

THE IMPORTANCE OF GREEN SPACE: TOWARDS A QUALITY LIVING ENVIRONMENT IN URBAN AREAS

Dzarul Hardy Azwar and Izham Ghani

Abstract

This paper considers the preference of residents, living in urban areas with low to high percentage of greenery coverage in correlation with the household income. This paper would serve as a background study to investigate the resident's view on the "quality" of their residential streets and their residential areas. It would be focused on what the residents consider as the important factors that makes a "high quality" residential street environment and what are the important factors in creating a "good" place to live. The study proposed to be undertaken in Kuala Lumpur, the national capital city of Malaysia at four selected residential district ranging from underprivileged to affluent neighborhood areas. Samplings would be based on gender, age, ethnicity, education and occupation to identify any significant differences present between the groups, in order to determine the issues that could be taken into account for future provision, planning and management. This study would explore the resident's attitude towards street trees and residential gardens as part of the urban green space environment towards their conceptions of urban quality of life in the selected neighborhood residential areas.

Keywords

Green space; urban area; residents; quality of life; landscape.

Introduction

Do the characteristics of trees, gardens, parks and green areas imply anything important to people? Are people dependent on these design elements? One hypothesis has shown the links between preferred physical environments and desired activities. However the links have been very hard to find. Rossman and Ulehla (1977) studied the connection between outdoor environment and experience. They found higher preferences for wilderness when nature experiences, adventure, breaking away from hectic life, and enjoying wildlife and flora were required (Grahm, 1985).

In the modern landscape, street trees are a common element in towns and cities (Figure 1). As there is little evidence that trees were a significant part of the urban landscape prior to the eighteenth century, tree lined streets appeared to be a relatively recent phenomenon (Zube, 1971). The origin of the street tree has several sources, but was primarily influenced by French Baroque garden design and the English romantic landscape movement (Pitt et al., 1979).

As an urban design technique, applied by Haussmann in Paris in the mid-1800's and emulated in many cities, street tree plantings have been used to enhance vistas and to unify the city visually. The use of tree-lined residential streets was further reinforced by the romantic suburbs of the late nineteenth and early twentieth century (Pitt et al., 1979).

As cities became more densely populated and the countryside turns out to be less accessible, the use of street trees became more common. In many instances, street trees became the urban dweller's primary association with a natural element within the urban environment (Figure 2).

Kuala Lumpur, the Proposed Site

The study proposed to be undertaken in Kuala Lumpur, the national capital of Malaysia. Kuala Lumpur is the largest Metropolitan Region in the country which being the premier city and the capital of a nation with a highly trade oriented economy that aspires to be fully developed by the year 2020.

Kuala Lumpur lies midway along the West Coast of Peninsular Malaysia. It represents the heartbeat of Malaysia which is divided into Peninsular Malaysia (West Coast) and East Malaysia, serving as its cultural, commercial and transportation centre. It all began in the 19th century when a group of tin prospectors came to settle around the convergence of the Klang and Gombak River. This marked the foundation of Kuala Lumpur and its share of growth and setbacks to become metropolitan centre of today.

With a population of over 1.3 million, Kuala Lumpur is by far the largest city in Malaysia. Malays, Chinese and Indians compose the main races among others in this multicultural backdrop. This ethnic diversity has shaped the city over the years and is clearly seen in the various cultural customs and religious beliefs, as well as languages, cuisines and architecture.



Figure 1: A view of a street in London (Source: Authors)

Better known as KL to the locals, the city is a heady mix of history and culture intertwined with mushrooming skyscrapers and office towers (Figure 3). In so far as Kuala Lumpur is the capital of the nation, its economic catchments encompass the entire country.

The present range of human activities in the city, its infrastructure and buildings, its parks and monuments, its spectrum of social, spiritual, recreational and entertainment facilities, and its concentration of governmental and non-governmental institutions are manifestation of the city's function as the capital of the nation. Kuala Lumpur is the best example of a city that has managed to preserve the best of its cultural heritage and combine it with modern conveniences to alter a wholly unique experience to the visitors.

Urban Green Space Provision and Local Government Policy

Green spaces are increasingly being recognized as having a range of positive benefits in the regeneration programme and deprived areas by enhancing people quality of life, transforming the environment, and attracting inward investment (DTLR, 2001).

Becoming a world-class living environment is one of the development visions of Kuala Lumpur. It encompasses all the ingredients that make up a world-class living environment



Figure 2: Image of an urban green space in Kuala Lumpur (Source: Authors).



Figure 3: Kuala Lumpur's skyscrapers and office towers (Source: Authors).

such as good and adequate quality housing, accessible and high quality facilities, healthy and safe environment so that those working in the city together with their families can enjoy the best possible standard of living (CHKL,2003). To achieve a world-class status, it is incumbent on Kuala Lumpur to provide a high quality of life for its population, both in terms of the facilities that the city can offer and in the creation of a framework within which all residents can have equitable access to its facilities (Figure 4).

The Kuala Lumpur Structure Plan 1984 formulated general policies related to landscape, townscape and conservation, which were generally appropriate (CHKL, 2003). The

vision and goals for Kuala Lumpur have been formulated with the aim of creating a sustainable city which City Hall Kuala Lumpur (CHKL) shall ensure that the planning of the city shall strike a balance between physical, economic, social and environmental development.

The Quality of Life Survey 1998 in CHKL 2003 measured the satisfaction level of Kuala Lumpur's residents with respect to a number of specific facilities and services. There was generally a high level of dissatisfaction with respect to the road maintenance, bus services, street cleaning services, garbage disposal, landscaping and recreational facilities. A subsequent perception survey carried out by the Economic Planning

Unit (EPU) has confirmed the findings. It further revealed a high level of dissatisfaction in respect of accessibility to cultural and recreational facilities and the low level of social interaction and integration in the City (CHKL, 2003).

This is where the urban green space provision came into the picture when government guidelines and policies strived for an urban design programme and projects to address both the functional and aesthetic aspects of the city's built environment. A continuous network of open spaces was envisaged that it would link the major open spaces together by means of a network of smaller open spaces together with river and drain reserves. In addition to providing more landscaped open spaces, the city has

also successfully implemented a programme of tree planting along major roads.

A part from the larger scale metropolitan parks and forestry reserves, there are some plazas and smaller parks such as Merdeka Square and the Kuala Lumpur City Centre Park (Figure 5) that played as major contributors to the amenity of the city. However, there are still many areas in the city where there is lack of such spaces especially within the City Centre and urban areas. The CHKL; UD5 policies and guidelines state that the treatment of roads and their frontages could include, amongst other devices, the theming of green spaces, planting, hard landscape, street furniture and signage (CHKL, 2003).



Figure 4: Example of Kuala Lumpur's park facility (Source: Authors).



Figure 5: Kuala Lumpur City Centre Park (Source: Authors).

In Great Britain, the involvement of the community in planning, designing and managing parks and green spaces is prescribed, to ensure that needs and aspirations are fulfilled. The Urban Green Spaces Task Force, UK rate safety appearance as being alongside a key criterion for the provision of better quality spaces. Reducing crime and the fear of crime, is the theme that runs through Government policy, legislation in the form of the Crime and Disorder Act 1998, and planning guidance. The PPG 17 consultation draft (DETR, 2001) state the Government's vision for an urban renaissance to be the provision of "a high-quality urban environment that is attractive, clean and safe".

Trees, Streets and Spaces

Baines (2000) wrote that the relationship between trees and people is a complex one.

Tree lovers appreciate the sound of birds, the seasonal display of blossom, fruit and changing leaf color and the splendor of trees that rise above the rooftops. However, many people in our urban society perceive trees as a problem, as a cause of poor health, difficult neighbors and damaged property. By seizing on issues that are already of great public concern and demonstrating the many relevant benefits that trees and woods in towns can bring, it should be possible to recast trees as part of the solution to urban living, attracting many more resources to add to those already linked to trees and timber growing.

In most of the built up of British cities, the buildings covered less than half of the land in which the urban green space dominates. The legacy of Victorian parks and avenues brings maturity and relatively safe environment for the people.

Domestic gardens offer privacy, security and the opportunity for individuality. The living mosaic of urban green space is essential to the livability of towns and cities (Figure 6). It provides a soft and sheltered setting for the buildings and in addition, it is now being recognized as highly functional (Jones, 2003).

Even the speculative developers of the 18th and 19th centuries recognized the need for breathing space in towns (Benatsky, 1978). Trees are particularly good at filtering out pollution, providing clean air for the betterment of public health. The World Health Organization (WHO) now defines health not only in term of disease prevention, but also in term of environmental quality. Even in the 21st century, a walk through

the park, the sound of spring birdsong or the sight of autumn leaves will make most people feel good; in addition to the urban forest providing a natural contrast to the harshness of buildings and the noise and grime of busy traffic (Jones, 2001).

Jones (2003) emphasized that green spaces in towns provide most of the porous patches in a sea of otherwise impervious roads and roofs, so they play an increasingly important role in local flood defence. Sustainable urban drainage calls for many shallower holding ponds and filtering reed beds in the urban landscape, while the canopy of the urban forest has been shown to play a significant role in slowing down the rate at which a rainstorm falls to earth (Figure 7).



Figure 6: An urban green space in London (Source: Authors).

Shelter and shade reduce the heating and cooling cost of buildings. With increasing focus on efficient energy use in UK, the fact that a sheltering belt of urban woodland can cut energy costs by up to ten percent, makes a commitment to a more strategic approach to green space planning well worthwhile (Heisler, 1986).

Accessible green space and a close proximity to nature have been shown to provide a significant

cure to the pressure and stress of modern urban living. As little as three or four minutes in the company of trees and natural surroundings can be enough to provide measurable stress relief (Ulrich, et al. 1991). Hospital patients with a view of trees can suffer pain more easily and recover more rapidly, while commuters with a route to work through natural greenery will generally arrive less stressed, and work more effectively (Ulrich, 1984).



Figure 7: An aerial view of a new town development in Penang, Malaysia within the proximity of an urban forest (Source: Authors).



Figure 8: Trees provide the soothing element amidst busy traffic in the street of Medan, Indonesia (Source: Authors).

Jones, 2001 stated that according to Dr Anthony Frew from Southampton University there is a proven link between poor air quality and heart and lung disease which makes life miserable for many people, with the elderly suffering more than most. The fine sooty particles and nitrogen oxide gases from burning fuel oil and gases are the root of the problem. Trees trap the dust and carbon particles while absorbing the harmful gases, in which tree leaves have a surface area as much as 12 times greater than the ground they overshadow (Figure 8).

Parks and Gardens as an Urban Green Space Issue

According to the City Hall Kuala Lumpur policies and proposal guidelines, urban space, nodes, plazas and pocket parks are important in providing identity, structure and landscape amenity to the city. Some spaces such as pocket parks are passive in nature and provide breathing spaces in the city while others such as plazas can be more dynamic and mark major nodal activity areas where there is a confluence of people. Additional parks and plazas will be created in areas where there is a

deficiency and likely to be developed as stated in the policies, UD 11 through City Hall of Kuala Lumpur's policies and guidelines (CHKL, 2003).

Parks and open spaces are again being recognized as an important element in people's quality of life and is increasingly accepted as a contributor to the sustainability of British towns and cities (Gordon and Shirley, 2003). However, parks and open spaces provision is a classic example of the public finance problem of knowing, defining and managing costs without being able to access and define values. By late 1980s it was recognized that there was a problem which led to a number of research projects, policies and other initiatives that underlined a more sophisticated approach in protecting and designing urban green space.

MORI Social Research Institute has carried out a study in 2001 as part of its development of quality of life performance indicators that measured economic, social and environmental well-being and showed the trends for public parks over the last 15 years are more or less static. This is happening in the face of constant or failing budgets and increasing pressures on parks services. The types of priorities that the people identified are consistent across various areas. The big challenge facing park provision is that the information on the service was regarded as among the worst for any other public services (Duffy, 2003).

The article in The Daily Telegraph, United Kingdom entitled "Gardens are vanishing in the drive for more parking" (4 November 2002), stated that front gardens are being removed in towns and cities at an ever-increasing rate to provide residents a private parking space outside their properties. Estate agents claimed

that the value of homes increases with parking space which also made them more saleable (Littlewood, 2003).

Britain local authorities would easily give permission for the removal of gardens and charge each residence approximately £800 (London) to provide kerb crossings. Residents seemed willing not only to pay this amount but also around £2000 for the garden to be cleared and paved. They felt that this was well worth the cost for the service.

In Malaysia, the Tree Preservation Order (TPO) under the government planning authority only charged RM2000 for a single tree to be chopped down provided it falls under the allowed measurement and specifications. However, in reality most developers would gladly clear the whole site rather than spending for new trees as replacement.

Littlewood (2003) stressed that if the future of roads and streets in urban areas is to be wall to wall tarmac, it will not result in an attractive or desirable environment and it is doubtful whether it will enhance the property values overall. The loss of vegetation and tree cover will greatly contribute to an increase in temperatures and enhance the "heat island effect" of town and cities. By paving over the whole of the front garden there will be an increase in surface water, which could also result in the existing drainage system being unable to cope with more run-offs.

Leccese (1999) wrote on Lawrence Halprin's most expensive urban park by the square foot of its era (USD 1.7 million in 1970s), Skyline Park in downtown Denver, USA which is now in dilemma whether to be repaired or replaced due to an

estimated 80 percent of the trees are diseased or damaged in addition to the hard landscape materials which weathered poorly in Denver's freeze and thaw winter climate. This has resulted in this beautifully structured urban park becoming hosts for skateboarders, runaway teens, the homeless, and people reputed to be drug dealers, which turned the public to perceive the park as unsafe and stays away.

Birnbaum (2003) reviewed one of the pioneer and popular US landscape architect's works, Dan Killey at NCNB Plaza in Tampa, USA which has been awarded the National Medal of Arts in 1998 for its masterpiece, but now become a victim of zero maintenance, heaved pavers and overgrown crape myrtles that are queuing up for demolition (Figure 9). The award winning park has left out the importance of landscape management which is now turned the park into an unpleasant, dark place where there is no natural light penetrating the crape-myrtle canopy. The lawn is not receiving adequate sunlight and suffering in areas where most of the fountains are not running. Vandalism has taken hold on the place where the precast grid is tilted, creating unsightly and unsafe condition. The Plaza now resembles a modern ruin and amazingly, it is only 20 years old.

Environmental Aesthetics and Landscape Preferences

Landscape studies bring together two main fields of work, that of human perception and the assessment of landscapes. Berleyne (1971) studied on how people judge the aspect of beauty and identified a correlation that exists between levels of arousal and hedonic tone. She concluded that people exhibit a

preference for a medium level of stimulation with a positive hedonic tone which empirical evidence supports Berleyne's theory in respect of complexity, showing a curvilinear relationship that translates into a preference for moderately complex environs.

Kaplan and Kaplan (1982) used statistical analysis of environmental preferences to identify the key factors stimulating preference for one landscape over another. The "Environmental Content" related to the presence of natural elements in a scene; "Spatial Configuration" considers the variables of coherence, legibility, complexity and mystery. The finding of this research identified the importance to humans on the need to be able to understand and function within an environment, that is, to be able to read the landscape and to see within it the necessary attributes to survive and thrive.



Figure 9: An image taken from Landscape Architecture magazine on the fate of NCNB Plaza (Source: Birnbaum, 2003:62).

Hetherington, et al. (1993) rationalized the design elements for assessing landscape

preferences into five general factors, namely: the respondents characteristics (age, gender, ethnicity, etc.); how the respondents connect with the landscape (perceived uses, prior knowledge, etc.); the content and context of the landscape; the research medium used (on-site, photographic, computer generated); and the scope of, and means with which, any response is elicited and recorded.

Fines (1968) highlighted the need to distinguish between aesthetic and personal preferences.

Subjects may focus on the attractiveness of parks, but equally may present their personal preferences on the basis of perceived opportunities that a particular landscape offers or denies.

The Need for Greenery Connection

Simply viewing the natural landscape is enough to elicit notable responses in humans. At the basic level of health and well-being it has been found that views of natural scenes can



Figure 10: Introduction of trees and shrub planting as part of Singapore's urban design approach (Source: Authors).

improve the recovery rates of patients (Ulrich, 1984). Lower rates of sickness were recorded for prisoners who had sight of nature and children from kindergarten set in a natural landscape had higher attendance levels than their counterparts in an urban kindergarten without such access (Grahn et al., 1997).

Other studies have demonstrated the reduced stress levels afforded in the workplace, by views of green areas (Leather et al., 1998) and by greenery in the city (Barker, 1997). The introduction of trees and grass into previously unplanted built environment (Figure 10) has been shown to improve both preference ratings and the public's perception of safety (Kuo et al., 1998). Kaplan (1983) found that a simple knowledge that "natural areas" and "good places for taking walks" were nearby was sufficient enough to promote higher levels of resident satisfaction, even if such areas were not directly visible from the respondents' dwelling.

Rhode and Kendle (1994) emphasized that there is a basic need in humans to make contact with nature in the course of their normal daily lives. Kellert and Wilson (1993) goes further, developing the proposal that the needs and benefits described above are linked to a fundamental evolutionary relationship between man and nature. He argued that expressions of "preference" are simply the manifestation of a deep-seated dependency on nature to address our cravings for aesthetic, intellectual, cognitive and spiritual meaning and satisfaction.

Galindo and Rodriguez (2000) studied affected responses to landscapes and identified a strong correlation between aesthetic values and the feelings invoked in the participants

by the landscapes, with particularly strong connection for the feelings; "comfortable" and "excitement", followed by "tranquility", "boredom", "distress", and "safety".

Accessibility, Security and Safety of Urban Green Spaces

Burgess, et al. (1988) expressed the view that "wilderness" areas should be adjacent with the social spaces and dwellings so that they provided the opportunity for adventure but in an arrangement that would be perceived as being comfortable and safe. She also found that people living in urban areas desired a diverse range of natural areas, near to where they lived, that could offer a variety of activities (Figure 11). Schaumann et al. (1987) found that favorable preferences expressed by residents in Seattle were diminished as the location of open natural wildlife habitats drew closer to their homes.

Functionality and accessibility are key consideration in the design and layout of urban green space. It is something of inconsistency that "nature areas" need careful design, planning and management in order to make them both interesting and accessible to the user. The invitation to use such spaces needs to be explicitly made and supported with appropriate site stewardship and supervision (Luymes and Tamminga, 1995).

Natural elements within urban settings have been shown to increase concerns about safety and potential crime, especially where they are perceived to present opportunities for criminals to hide or lie in wait (Fisher and Nasar, 1992). Bell (1998) explored how fear influences women's

access and use of public areas, restricting the span of hours during which women go out and reducing the range of spaces that they access.

Quality in Urban Green Space Context

Oxford Advanced Learner's Dictionary of Current English (2000) defines quality as the standard of comparison to other things either good or bad; a high standard - i.e. the aim to provide quality at reasonable price; thing that is part of a person's character - i.e. personal qualities such as honesty and generosity; a feature of - i.e. especially one that makes it different from others.

The word quality in everyday use has three common uses; that which makes things what it is; grade of goodness - i.e. to be qualified on a scale; excellent - i.e. goodness in a high degree. Barber (1993) quotes a British Standard definition; the totality of features and characteristic of a product or service that bear on its ability to satisfy stated or implied needs.

Quality must therefore represent a shared vision that meaningfully links the two spheres of influence after establishing needs and possibilities. In other words, quality needs to be tied down as a concept that people can relate to in their everyday lives and it is this form of practicality that brings the quality debate in full circle and highlights the need to define how



Figure 11: The Kuala Lumpur City Center Park is accessible both to public and nearby residents (Source: Authors).

consumers perceive quality (Johannsen, 2002 cited in Green, 2003).

There are two clearly identifiable concepts to examine when attempting to measure quality in urban green space context; functional quality and sensory quality (Green, 2003). Functional quality – i.e. Is the grass cut to a height appropriate for its intended use? Is there any absence of litter, graffiti, etc.? If toilets are provided, are they clean and regularly inspected? Quality in these instances is readily defined; it may for example be seen as no litter or no graffiti. Sensory quality is more difficult as it deals with the five basic stimulation senses which are vision, hearing, smell, touch and taste. Studies in United Kingdom, Improving Public Parks and Open spaces (DTLR 2002), Green Spaces Better Places (DTLR 2002), The Value of Urban Design (CABE 2001), and Public Park Assessment (DTLR 2001) have all examined to some extent the attitudes of users and non-users of urban green space to functional elements within such space.

Green space and landscape aesthetics as an academic discipline might be regarded as relatively new, although people have made judgments about how pleasing their surroundings are from time immemorial. The current and newer focus on public landscapes demands a new way of looking at the issues. A negative view sees the “entrenchment of private affluence and public squalor” as inevitable (Porteous, 1982). Sadler and Carlson (1982) underline the need for discussion “on the role that expert opinion and public preference should play in the determination of aesthetic values”. They also express the belief that “visual or sensory pleasure...constitutes a baseline for

an aesthetically acceptable environment”. Environmental or landscape assessment is very much a part of the movement to incorporate measurement of aesthetic values into the overall picture of how we interpret, plan and develop landscapes.

Conclusion

Across the literature as a whole, this study is expected to show the link between green space provision such as trees in streets and residential gardens and its influence on the resident’s attitude towards their notion of urban quality. The intended survey would show an interest of green space preference in the study area and the results would provide evidence whether the importance of green space have a significant impact on the preference for trees in streets or residential gardens in urban life.

Statistical analysis would reveal significant trends between respondent’s gender, ethnicity, age group, education level and occupation against the identified preferences for green space whether in least affluent area or even in the most affluent residential district. Balanced and unbiased information with wider range of sampling is needed to better predict the residents’ attitudes towards street trees and residential gardens.

The study would also emphasize on whether green space provision is identified as one of the significant factors in the selection of “desirable” urban residential living areas. It would also provide some indications and information whether the existence of other interesting factors such as cultural, gender related and inspirational differences could also influence

the selection process. Previous researches often suggest that green space is often desired to improve the quality of life for urban dwellers but then again the human preference is subjective and requires careful interpretation in research.

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Dzarul Hardy Azwar

Dzarul Hardy Azwar is a landscape architect and lecturer in the Department of Landscape Architecture at Universiti Teknologi MARA, Malaysia. He holds degrees in landscape management and architecture from University of Sheffield, UK and UiTM, Malaysia. He is currently writing a book on selected works by Malaysian Landscape Architects. His interest on research covers urban forestry and urban greenspace related issues. He is a member of the Institute of Landscape Architects Malaysia (ILAM) and can be contacted by email at dzarulhardy@salam.uitm.edu.my.

Izham Ghani

Izham Ghani obtained his M.Sc. in Digital Architecture from the University of Newcastle upon Tyne, UK (2004), Bachelor of Landscape Architecture (Honors) (2002) and Diploma in Architecture (1999) both from Universiti Teknologi Malaysia. He is currently a landscape architect and lecturer at the Department of Landscape Architecture at Universiti Teknologi MARA Perak, Malaysia and was previously the head of the Diploma Programme at the department. His research and publications covered topics on the impact ICT in the practice and education of Architecture and Landscape Architecture. He is a member of the Institute of Landscape Architects Malaysia (ILAM) and also member of The Association for Computer-Aided Architectural Design Research in Asia (CAADRIA). He can be reached by email at izham025@perak.uitm.edu.my.