



Livable Public Open Space for Citizen's Quality of Life in Medan, Indonesia

Achmad Delianur Nasution^{a*}, Abdul Ghani Shalleh^b and Julaihi Wahid^b

^a Department of Architecture Faculty of Engineering, University of Sumatra Utara, INDONESIA

^b School of Housing Building and Planning, University Sains Malaysia, MALAYSIA

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ABSTRACT

The decreasing of public open space quality by the urbanization pressure has declined its function as a 'free' place for people to do various activities which contribute to their quality of life. Among the typical cities' problems in developing countries, such as the poor environment quality, the social gap which becomes wider, the increasing of the gated community and the privatized public spaces, and the public open space which becomes more denying among the other development's priority, the research means to identify how livable public open spaces are and how its livability relates to the quality of life. The research found that the public open space in Medan city is a livable place when it has a high level of usage. The livable public open space relates to quality of life via the satisfaction with health, recreation and urban environment.

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1 Introduction

The fast growing urbanization in most cities over the world gives impact to the changing of the urban environment. Some of general problems in the urban area are the decreasing of environment quality, the weakness of social cohesion and the economic gap which becomes wider. The economic expansion has turned urban land into an economical asset, and, one of the impacts is the depressing of public open space quality. The condition becomes a serious problem while the public open space has an important role for people quality of life. Physically, public open space is a green space where trees and vegetation grow and maintain urban

*Corresponding author (A. Delianur Nasution). Tel/Fax: +62-819870170. E-mail address: aan.nasution@gmail.com. © 2014. International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies. Volume 5 No.2 ISSN 2228-9860 eISSN 1906-9642. Online available at <http://tuengr.com/V05/0131.pdf>.

ecology. Many researches show that the natural element of open space generates relaxation, which has a relation with mental health (Abraham, Sommerhalder and Abel, 2010). The open space becomes a place to do sports and many other physical activities to support physical health (Sugiyama, 2010; Franzini *et al*, 2009; Maller *et al*, 2009). In social aspect, public open space is a free access for people to enter in, to meet each other and to perform social interaction (Zhang, 2009). Public open space is a place to celebrate the cultural distinction (Thompson, 2002), so people could express their culture and tradition and discharging social boundary (Yeoh and Huang, 1998). The public open space could be a place for national events, community identity, and expressing an urban culture (Carr and Francis, 1992). The public open space also give a contribution to economic aspects while it could provide economic activities and enhance property's value (Irwin, 2002; Lutzenhisher and Netusil, 2001; Jim and Wendy, 2006, 2007).

There are several studies conducted to analyze the relationship between public open space and quality of life. Chiesura (2003) in Amsterdam found that public open space could affect quality of life through environmental, economic and social factors. Lynch (2007) in her study in Canada, stated that public open space influences quality of life through physical, social and psychological health, and also through economic and environmental quality. Commission for Architecture and Building Environment (CABE) Space in England argued that the relationship between public open space and quality of life is a complicated research to be held in national scale, but the smaller scale research has proofed that there is a correlation between the two (Beck, 2009).

With such important benefits to quality of life, now public open space in urban space over the world has to face some problems, such as the increasing of urban environments changing and the decreasing of public open space's function. Typical with the others, the cities in Indonesia are characterized by the fast growing shopping malls and gated communities which represent the middle up class' needs to a secure public space and global capital's movement (Dick and Remmer, 1998; Douglas, 2006). For example, in 2002, there were 20 malls built, although some of them were social-friendly, but only a little contributed to public space (Douglas, 2006). As a contrast, during this 30 years, public open space, especially green space, in Indonesian cities - such as Jakarta, Bandung, Medan, Surabaya and Semarang - tends to decline, from 35 % in 1970's to only less than 10 % in 2006 (Departemen Pekerjaan Umum, 2006).

Some of public open space problems in Indonesia are the privatization, commercialization

and control of public open spaces. In some cases, the condition is supported by local government and causes the increasing of social segmentation and security problems, the rise of exclusive groups and many other social problems (Turner, 2002; Atkinson, 2003). The trend to dismiss the public open space and the increasing of gated community has been a conflict in harmonious social life to be “the end of public culture” (Sennet, 1977; 1995). The circumstance is contrast with the normative concept of public open space as a place for social interaction, cultural integration, democratic expression and political harmony in urban life (Carr, 1992). Generally, the urban space quality is not only indicated by physical function, but also by the meet of social, culture, psychology and ideology needs (Rapuano & Wigginton, 1994), as the important parts of quality of life (Massam, 2002; Das, 2008).

The development is aimed to enhance and maintain the people’s quality of life. In developing countries like Indonesia, where the planning and design of public open space does not have an important place among the development’s priorities, it is critical to understand the people’s perception about the place and whether it would relate to their quality of life. Thus, it would give contribution to development policy to reach the goal.

2 Methodology

The study located in Medan, the thirrd biggest city in Indonesia. The city of more than 2.5 million citizens had just less than 5 % public open space with a low quality. In the other side, malls, cafes and theme parks grew fast in this city, as well as gated communities. The research tried to investigate, whether the public open space relate to the quality of ife of citizens.

The survey was conducted in 2011. There were two types of data collected. The first, the physical and activity aspects of public open space, collected through the field survey and observation. The data gives information about the quality of public open space and how livable they are used. The second, the people’s perception of public open space, collected through the interview based on a questionnaire. The respondents were people which were doing their activities in public open space. They were chosen randomly in every activity zones in four active public open spaces in Medan. Respondents filled a set of questionnaire, guided by interviewer. The questionnaire consists of several sections as follows: (1) the respondents’ profile; (2) the perception about the relationship between public open space and several quality of life factors; (3) the characteristic of activities done in the public open space (4) the level of satisfaction of physical, social and management factors of the public open space (5) the level of

satisfaction with quality of life factors. The level of satisfaction of public open space is measured in a five-point Likert scale ranging from “1” for very unsatisfied, “2” for unsatisfied, “3” for neutral, “4” for satisfied and “5” for very satisfied. Using the mean values of the scale, “3” is considered to be the midpoint. Thus, any value above 3 is considered somewhat satisfied but of higher level. Similarly with any value below 3, it is considered to unsatisfied but of lower level. The analysis of the public open space’ level of usage is supported by descriptive statistics analysis, to describe people’s socio-economic background, duration, frequency and the variation of activities. To identify the dominant factors of public open space from people’s perception, the central tendency test and factors analysis is used. Next, Spearman correlation is used to analyze the relationship between perception about public open space and the quality of life.

3 Findings and Discussion

3.1 The liveability and people perception of public open space

The successful and liveability of public open space can be identified through two indicators, such as (1) users and (2) activity. From ‘users’ aspect, public open space was visited by all socio economic status, but dominated by the low income people (67.4%). Public open space was also visited by all age group, from kids to elderly, dominated by the teenagers (56.8 %).

In ‘activity’ aspect, it can be said that public open spaces in Medan were used optimally, both by the active and passive activities. There were a wide range of activities occur there, such as various sports, playing, picnicking, or just sitting and enjoying the environment. The most activities done were many kinds of sport, both in an organized or informal way, such as football, volley ball, gym and fitness, badminton, wall-climbing, jogging or just walking. The activities were supported by the public open spaces’ facilities, although not always in a good quality.

The other indicator of the livability of public open space is the intensity of usage. Most people came to the public open space at least 1-4 times a month, while a part of them came more than once a week. People stayed in public open space for 1- 3 hours. Most of them came in the morning, between 05.00 to 10.00 am, and in the afternoon between 04.00 to 06.00 pm. Most people which doing their activities in public open space were those who spent their holiday and weekend in the public open space (53.9 %). The facts indicate that the public open spaces were

active and livable. It means that they had a high level of usage, although not reach '24 hours usage a day' criteria.

There were several factors of public open space perceived by people, such as the accessibility, facility, natural environment's elements, activity, management and the intensity of usage. The statistical analysis results show that, except the accessibility, all factors were significant in generating the perception about public open space (*see* Table 1)

Table 1: Factor analysis for the public open spaces factors

Factor name and items	Factor loadings	Eigenvalue	% Of variance	Cum %
Factor : public open space		9.647	6.398	75.24
Accessibility	0.33			
Facility	0.64			
Activity	0.67			
Management	0.58			
Natural environment	0.66			
Intensity	0.63			

The factor analysis shows that the 'activity' has the highest loading factors, when the 'accessibility' has the lowest one. The activity, as an important factor in perceived public open space confirm the other study, such as Gehl (1996) which said that the function and activity will attract people coming to public open space. Generally, the most activities done is the optional activities as classified by Gehl (1996). It means most people do the recreational activities, as a kind of activities which relate to the quality of public open space. The high quality public open space will attract people to come to public open space (Gehl, 1996). In Medan, the quality of public open spaces are not good enough compares to the nature of the successful public open space (Project for Public Space, 2000; CABA and DETR, 2001; Carr *et al*, 1992; Gehl, 1996) or to the people perception (*see* Table 2), which have not reach 4 (satisfied). But the people kept using them intensively and make them the livable public open spaces.

The finding of this research, that the accessibility is not significant in generating perceived public open space, is different with many studies which argued that the factor is a very important in public open space (Project for Public Space, 2000; CABA Space, 2010). It can be said that people perceived 'accessibility' as 'how easy to reach a place by vehicle', because there is no good quality linkage or pedestrian in public open space, there is no integration with public transportation, too. But, people keep coming, and most of them (47.9%) use their motor cycles.

Table 2: Satisfaction with Public Open Space's Factors.

Number	Factor of POS	Mean Score
1	Accessibility	
	Distance	2.7
	How easy to enter in	2.82
	How easy to acces it from home	2.92
2	Facility	
	Dimension	3.05
	Parking lot	3.05
	Public toilet	3.06
	Playing area	3.15
	Sport area	3.23
	Sitting area	3.28
	Praying area	3.18
	Eating area	3.28
	Street vendor	3.27
3	Management	
	Safety	3.12
	Cleanliness	3.22
	Attractivity	3.30
	Orderliness	3.36
	Management	3.36
4	Natural elements	
	Trees	3.72
	Garden	3.53
5	Function/activity	
	Recreation	3.21
	Sport	3.23
	Social ineration	3.27
	Politic/democracy activity	3.23
6	Intensity	
	Duration	3.08
	Frequency	3.38
	Variation of Activity	3.52

3.2 People Perception with Quality of Life Factors

Among many quality of life factors, some relate to people's activities in the public open space, such as the physical and psychological health (which relate to relaxation, recreation and social interaction) and the quality of urban environment - where public open space is one of the urban space elements (Sirgy and Cornwell, 2002; Salleh, 2008). Thus, the research analyzes the relationship between public open space and the three factors of quality of life, such as health, recreation and urban environment. This study found that, generally, almost people stated that they were satisfied with health, recreation and urban environment. But, it has to be highlighted that the majority of respondents were low income people. The people's subjective statements,

which they were satisfied with their quality of life, show that there is a difference between the objective and subjective quality of life. The fact supports what Hoornweg *et al* (2007) argued that, in developing countries, people's wellbeing do not always fit with the objective condition of the economic environment, so that, the measuring of quality of life is lead to the subjective measurement which is based on the individual personal perception.

3.3 The Relationship Between People's Perception of Public Open Space and Quality of Life

The quality of life in urban space is the outcome of the interaction between human and the urban environment. The satisfaction with public open space is one of the urban environment satisfaction indicators, so it relates to the level of satisfaction with the overall quality of life. The research builds a concept that people's perception of public open space has a relationship with quality of life via three factors: health, recreation and urban environment.

3.3.1 Public Open Space and Health

The health benefit of public open space is delivered through the activities done in the public open space, as well as the existing of public open space physical elements. The public open spaces in Medan are successful in accommodating many kinds of physical activity, such as various sports and play. The activities are perceived well by people with the mean score of the satisfaction level is between 'neutral' (score 3) and 'satisfied' (score 4)(see Table 2). Although the mean score did not reach 4 (satisfied), but the sum of people who said 'satisfied' (score 4) and 'very satisfied' (score 5) is larger than those who said 'unsatisfied' (score 2) or 'very unsatisfied' (score 1). The research found that the most activities has been done in a group, both family or friends group. It means that there is a big opportunity for people to perform social contact. The research shows that generally people have perceived social activity well. Most people said that they ever engaged in a social interaction, such as saying hello to or making a conversation with the stranger or other people they met in the public open space. The fact indicates that public open space could have accommodated social interaction well. The met of this need would relate to the psychological health of people.

The health benefit is also given by the natural elements of public open space, such as trees, garden and vegetation. The livable public open space means that people keep coming to the public open space, so there is a big opportunity to them to contact with natural environment. This condition would give a restoration and relaxation effect (Kaplan and Kaplan 1989, 1990;

Ulrich, 1979) which, afterward, would affect their mental and psychological health. The result of the study shows that majority of people (86.2 %) believed that public open space affect positively to their physical and psychological health. The fact is also supported by their level of satisfaction that most people stated 'neutral' (41.4 %) and 'satisfied' (38.7 %), with the percentage of these levels of satisfaction was larger than the 'unsatisfied' and 'very unsatisfied' level. It means that generally people were satisfied with their health, but have not reach an ideal condition yet.

Table 3: The Correlation Test Result between Quality Of Life and Public Open Space

<i>Descriptive Statistics</i>				
	Mean	Std. Deviation	N	
Quality of life	3.4080	.65675	384	
Public Open Space	3.2649	.51527	384	

<i>Correlations</i>				
			Quality of Life	Public Open Space
Spearman's rho	Quality of Life	Correlation Coefficient	1.000	.231
		Sig. (2-tailed)	.	.000
		N	384	384
	Public Open Space	Correlation Coefficient	.231	1.000
		Sig. (2-tailed)	.000	.
		N	384	384

**** Correlation is significant at the .01 level (2-tailed).**

3.3.2 Public Open Space and Recreation

The met of recreation need is one of the quality of life indicators (Boyer and Savagean, 1981, 2000; Marlin, 1982). The level of people satisfaction with recreation activities in public open space shows mean score 3.21, or lower than 'satisfied' (mean score 4). But, the other sides, the public open spaces in Medan were active and livable. People have done many recreation activities, such as playing, picnicking, or just sitting. It means people have a big opportunity in gaining the benefits of recreation, such as a relaxation and restoration.

3.3.3 Public Open Space and Urban Environment

According to Das (20080), the quality of life in urban space is the outcome of the interaction between human and the urban environment. The public open space is one of the important urban environment elements. The study shows that, generally, the level of people

satisfaction with urban environment is 'neutral' (44.3 %) and 'satisfied', with the percentage of these levels of satisfaction was larger than 'unsatisfied' and 'very unsatisfied' level. It means that generally people were satisfied with the urban environment, but have not reach an ideal condition yet.

Table 3 shows the result of the correlation test between public open space and the quality of life. According to the table, it can be seen that the correlation coefficient between public open space and the quality of life is 0.231 or 23.1 %. It means public open space can explain quality of life as high as 23.1 %, and the rest explained by the other factors. It is because the quality of life factors of the study only those that relate to the activities in public open space, meanwhile there are many others quality of life factors. The positive direction of the relationship indicates that the increasing of satisfaction with the public open space will increase the satisfaction with the quality of life.

4 Conclusion

However, the quality of life is a complex concept, when there are so many factors relate to it. The research confirms many earlier studies that the livable public open space has a strong relationship with the citizen's quality of life, such as studies conducted by Quintas and Curado (2009), CABA Space (2010) and Lynch (2007). But it has to be understood that people have to face the changing of the lifestyle (Siu, 2008), the community and the way of recreation (Freestone and Nichols, 2004). The fact shows that the public open space has to compete with the higher quality privatized public space. The study found that physical factors of public open space have a strong correlation with the public open space perception. Thus, the enhancement of the public open space factors will make a better perception of public open space and then to the quality of life. The urban planning policy has to place the public open as one of the development priorities, because of the important contribution to the urban quality of life.

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Dr. Achmad Delianur Nasution is a lecturer of Department of Architecture, University of Sumatra Utara, Medan, Indonesia. He received his Master of Engineering from Institut Teknologi Bandung, Indonesia 2000. He continued his PhD study at University Sains Malaysia, Penang, Malaysia, where he obtained his PhD in Urban Design and Planning. Dr. Achmad Delianur Nasution is currently the Chairman of Indonesian Architect Institute Sumatra Utara Province. He currentlt the Chairman of Indonesian Architect Institute Sumatra Utara Province. He current interests involve the field of architecture, urban design and the relationship to quality of life.



Dr. Abdul Ghani Salleh earned his Ph.D. in Urban Planning from the University of Sheffield. He is currently Professor in School of Housing, Building and Planning, University Sains Malaysia.. He has conducted research and consultancy projects in urban and regional economic analysis, development of new townships and local growth centers, campus planning, high technology industry planning, regional planning and local growth and issues related to urbanization problems such as housing and industrialization. He was promoted to Professor in October 1997 and in April 1998 was reappointed Dean of the School of HBP (until March 2001).



Dr. Julaihi Wahid is a Professor is in Architecture Department at the School of HBP. He is also a chairman for Post Graduate Program and a coordinator for Housing Program at the School of HBP. He graduated with a B.Sc (Arch. Studies) and B. Arch (NAAB) from Washington, Master of Architecture (Community/Urban Design) from Kansas and Ph.D. from New Castle. His specialization includes building design especially commercial complexes and mixed development. He also specializes in the field of Community and Urban Design and Housing Studies.

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