scoring Index

QNPC SCORING MARKS	
Low	0 – 59
Medium	60 – 79
High	80 – 100

(source: Abdul Malek et al., 2012)

Each assessment was conducted by four professionals, certified Landscape Architects by the ILAM professional body. Two of the experts are from the local authority and the other two are the consultants in private firms. It is considered as most applicable to this research as it was developed based on Malaysian neighbourhood parks context. Since the tool is relatively new in the field of Malaysian parks, it has not been tested by other researchers. Therefore, it is an opportunity for this research to test the assessment criteria in the context of neighbourhood open spaces in low-income residential.

4. Findings

4.1. Result: Field survey

The participants in this research were the park users whom are also the residents of the low-income housing. The total participants in this study were 253 park users from four neighbourhood parks in public housing in Kuala Lumpur with 58-66 participants in each study sites.

Table 4. Distribution of study sites

	NP 1	NP 2	NP 3	NP 4
Housing Name	PPR Desa Tun Razak	PPR Lembah Pantai	PPR Batu Muda	PPR Air Panas
Participants	n=66	n=58	n=64	n=65

Note: Total sample size for the study =253

The recreational participation in this study can be explained based on several demographic characteristics of the users which are age, gender and ethnicity (Table 5). Analysis of participation among age group shows that adults between 20-50 years old and teenagers between 13-19 years old consistently exhibited higher participation rates in all four low-income neighbourhood park. The recreational preference differed by gender.

Table 5. Socio-demographics characteristics of participants

Description	Variable	NP 1 PPR Desa Tun Razak n(%)	NP 2 PPR Lembah Pantai n(%)	NP 3 PPR Batu Muda n(%)	NP 4 PPR Air Panas n(%)	TOTAL n(%)
Gender	Male	25(38)	21(36)	17(27)	30(46)	93(37)
	Female	41(62)	37(64)	47(73)	35(54)	160(63)
Age	6-12 years old	1(2)	1(2)	2(3)	1(2)	5(2)
	13-19 years old	33(50)	6(10)	20(31)	13(20)	72(29)
	20-50 years old	19(29)	35(60)	34(53)	35(54)	123(49)
	Above 50 years old	13(20)	16(28)	8(13)	16(25)	53(20)
Ethnicity	Malay	38(58)	37(64)	45(70)	41(63)	161(64)
	Chinese	9(14)	6(10)	6(9)	11(17)	32(12)
	Indian	19(29)	15(26)	13(20)	13(20)	60(24)
Marital	Single	40(61)	15(26)	31(48)	24(37)	110(43)

Status	Married	17(26)	31(53)	25(39)	30(46)	103(41)
	Single Parent	9(14)	12(21)	8(13)	11(17)	40(16)
Occupation	Self-employed	3(5)	4(7)	1(2)	5(8)	13(5)
	Government worker	- (0)	2(3)	- (0)	2(3)	4(2)
	Private worker	8(12)	16(28)	11(17)	13(20)	48(19)
	Student	38(58)	11(19)	29(45)	19(29)	97(38)
	Housewife	13(20)	19(33)	22(34)	20(31)	74(29)
	Retiree	4(6)	6(10)	1(2)	6(9)	17(7)

In overall, users of the low-income neighbourhood parks in this study were more likely to be female. Cross-sectional analysis between gender, age and occupation across all four study areas, shows that women of age 20-50 years old displayed 58 percent (n=94) of the total respondents with 27 percent of them are married (n=69) and 29 percent (n=74) are housewife. The type of occupation and marital status shows strong association that explains the factor that may contribute to the higher participation of woman.

Respondents were asked to identify how often and at what times they typically visit the park. Data from all four sites study (Table 6) indicated that almost half of the park respondents' visited the park 1-3 times a week (49.4%).None of the respondents visit the park for the first time. This suggests that the respondents have visited and used the parks more than one time and this is important to indicate their familiarity to the park setting.

Table 6.Frequency, time and length of visitation

	NP 1 (n=66)		NP 2 (n=58)		NP 3 (n=64)		NP 4 (n=65)		OVERALL (n=253)	
<u>Frequency of Visit</u>										
First visit	-	-	-	-	-	-	-	-	-	-
Everyday	21	31.8%	23	39.7%	20	31.3%	20	30.8%	84	33.2%
1-3/week	34	51.5%	26	44.8%	33	51.6%	32	49.2%	125	49.4%
1-3/month	11	16.7%	9	15.5%	11	17.2%	13	20%	44	17.4%
<u>Time of Visit</u>										
Morning	21	31.8%	21	36.2%	25	39.1%	24	36.9%	91	36%
Afternoon	6	9.1%	5	8.6%	5	7.8%	3	4.6%	19	7.5%
Evening	34	51.5%	31	53.4%	28	43.8%	29	44.6%	122	48.2%
Night	5	7.6%	1	1.7%	6	9.4%	9	13.8%	21	8.3%
<u>Day of Visit</u>										
Weekdays	35	53%	30	51.7%	34	53.1%	35	53.8%	134	53%
Weekends	28	42.4%	24	41.4%	26	40.6%	24	26.9%	102	40.3%
Public Holiday	1	1.5%	4	6.9%	3	4.7%	3	4.6%	11	4.3%
Certain Occasion	2	3%	-	-	1	1.6%	3	4.6%	6	2.4%
<u>Length of Visit</u>										
Less than 1 hour	13	19.7%	8	13.8%	11	17.2%	13	20%	45	17.8%
1-2 hour	14	21.2%	21	36.2%	24	37.5%	20	30.8%	79	31.2%
2-4 hour	32	48.5%	24	41.4%	25	39.1%	25	38.5%	106	42%
More than 4 hours	7	10.6%	5	8.6%	4	6.3%	7	10.8%	23	9%

Frequency of their visit to the park also signifies the repetition of visit to the park. This is reflected in the second highest frequency of visit, 33.2% of the respondents visit the parks for almost every day. In terms of specific days and time, morning hours from 8-11 am, evening hour from 4-7pm, during weekdays and weekend were identified as the most typical times to visit the parks. As discussed earlier, non-working group was the majority of the park users. A cross tabulation analysis between frequency of visit and occupation also shows that these two groups which are *student* and *housewife* were the frequent users that use the park everyday (26.9%) and 1-3 times a week (35.5%).

Whereas, equal percentage of working group was identified mostly using the park 1-3 times a week or 1-3 times a month.

This particular question in the survey is to identify of how the residents perceived the recreational facilities provided in their neighbourhood. Table 7 shows the following results based on the list of statement which the respondents were asked to indicate the extent to which they agree with the statement. This particular question is to get opinion on several aspects of facility such as adequacy, location of the facilities, conditions of the facilities, quality and maintenance as well as age-appropriate facilities.

Table 7.Level of agreement on park and recreational facilities

No.	Park and Recreational Facilities	Disagree	Neutral	Agree
1.	There is an adequate facility in this park.	157 (62.1%)	-	96 (37.9%)
2.	The facilities are conveniently located.	88 (34.8%)	12 (4.7%)	153 (60.5%)
3.	The conditions of the facilities are safe to use.	179 (70.8%)	50 (19.8%)	24 (9.5%)
4.	The quality and maintenance of the facilities are excellent.	217 (85.8%)	36 (14.2%)	-
5.	There is enough play and recreational facility for all ages.	60 (23.7%)	158 (62.5%)	35 (13.8%)

The identification of participation barriers is of vital importance. In each low-income community, there were nine statements of possible constraints were listed. Again, the findings were remarkably consistent across all four neighbourhood parks. Factors proved to be the severe constraints to participation were, “Lots of equipments are broken and need upgrading”, “Lack of free time” and “Feeling unsafe” (Figure 1).

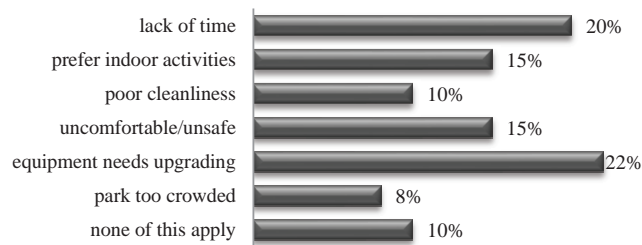


Fig. 1.Barriers to Park Use

4.2. Result: Quality Audits

Based on the expert panel assessment, 3 out of 4 panels scored the neighbourhood open space in PPR Kerinchi as being low or poor quality with average percentage at 56%. However, Panel D has scored the space as being almost excellent with 75% in the total score. As for the neighbourhood open space in the PPR Desa Tun Razak, only Panel C scored the quality of the space as being average with 64% of total score. The other three panels scored it as being poor. Both panel C and D given PPR Air Panas individual score of 60% and 61%.In overall, based on the mean of total score of each site, neighbourhood open space in PPR Kerinchi Lembah Pantai has the highest score at 61% followed by PPR Desa Tun Razak and PPR Air Panas with both at 58% and the lowest score of 56% by PPR Batu Muda.

Table 8.Total score by the expert panels

Site/Location	Panels	Individual Score	Rank	Mean Score	Overall Rank
PPR Kerinchi Lembah	Panel A	59%	Low	61%	Average
	Panel B	53%	Low		

Pantai	Panel C	58%	Low	59%	low
	Panel D	75%	Average		
PPR Desa Tun Razak	Panel A	54%	Low	59%	low
	Panel B	57%	Low		
	Panel C	64%	Average		
	Panel D	59%	Low		
PPR Air Panas	Panel A	55%	Low	58%	low
	Panel B	60%	Average		
	Panel C	61%	Average		
	Panel D	55%	Low		
PPR Kg Batu Muda	Panel A	56%	Low	56%	low
	Panel B	51%	Low		
	Panel C	56%	Low		
	Panel D	63%	Average		

Table 9. Mean score of QNPC assessment marks

CRITERIA	PPR Desa Tun Razak	PPR Kerinchi	PPR Batu Muda	PPR Panas	Air	Mean Score (each criteria)
1. Distance	5	5	5	5	5	5
2. Location	4	3.3	4	4	4	3.8
3. Facilities						
a) for organized activity	3	2.8	2.8	2.8	2.8	2.8
b) organized activity	2.5	2.3	2.3	2.3	2.3	2.3
4. Accessibility	4.3	4.5	4.5	4.5	4.5	4.4
5. Landscape elements						
a) play equip. for children	3.3	2.8	2.5	2	2	2.6
b) park zoning	4	4.0	2.8	3	3	3.4
c) ponds	2	2.0	2	2	2	2
d) trees	2	2.5	2	3	3	2.4
6. Maintenance	2.5	2.8	2.8	2.5	2.5	2.6
7. Ambience	3.3	3.0	2.5	2.8	2.8	2.9
8. Safety						
a) Safety features	2.8	3.5	3.5	4	4	3.2
b) Safe from graffiti	3	3.3	3.3	2.3	2.3	3.1
9. Nature preferences	3	2.8	2.8	2.8	2.8	2.8
10. Design preferences	2	3.3	3.3	2.3	2.3	2.8
11. Participation	3.3	2.8	2.8	2.5	2.5	2.7
12. Natural surrounding	2.8	2.8	2.8	2.8	2.8	2.4
13. Basic facilities	2.3	2.8	2.8	2.5	2.5	2.7
14. Activities						
a) daily/routine	2.5	3.3	3.3	2.5	2.5	2.8
b) passive	2.5	2.5	2.5	2.5	2.5	2.5
c) active	2.5	3.3	3.3	2.5	2.5	2.7
15. Satisfaction	2.5	2.5	2.5	2.5	2.5	2.4

The second part of QNPC analysis is by evaluating based on each criterion. This provides information on which criteria that contributed to the low or high marks of all PPR. Table 9 presented the results based on the mean score of each area. Result shows that, distance is the most excellent criteria that scored 5 marks in all four PPR.

5. Discussion

The top four barriers in accessing the park and its recreational facilities as reported by the participants were poor condition of facilities, lack of time for recreation, concern for safety as well as inclination to stay indoors. The relatively high proportion of respondents enable to participate in recreational activities is due to broken facilities and lack of equipment appears to be disheartening. However, this barrier is able to be diminished if given time and funding to the park management. The most evident implication from this data is that a lack of motivation to participate is an overriding reason for less frequent use of the park and its recreation facilities. It seems there is not

much that recreation managers can do to influence this lack of interest. Shores, Scott, & Floyd(2007) suggested that it is almost impossible to offer recreational service with myriad of demographic constraints. Another finding is that, constraints increase with age. Study by Wang, Norman and McGuire (2005) identified that more constraints visiting Wisconsin's park among respondents over age 50 compared to younger respondents. Hopefully, once park and recreation managers have a more complete understanding of what obstacle impede the use of the facilities, they will be in position to take necessary and corrective actions. Safety was mentioned as an important determinant of park visitation. However, this study found that the women focused on this as a main barrier to park usage. Specifically, they mentioned to avoid if the park is not well lighted and no other users are visible. Incivility behaviours such as vandalism, public drunkenness and gangsterism were reported actively occurred in the neighbourhood park added to another main reason to avoid visitation to the park. Similar findings from Hernández Bonilla (2013) and Freedman & Owens (2011) reported that safety to be the main factor that disengage people from going outside their house.

The quality of park and its facilities was found to be a significant predictor of recreational participation and satisfaction. This suggest that every park needs to be designed and maintained a high quality standard to increase the accessibility of the locals to recreational opportunities. Similarly, study by Abdul Malek, Mariapan, & Rahman (2015) reported on significant relationship between quality of green space, use patterns as well as satisfaction of park users. Other significant related findings identified was by Ward Thompson, Roe, & Aspinall(2013) that highlighted the impact of green space quality on the well-being of disadvantaged communities.

6. Conclusion

Growing concerns over the provision of quality in low-income housing as studies on residential satisfaction repeatedly point to the importance of such low-income housing design to be more sensitive to the social implications of physical planning. The effectiveness of quality and quantity aspects of open spaces must be given decent attention despite the variations in societal hierarchy. Increasingly, researchers from many disciplines and theoretical perspectives have recognized the importance of play and recreation to humans. Especially in present day environments where almost every aspect of human life is changing at accelerating rate, play and recreation by way of contrast to the concentrated and the high speed of work are extremely valuable to people. The opportunities for play and recreation are, therefore, an important focus for investigation, particularly in rapidly, urbanizing, highly time and space compressed societies such as Kuala Lumpur where available opportunities have been transformed as higher-density development progress. Different socioeconomic group and individuals likely to vary significantly on how a space is perceived to be functioning or the way they react upon. According to Abu-ghazze (1996), the community designers' most frequent mistakes are due to their lack of information about the neighbourhood characteristics. Many has suggested that user oriented studies can help to correct the lack of knowledge to create spaces that are responsive, meaningful and appropriate to the users (Chiesura, 2004; Howard, Thompson, & Waterton, 2012; Thompson, 2002). Given limited resources and choices available to low-income people, it is especially important that their social and physical environments support healthy living. In order to realize change in the daily lives of low-income people, accessible recreational facilities, and activity-friendly should be considered.

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