



Sustainable Architecture

Elixir Sustain. Arc. 51 (2012) 10766-10770

Elixir
ISSN: 2229-712X

The influence of urban parks on sustainable city via increase quality of life

Reihaneh Sadat Hajmirsadeghi

Faculty Built Environment, University Technology Malaysia.

ARTICLE INFO

Article history:

Received: 23 August 2012;

Received in revised form:

20 September 2012;

Accepted: 3 October 2012;

Keywords

Urban parks;

Quality of life;

City sustainability.

ABSTRACT

Nowadays the international attempts to conserve the environment are mainly related to some issues such as; biologically diverse and reasonably non-touched ecosystems. Beside, the location of people live and work, for a small green space in cities and to their profits to people, much less attention is paid to this kind of nature. Much evidence show that the attendance of natural areas leads to the quality of life in many methods. Moreover, many environmental services, urban nature prepare essential social and psychological profits to human society that improves the lives of human senses and emotions. The major objective of this paper is to examine the significance of the urban nature of the welfare of the citizens and the sustainability of the city they live. Some outcomes of a survey conducted between visitors of a city park in Qazvin (The Mellat) are showed and argued. The issues examined concern the motives of people for the urban nature, the emotional dimension involved in the experience of nature and its significance for the broad welfare of the people. The results prove that the experience of nature in an urban environment is a resource of useful emotions and positive services that complete significant immaterial and non-consumptive human requests.

© 2012 Elixir All rights reserved.

Introduction

International attempts to conserve the environment are mainly related biologically diverse and reasonably non-touched ecosystems. Fewer technical—and political—notice is being paid, on the other side, to that kind of nature near to where people live and work, to small-scale green areas in cities, and to their profits to urban inhabitants. In evaluation, notice to the natural factors and the green spaces of the urban structure is still weak. (Tyrvaïnen and Vaananen, 1998). It is discussed, however, that urban parks and open green spaces are of a strategic significance for the quality of life of our more and more urbanized society. The attendance of natural areas leads to the quality of life in many methods

In addition significant environmental services such as air and water cleaning, wind and noise filter, natural areas supply social and psychological services that are of vital importance for the livability of modern cities and the welfare of urban inhabitants (Cheisura 2004). A park experience may decrease pressure (Ulrich, 1981), improve contemplativeness, refresh the city inhabitant, and prepare a sense of calmness and harmony (Kaplan, 1983). The theory of regenerative function of natural environment has been verified in many empirical investigations. Recent studies guide to similar results, reinforcing the assumption that the natural environment has a positive impact on the psychological and mental health. Modern research on the use of urban parks and forests, for example, examines ideas about stress decrease and mental health benefits (Conway, 2000). In a survey among visitors of the park found an important relationship between the use of parks and

perceived health status: Those who used local parks were often more likely to report health than those who did not (Godbey et al., 1992). Schroeder (1991) showed that the natural environment with plants and water is peaceful and less stressful states in a semi-server, compared with urban scenes without

plants. This ability of natural elements to function as a "natural tranquilizer" can be especially useful in urban areas, where the stress is too common aspect daily life (van den Berg et al., 1998). In addition to the psychological and health benefits, natural features in urban areas may also have other social profits (Cheisura 2004). Nature can persuade the use of open spaces, raise social interaction and integration between neighbors (Coley et al., 1997). The existence of trees and grass in the open common spaces may promote the development of social secures (Kuo et al., 1998). Kuo et al. (1998) also realized that plants help people to rest and refresh, decreasing violence. Natural environments can also be seen as an area of active experience provides meaning of problem, privacy and intimacy, visual and historical continuity. In addition to the social and psychological advantages mentioned above, the functions urban nature can give economic profits for municipalities and citizens. Trees clean air and in this case the cost of reducing pollution and preventive measures will decrease. enhance the attractiveness of. Furthermore, natural elements such as trees or water increase property values, and therefore tax revenues as well (Tagtow, 1990; Luttik, 2000; Cheisura 2004).

Beside positive effects, parks may play a negative role on people's perceptions. Some surveys have reported residents' feelings of insecurity associated with vandalism, and fear of crime in deserted places (Grahn, 1985; Bixler and Floyd, 1997). However, far larger is the empirical evidence of the positive functions of green areas; a study by Kuo and Sullivan (2001) even shows that residents living in "greener" surroundings report lower level of fear, fewer incivilities, and less aggressive and violent behavior. At this point, a brief explanation of what a sustainable city is supposed to be seems necessary.

The sustainable city

There is no accepted definition of a sustainable city, and as it happened with the concept of sustainable development.

Tele:

E-mail addresses: rey.architect@gmail.com

Some cities have been developing their own sustainability indicators, to try and measure quality of life issues in a meaningful way.

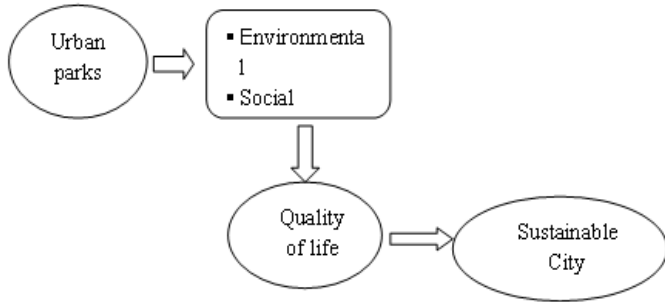


Fig. 1. Urban parks and city sustainability

Generally, to make the city livable, pleasant and attractive for its citizens, some aspects such as “amount of public green spaces per inhabitant”, “public parks” and “recreation areas” are often mentioned as important factors. It is strongly believed that developing more sustainable cities is not just about improving the abiotic and biotic aspects of urban life, it is also about the social aspects of city life, that is—among others—about people’s satisfaction, experiences and perceptions of the quality of their everyday environments (see also Beer, 1994). In the context of this study, the relation between urban parks and city sustainability is addressed through the investigation of the value of urban nature as provider of social services essential to the quality of human life, which in turn is a key component of sustainable development. Fig. 1 indicates the conceptual links and relationship assumed between urban park and city sustainability.

There is the main research questions addressed by this study such as; Why do people need urban parks? Which benefits do they get from visiting them? And, do these benefits really affect their quality of life? Issues investigated concern the social demands for parks among urbanities, the emotional component involved in their experience of nature and the benefits perceived. Results from a survey study conducted in The Iran, in the summer 2009, will be presented and their implications for city sustainability discussed.

Materials and methods

Both secondary (literature review) and primary data have been gathered. Primary data have been collected through a survey conducted among visitors of the most popular park of Qazvin(The Mellat). The survey was set up after a small pilot study. Respondents were randomly selected among the visitors of the park, regardless of their social extraction or professional background. People approached in the park, were first informed about survey’s objective and answering procedure. Those willing to participate were given the questionnaire and invited to fill it in during their stay at the area, so that the answers would reflect their immediate experiences. Questionnaires have been distributed on both weekdays and weekends, in different hours of the day, and in different parts of the parks. Responses formats were either closed (dichotomous, multiple choices), in ranking scale or open. The questionnaire addressed a broad range of issues, ranging from motives for nature, nature’s images, perception of environmental functions, environmental attitudes and willingness-to-pay questions. For the purpose of this paper, however, the analysis will be limited to the following issues:

(i) In what sort of activities do they engage, and which needs do these activities fulfill?

(ii) Which feelings do people experience in the park, how important are for people’s general well being, and why?

(iii) Public satisfaction with the amount of green areas in cities: Are people satisfied with the amount of green in their city?

The main interest driving the data analysis was to unfold people’s thoughts and perceptions in a qualitative way, rather than to establish quantitative relations or identify group-dependent variables. While basic descriptive statistics has been applied, more attention has been paid to the qualitative analysis and interpretation of the richness of the data obtained. Nonetheless, results provide interesting information to city-planners and urban developers about the role and importance of public green space for the citizens’ daily well being and quality of life.

Results

In total, 250 questionnaires were distributed. A relatively high percentage of questionnaires (60.3%) was returned, often accompanied by enthusiastic comments and encouraging words (i.e. a postcard, or a poem). The sample size is $N = 150$ prevalently constituted by female (55.7%). Age classes ranged from 17 to 68 and the mean age of the total sample is about 42 years (S.D. = 14.29). Quantitative analytical techniques have been used to analyze and interpret the data collected. Closed questions have been subjected to basic descriptive statistics, analysis of variance and factor analysis, while the open question has been content analyzed. In the following paragraphs results obtained will be presented and discussed.

Motives for nature

People’s motives to visit natural areas and the various activities they carry out reflect the demands people place on natural areas, and the needs they expect to be fulfilled. This information can help decision makers to formulate strategies in tune with public needs and expectations. To collect data about people’s motives to visit the park, the respondent was asked: “Why do you come here?”. The following alternative options were given. To sport, to meet others, to play with children, to walk the dog, to listen and observe nature, to contemplate and meditate, to get artistic inspiration, and other. A frequency analysis of people’s motives to visit nature shows that “To relax” is the motive most frequently mentioned by the visitors, accounting for the 81% of the answers (Fig. 2).

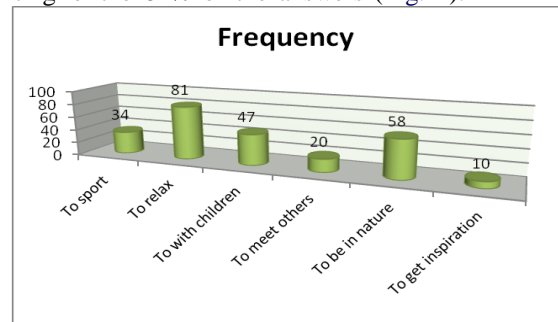


Fig.2. Motives for nature: frequency distribution.

from the hectic rhythm of the city is particularly strong. As many of us have surely experienced, in the silent and timeless atmosphere of natural environments one can forget the daily worries, breathe fresh air and relax, both mentally and physically.

Findings also indicate that almost 47% of the respondents

visit the park “To be with the children”. In this respect, nature fulfils important social functions, strengthening family ties and providing safe places for children to play, which are increasingly scarce in modern cities. The benefits deriving from these functions accrue to both parents and children. It has been suggested that the senses of challenge and adventure children experience in nature contribute positively to their development (Cornell and Hadley, 2001).The reasons “To contemplate and meditate”, “To meet others”, , “To sport” and “To get artistic inspiration” follow in decreasing frequency. These motives reflect needs to experience solitude and to be on your own, as well as to meet other people and engage in social relations. No significant gender-related differences were found with regards to the motives of the visit. On the other hand, various age-related differences were found (see Table 1).While sporting and meeting other people apply more to the youngest age-categories, the other motives and activities relax, stay with children and contemplating nature seem preferred by adult and elderly visitors.

Table 1 Motives: age-related differences (ANOVA)

	Sum of	d.f	Mean		Significance
To sport					
Between groups	1.44	5	0.34	4.01	0.06*
Within groups	40.23	145	0.07		
Total	41.67	150			
To relax					
Between groups	3.21	5	0.78	5.12	0.008**
Within groups	77.42		0.21		
Total	80.6	150			
To be with children					
Between	7.01	5	1.4	8.35	0.005**
Within groups	69.12	145	0.15		
Total	76.13	150			
To meet others					
Between groups	1.45	5	0.29	3.67	0.043*
Within groups	49.14	145	0.11		
Total	50.59	150			
To listen and watch nature					
Between groups	8.21	5		1.571	
Within groups	100.34	145		0.234	
Total	108.55	150			

* Significant at $P < 0.05$.

** Significant at $P \leq 0.00$

The park’s experience the emotional measurement

This result should not come with surprise: in urban contexts the need to relax and step away

Another major research interest of this research was to examine the emotional measurement of of nature, based on experience, benefits, and people perceive the relationship with their welfare in general. It is assumed, then, that the feelings and the emotions we accept in the environment of formation of the

corresponding part of our experience in it. Respondents were asked respond to the following questions:

- “Which feeling does nature evokes you?” This question was a bit response format. The following were listed: Freedom, fortune, Ad-venture, happiness and unity with himself, unity with nature, and others, where the respondent can add other feelings that are not included in this list.

- “How significant are these senses for your daily well being?” Responses are evaluated by 1-5 points of measurement scale (1 not important, 5, and air), and why? This was an open question where the respondent could motivate his/her answer. Frequency analysis of the responses received about the feelings, experience shows that "Freedom" is by far the most feeling frequently mentioned that 75% of responses. The feeling of "unity with nature" accounts for nearly 45% of the data achieved. The sensation of being one unity with nature involves harmony with it, and the capability to exist with extra-physical certainty as one went to it. The state of feeling piece of nature, forming a unity with it involves a kind of transcendence of the ego and the Self "Happiness," "unity with me" and "Fortune" follows, and "Adventure", is the less mentioned feelings people experience in the park. Other feelings frequently added the respondents were quiet, the beauty and harmony. Only one respondent noted the feeling of fear of wild animals, not the feelings of uncertainty were mentioned. Performance analysis of variance showed no essential differences between male and female with recurrent related to emotional experiences. On the other hand, the adventure proved to be significantly associated ($P < 0.001$) to age: $F(5, 150) = 7012, P = 0.001$.

Performing factor analysis revealed two main components: relaxation and spirituality (see Table 2).The factors loading below this first item are “Freedom”, “Happiness”, and “Fortune”. Recreation and entertainment size is determined due to the fact that the experience of nature is a source of positive emotions, which recreate the spirit.

With the term "rest", we do not refer to specific activities people engage in during their stay in nature, but rather a sense of relaxation and re-generative pleasure that he experiences the nature of pro-motes. The second trend emerged and has been called spiritual and "unity with nature," the feelings associated with it.

This aspect is considered to reflect the need to achieve a higher state of mind, to elevate the soul and the mind of the daily thoughts, to feel part of a larger whole and in harmony with it. Relaxed atmosphere of the park inspires reflection, meditation, and a general sense of harmony between oneself and others.

Respondents were then asked to rate the importance of these feelings and emotions for the general welfare by 7.1 points of measurement scale (1 not important, 7, essentially). Frequency analysis shows that 91% of responses in the range of significant importance, the average value gained 4.01 (SD = 80). The discovery suggests that emotional experience is perceived as a very significant contribution to welfare of the people. The following paragraph will be told why this is so. No statistically significant differences in the group were found.

Table 2. Feelings in nature: factor resolution

Feeling	Component	
	Recreation	Spirituality
Freedom	0.68	
Happiness	0.61	
Fortitude	0.67	
Harmony with nature		0.78
Total difference explained (%)	29.3	20.6

Note: Method of extraction: principal component analysis. Rotation method: varimax with Kaiser Normalization. There is no limiting factor. All factors loading > 0.40 are included.

Recommendations and Discussion

There is information from the survey shows that the city performs important intangible nature and no consumptive human needs. Results obtained consistent with earlier observations on the need of people to experience nature (Kaplan and Kaplan, 1989). People visit the park in the first place because they want to relax. In addition, studies show that the experience of nature the town is the source of a large array of positive feelings toward people. Freedom, unity with nature, and happiness are among the most frequently cited, along with the beauty and tranquility. In *Klijn et al. (2000)*, freedom and silence also occur as central values in recognition of the nature of the people. *Coetier et al. (1997)* found that a sense of unity with nature, especially due to water landscapes. But, How does being in the park influence people's feeling of well being? The results show that the feelings and emotions are caused by people in the park is seen as a very significant contribution to their well-being. Direct benefits are perceived in terms of psychophysical recovery of balance, relaxation, rest from the daily routine, and encourage spiritual connection with nature.

These services provide clear advantages for the people the loss which could have serious social and economic consequences. Failure to submit rehabilitation and psychological advantages of access to nature in the city, for example, it can have considerable health expenditure in the long term (*Thompson, 2002*). Thus, the assessment of facilities, social and psychological services in urban areas should be integrated into project assessment procedures and properly recorded policy decisions and strategies in urban planning. Public assessment of user satisfaction and needs is important to urban management (see *Burgess et al., 1988; Millward and Mostyn, 1988; Costa, 1993* as well). In this regard, representation and participation in all aspects of city life are critical, as the people themselves (*Camagni et al., 1998*) should create the sustainable city. How to actually the city cannot be sustainable if it does not meet the needs of its citizens?

Conclusions

Due to the small size of sample, analyzed and the limited statistics satisfied no universal conclusions can be drawn about the role of consistent urban parks in general. Still, some cogent observations can be made. Primarily, the urban nature performs many social functions and psychological needs of the citizens, who make the urban nature of the securities of municipal resources and a key component of sustainability. Secondly, the various age groups have different motivations to visit the park and the various activities they are going to undertake. Design and

management of the park, therefore, should take into account the recreational needs of all target groups. Assessment and evaluation of these services, and intangible benefits is crucial in order to justify and legitimize the strategy of sustainable urban development. It is argued that the assessment of their value to society should be based on assessment of needs, desires and beliefs of individuals that make up that very society. Public participation, citizen participation and qualitative assessments of their needs and interests, and is believed to help urban communities to identify common values, which, in turn, can serve as benchmarks for local planning to imagine a more sustainable strategy for the city.

References

- Beer, A.R., 1994. Urban greenspace and sustainability. In: van der Vegt, et al. (Eds.), *Proceedings of a PRO/ECE-Workshop on Sustainable Urban Development: Research and Experiments*, November 1993. Dordrecht,
- Berg, A., van den Top, I.M., Kranendonk, R.B., 1998. *Natuur wens van stadsmensen (The Demands on Nature of Urban Citizens)* (in Dutch). IBN-DLO Rapport, Wageningen, The Mellat.
- Bixler, R.D., Floyd, M.F., 1997. Nature is scary, disgusting and uncomfortable. *Environ. Behav.* 29, 443–467.
- Burgess, J., Harrison, C.M., Limb, M., 1988. People, parks and the urban green: a study of popular meanings and values for open spaces in the city. *Urban Stud.* 25, 455–473.
- Coetier, F., Ploeger, B., Schone, M.B., Buijs, A., 1997. *Beleving van de Wadden. Onderzoek naar waarden van bezoekers en bewoners (Perception of the Waddensea Area. Investigating the Values of Visitors and Inhabitants)* (in Dutch). Wageningen, DLO-Staring Centrum.
- Coley, R., Kuo, F., Sullivan, W., 1997. Where does community grow? The social context created by nature in urban public housing. *Environ. behav.* 29, 468–494.
- Conway, H., 2000. *Parks and people: the social functions*. In: Woudstra, J., Fieldhouse, K. (Eds.), *The Regeneration of Public Parks*.
- Cornell, E.H., Hadley, D.C., 2001. Adventure as stimulus for cognitive development. *J. Environ. Psychol.* 21, 3.
- Costa, L., 1993. *Popular Values of Urban Parks: A Case Study of the Changing Meaning of the Parque Do Flamengo in Rio de Janeiro*. Ph.D. Thesis, University of Central London, London.
- Driver, B.L., Brown, P.J., Peterson, G.L., 1991. *Benefits of Leisure*. Venture Publishing.
- Godbey, G., Grafe, A., James, W., 1992. *The Benefits of Local Recreation and Park Services. Nationwide Study of the Perceptions of the American Public*. College of Health and Human development, Pennsylvania State University, Pennsylvania.
- Grahn, P., 1985. *Man's Needs for Urban Parks, Greenery and Recreation*. Institute for Landscape Planning, Swedish Agricultural University, Alnarp.
- Kaplan, R., 1983. The analysis of perception via preference: a strategy for studying how the environment is experienced. *Landsc. Urban Plan.* 12, 161–176.
- Kaplan, S., Kaplan, R., 1989. *The Experience of*

Nature. A Psychological Perspective. Cambridge University Press, Cambridge, 340 pp.

- Klijn, J.A., Buij, A.E., Dijkstra, H., Luttik, J., Veeneklaas, F.R., 2000. The Forgotten Values of Nature and Landscape. Use and Appreciation Measured in Money and Emotional Value. Alterra Green World Research, Wageningen.
- Kuo, F.E., Sullivan, W.C., 2001. Environment and crime in the inner city. Does vegetation reduce crime. *Environ. Behav.* 3 (33), 343–367.
- Kuo, F.E., Bacaioaca, M., Sullivan, W.C., 1998. Transforming inner city landscapes: trees, sense of safety, and preferences. *Environ. Behav.* 1 (30), 28–59.
- Luttik, J., 2000. The value of trees, water and open spaces as reflected by house prices in the Mellat. *Landsc. Urban Plan.* 48 (3–4), 161–167.
- Melbourne and Metropolitan Board of Works, Ministry of Planning and Environment, Melbourne.
- Millward, A., Mostyn, B., 1988. People and Nature in Cities: The Social Aspects of Planning and Managing Natural Parks in Urban Areas. Urban Wildlife, Nature Conservancy Council, Peterborough.
- Prescott-Allen, R., 1991. *Caring for the Earth: A Strategy for Sustainable Living*. IUCN, The World Conservation Union, United Nation Environmental Program, Worldwide Fund for Nature, Gland, Switzerland.
- Renema, D., Visser, M., Edelmann, E., Mors, B., 1999. De wensen van Nederlanders ten aanzien van natuur en groen in

de leefomgeving (The Wants of the Dutch for Nature and Green in the Living Environment) (in Dutch). Wageningen, DLO-Staring Centrum.

- Roovers, P., Hermy, M., Gulinck, H., 2002. Visitor profile, perceptions and expectations in forest from a gradient of increasing urbanization in central Belgium. *Landsc. Urban Plan.* 59, 129–145.
- Rossman, B.B., Ulehla, Z.J., 1977. Psychological reward values associated with wilderness use. *Environ. Behav.* 9(1), 41–65.
- Schroeder, H.W., 1991. Preferences and meaning of arboretum landscapes: combining quantitative and qualitative data. *J. Environ. Psychol.* 11, 231–248.
- Tagtow, R., 1990. The need for urban forests. *Am. City County* 105, 74–75.
- Thompson, C.W., 2002. Urban open space in the 21st century. *Landsc. Urban Plan.* 60, 59–72.
- Tyrvaïnen, L., Vaananen, H., 1998. The economic value of urban forest amenities: an application of the contingent valuation methods. *Landsc. Urban Plan.* 43, 105–118.
- Ulrich, R.S., 1981. Natural versus urban sciences: some psycho-physiological effects. *Environ. Behav.* 13, 523–556.
- Ulrich, R.S., 1984. View through a window may influence recovery from surgery. *Science* 224, 420–422