Research Paper Environment

The Role of Urban Green Spaces for The Sustainable City, Jammu (J&K)

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ABSTRACT

Urban green spaces have an important role in sustainable development. The presence of natural areas contributes to the quality of life in many ways. Also, urban nature provides important social and psychological benefits to human societies, which enrich human life with meanings and emotions. The main concern of this paper is to address the importance of urban nature for citizens' well being and for the sustainability of the city they inhabit. A survey conducted among visitors of an urban park in Brigadier Rajinder Singh Park, (J&K, India) is presented and discussed. The issues investigated are people's motives for urban nature, the emotional dimension involved in the experience of nature and its importance for people's general well being. Results confirm that the experience of nature in urban environment is source of positive feelings and beneficial services, which fulfil important immaterial and non-consumptive human needs.

KEYWORDS

Introduction

International efforts to preserve the natural environment are mainly concerned either with large, bio-diverse and relatively untouched ecosystems or with individual animal or vegetal species, endangered or threatened with extinction. Less scientific and political attention is being paid to that type of nature close to where people live and work. Sustainability is a widely accepted strategic framework in city planning and urban green spaces have an important role in it and considered as one possible step towards creating sustainable urban environments. Aspects such as "amount of public green spaces per inhabitant", "public parks" and "recreation areas" are often mentioned as important factors to make the city live able, pleasant and attractive for its citizens. Also, open green spaces are of a strategic importance for the quality of life of our increasingly urbanized society (Chiesura, 2004). In fact, increasing empirical evidence indicates that the presence of natural resources in urban contexts contributes to the quality of life in many ways. Physically and psychologically, view of natural scenes foster stress recovery (Ulrich, 1981) by evoking positive feelings, reducing negative emotions, and resulted in mental (Conway, 2000) and physical health (Godbey et al., 1992). Socially, nature can encourage the use of outdoor spaces, increase social integration and interaction among neighbours (Coley et al., 1997). Besides the aforementioned, the functions of urban nature can provide economic benefits for both municipalities and citizens. Furthermore, aesthetic, historical and recreational values of urban green spaces increase the attractiveness of the city and promote it as tourist destination, thus generating employment and revenues (Chiesura, 2004). 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.

Material and Methodology

Primary data have been collected through a survey conducted among visitors of the Brigadier Rajinder Singh Park, one of the most popular park of Jammu (Jammu & Kashmir, India). The park is situated in the centre of the Ranbir canal at canal head. It covers an area of about 19.22acres (approx). The park abounds in 25 different varieties of forest plants, 100 varieties of ornamental plants and 40 varieties of winter annual flower plants. Data have been collected through a survey conducted among visitors of the park. 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 requested 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, during evening, 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. For the purpose of this paper, however, the analysis will be limited to the following issues:

(i) Motives for nature: Why do people visit the park? In what sort of activities do they engage, and which needs do these activities fulfill?
(ii) Emotional dimension and perceived benefits: 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 study has mainly an exploratory character and neither confirmatory nor predictor aims were set. 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. 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 and Discussion

In total, 106 questionnaires were distributed. Age classes ranged from 18 to 70. Following results are obtained

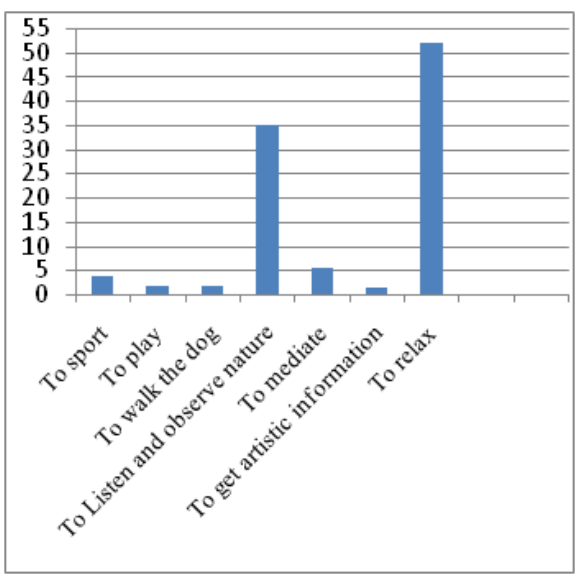
Motives for nature

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 and meditate, to get artistic

inspiration, to relax. 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 52% of the answers. In urban contexts the need to relax and step away 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. The reasons "To listen and observe nature", "To meditate", "To sport", "To play with others" 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 (Table I).

Table I: Frequency distribution showing motives for nature

Motives for nature	Frequency distribution
To Sport	3.78
To play with other	1.8
To walk the dog	1.7
To Listen and observe nature	35
To meditate	5.6
To get artistic information	1.3
To relax	52



Frequency distribution showing motives for nature

No significant gender-related differences were found with regards to the motives of the visit. While sporting and meeting other people apply more to the youngest age-categories, the other motives and activities relax, and observe nature seem preferred by adult and elderly visitors.

To determine the importance of park in their life respondents were asked "How often do you visit the park". The following alternatives were given First visit, 2-5 times a year, every few years, More than 5 times a year, on weekly basis. Frequency analysis of data received shows 53% of respondents visited the parks weekly. High percentage of weekly visitors reflects the need of natural environment in urban context. Moreover this shows that they may have enjoyed their earlier visit. 21% of respondents visit the park 2-5 times a year while rest of them visited less frequently.

Respondents were asked "How long did you stay in the park on this visit?" The frequency analysis of data shows 77% of respondents visit the park for less than 2 hours ,12% visit the park for 4-8 hours while rest of them stay there for 2-4 hours. This shows that people get little time to visit park due to their hectic schedule.

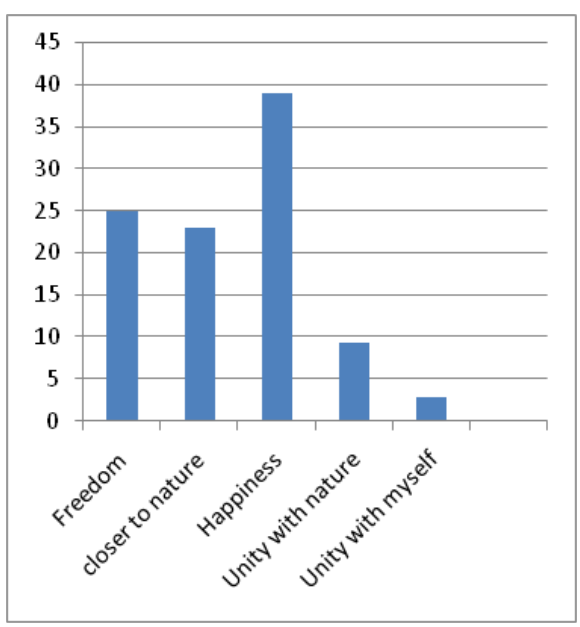
The emotional dimension of the park's Experience

Emotional dimension and perceived benefits	Frequency distribution
Freedom	25
Closure to nature	23
Happiness	39
Unity with myself	2.8
Unity with nature	9.43

Another major research interest of this research was to examine the emotional measurement of nature, based on experience, benefits, and people perceive the relationship with their welfare in general. Respondents were asked respond to the following questions:

"Which feeling does nature evokes you?" This question was a bit response format. The following options were listed: Freedom, closer to nature, happiness and unity with myself, unity with nature, where the respondent can add other feelings that are not included in this list. Frequency analysis of the responses received about the feelings, experience shows that "Happiness" is by far the most frequently mentioned feeling that accounts for 39% of responses. This motive of visiting park reveals that happiness is essential for both physical and mental well-being. The feeling of "Freedom" and "closer to nature" accounts for nearly 24% and 23% respectively of the data obtained while "unity with nature", "unity with myself" are the less mentioned feelings people experience in the park (TableII).

TableII: Frequency distribution of emotional dimension and perceived benefits



Frequency distribution of emotional dimension and perceived benefits

Respondents were asked about the importance of these feelings for their daily well being 49% of respondents marked very important and 46% of respondents marked these feelings important for their daily well being while only 3% find these feelings least important for their daily well being.

Open answers

Another important aim of the research was to explore the

reasons why the experience of nature was— or not—perceived as important for people's general well being. Answers obtained thus grouped under the same representative theme. The restorative component reflects the perception that being in the natural environment compensates the stress of daily life, and refreshes people's psychophysical equilibrium. Evidences from experimental research show that natural environments are a powerful source of restorative experiences (Hartig et al., 1987). The amenity component represents the experience of nature as diversion from the everyday life, as a break from boredom and hectic schedule. Kaplan and Kaplan (1989) describe the sense of "Being away" as a state involving distancing oneself from negative distractions, or from ones day to day work. Driver et al. (1991) mention the concept of "Temporary escape", understood as passive or mental only, such as through meditation or gazing out a window at a pleasant natural view. The last component emerged from the content analysis of the open answers has been called spiritual. The arguments related to this spiritual component depict nature as the primary source of energy, the original driving force, the basis and the very essence of human existence. As Thompson (2002) also noted, "for many people in cities, the park is a place where nature may have a metaphysical or spiritual dimension".

Respondents were asked if spending time in garden stimulate all their senses 96% respondents marked " Yes" and only 4% of the respondents marked it as "No". This reveals the importance of parks for stimulation of all the five senses.

For better understanding about the importance of natural experience for people's well-being, respondents were asked to rank the importance of visiting gardens for emotional and physical diseases like: depression, sadness, tiredness and sickness along a 1–5 points measurement scale (1, not important at all; 2, not important; 3, important; 4, very important; 5, essential). A frequency analysis showed that 92% of responses range from important to essential. Respondents believed that visiting gardens could mostly reduce depression as well as removing tiredness. Also, results show that sadness and physical sickness could be better during and after garden visitations. Overall, findings revealed nature effects on betterment of both emotional and physical disease, widely emotional ones.

Public satisfaction with the amount of green areas in cities

The respondents were asked about the type of plants to be planted in parks for betterment of parks. 56% of respondents marked both medicinal and ornamental plants to be planted in parks. 24%respondents marked only medicinal plants to be planted in garden while rest of respondents preferred ornamental plants. This reveals that people visit the parks for health benefits as well as to satisfy their aesthetic needs.

Recommendations and Discussion

The information emerged from the survey indicates that urban nature fulfils important immaterial and non-consumptive human needs. Results obtained accord with previous observations regarding people's need to experience nature (Kaplan and Kaplan, 1989). People visit the park primarily because they want to relax. The needs to experience nature and to escape from the stressful rhythm of the city also constitute important reasons for people's visits to the park.

Furthermore, findings show that the experience of nature in the city is source of a large array of positive feelings to people. Freedom, Unity with nature, and Happiness are among the most frequently mentioned, along with beauty and silence. In Klijn et al. (2000), freedom and silence also appear as central values in people's appreciation of nature. But what is the relation between people's emotional experiences and their well being? How does being in the park affect people's sense of well being? Findings show that the feelings and the emotions evoked in the park are perceived by people as very important contributions to their well being. Direct benefits are perceived in terms of regeneration of psychophysical equilibrium, relaxation, break from the daily routine, and the stimulation of a spiritual connection with the natural world. All these emotional and psychological benefits contribute critically to the quality of human life, which in turn is a key component of sustainable development. Valuation of the various amenities, social and psychological services of urban areas should be integrated into project assessments' procedure and be properly accounted for in policy decisions and urban planning strategies. Public valuation about user's satisfactions and needs is important to urban management (Burgess et al., 1988). How can in fact a city be sustainable if it does not meet the needs of its citizens? It is suggested that sustainability indicators for urban development should include more parameters about public spaces and green open areas, as well as indexes reflecting citizens' satisfaction and perception of their living environments. City planners and urban designers should therefore take into account this variability, by managing green spaces in a diversified way, so as to fulfil the needs and expectations of all the segments of the population.

Conclusions

Due to the small size of sample analyzed 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 created by nature in urban public housing.

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