PERCEPTION OF PEOPLE TOWARDS URBAN GREEN SPACEIN URBAN PARKSOF ISFAHAN, IRAN

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ABSTRACT

Green space plays an important role in complex urban ecosystems.It provides significant ecosystem services with environmental, aesthetic, recreational and economic benefits.This paper investigates urban peoples' perceptions towards urban parks as well as the perceived benefits related to the use and existence of urban parks in Isfahan, Iran. A survey was conducted among residents and visitors to an urban park.A questionnaire was designed to request opinions from 132respondents randomly chosen from residents living in the study area. The results indicated pervasive recognition of ecosystem services.The benefits of the green spacees including: Shading, Wind protection, Increase relative humidity, Lower air temperature, Air pollutant absorption , Noise abatement, Glare and reflection control, Soil erosion prevention, Wastewater management, Flood abatement, Aesthetic enhancement, Screening undesirable view, Recreational activities, Property value increase andTraffic control were assessed.Statistical analyses, including Student's t-test, standard deviation and mean were performed using SPSS version 19. Improvement of urban microclimate and environmental quality were emphasized.We discuss the principles necessary to performance green space planning considering adaptation to local conditions, composite function utilization and integrated planning.Results shown that Shading, Wind protection, Increase relative humidity, Lower air temperature, Air pollutant absorption, Noise abatement, Glare and reflection control, Soil erosion prevention, Flood abatement, Aesthetic enhancement, Screening undesirable view, Recreational activities and Property value increasewere the most important benefits of green spaces, Wastewater management is medium and Traffic control is lowest important for the respondents.

Keywords: Urban Green Space, Landscape planning, Questionnaire, Respondents

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INTRODUCTION

Green spaces, as key components of urban ecosystems, contribute to sustainable development, landscape and environmental quality, quality of life, and citizen health.A park is considered a parcel or neighboring parcels of land which owned, operated, and maintained by a public agency or private association and which provides recreational land and facilities for the benefit and enjoyment of the residents and visitors of the City.In urban forest planning and design, the incorporation of different user group aspects is often required.Landscape assessment for planning and decision-making, at local and regional levels, is a key process in maintaining sustainable landscape management (Jankovska et al. 2010).The promotion of conservation and management of urban forests is strongly influenced by level of ecological knowledge because people with a greater knowledge of ecosystems are more likely to prefer ecologically sustainablelandscapes (Gobster 1999; Ramos and Panagopoulos 2007).Urban forests have been recognized as an important component of urban landscapes and their recreational values for millennia (Miller 1997; Tyrvainen et al. 2006). Urban forests are reported to produce multiple benefits including a broad range of environmental, urban landscape, economic and psychological benefits, and hence are universally valued and considered as essential elements for maintaining the quality of urban life (Tyrvainen 2001; Heynen and Lindsey 2003; Jankovska et al. 2010).

Green spaces generate many touchableand less touchable ecosystem services, including outdoor recreational opportunities, amenities, air pollutant removal, balancing atmospheric oxygen and carbon dioxide contents, microclimatic regulation, rainwater retention, soil moisture and groundwater recharge, flood control, cleansing of return water flow, wildlife habitat, and physical and mental health promotion (Baines 2000; Bolund and Hunhammar1999; De Vrieset al.2003; Dwyer et al.1994; Grey and Deneke 1986; Miller 1997; Rowntree1986, Takano et al. 2002).The aim of this research has been to determine urban community perceptions towards urban parks as well as the perceived benefits related to the existence and use of urban forests, in Isfahan, Iran. This study was designed to improve the understanding of the importance of urban parks throughout Isfahan.

METHODOLOGY

Study area

Isfahan situated in Iran and lies at 32° 39' 35" N latitude and 51° 40' 17" E longitude. The climate in Isfahan is generally semi arid with temperature between 24°c to 39°c in July. In a study carried out over a 30-year period (1966-1995), the average temperature in Isfahan province was estimated as 16.3°C, average relative humidity 54% at 06:30 and 29% at 12:30; average annual rainfall 122.7 mm, maximum amount of rainfall 48 mm on a single day, average number of days 69.1 with the temperature below 0°C, average number of hours of sunshine 3233.2 h over the entire year and the maximum wind speed; was 29 meters per second, in the direction of 300°.

Questionnaire design

Urban green spaces provide many functions in urban context that benefits people's quality of life. There is a wide agreement about the importance and value of urban green spaces in cities towards planning.A questionnaire survey, based partly on similar studies elsewhere (Garrod and Willis 1999; Lewanand Soderqvist 2002; Lorenzo et al., 2000; Tyrvainen 2000), was designed to investigate resident perception and attitudes toward Urban Green Spaces. The first part of the questionnaire listed study objectives, answering instructions, and Urban Green Space definition to help respondents understand the motivation of the research and the questions. At the end of each group of questions, the interviewer asked respondents for open-ended opinions. Some 15 benefitsrelated to Urban Green Spaces were identified based on the work by Miller (1997). An ordinal scale with numerical scores measured the degree of recognition of urban green space benefits: Very important (5), Important (4),NotImportant (3), Neutral (2), and Unclear (1).Statistical analyses, including Student's t-test, standard deviation and meanwere performed using SPSSversion 19. This research explores people's interface and interaction with urban green spaces in the Isfahan context with reference to knowledge and perception of ecosystem services and attitude toward current urban green space condition and management.

RESULTS AND DISCUSSION

Urban green spaces play a key role in improving the livability of our towns and cities. The quality and viability of cities largely depend on the design, management and maintenance of green as well as open and public spaces in order to provide their role as an important social and

visual way.Residents perception of the importance (Benefits of green spaces) generated by green spaces in urban parks of Isfahan and percent of valid respondents are shown in Table1.

Table 1.

Residents perception of the importance of Benefits of green spaces generated by green spaces in urban parks of Isfahan (percent of valid respondents).

		Respondents rating					Mean	Std. Deviation	Sig.	t
	Benefits of green spaces	Very Important(5)	Important (4)	Not Importat (3)	Neutral (2)	Unclear (1)				
1	Shading	24.2	49.2	15.9	2.3	8.3	2.80	0.89	.000	3.819
2	Wind protection	31.8	40.9	18.9	1.5	6.8	2.77	0.89	.001	3.424
3	Increase relative humidity	31.1	52.3	12.9	1.5	2.3	2.80	0.75	.000	4.668
4	Lower air temperature	23.5	56.1	10.6	0.8	9.1	2.70	0.81	.004	2.909
5	Air pollutant absorption	19.7	39.4	35.6	3.0	2.3	3.17	0.86	.000	9.003
6	Noise abatement	17.4	41.7	28.8	4.5	7.6	3.05	0.98	.000	6.514
7	Glare and reflection control	37.9	27.3	20.5	1.5	12.9	2.60	1.00	.000	1.128
8	Soil erosion prevention	20.5	46.2	23.5	3.8	6.1	2.98	0.91	.000	6.080
9	Wastewater management	34.1	28.8	16.7	2.3	18.2	2.51	1.04	.934	0.083
10	Flood abatement	19.7	43.2	33.3	1.5	2.3	3.12	0.82	.000	8.705
11	Aesthetic enhancement	25.0	38.6	24.2	3.0	9.1	2.87	0.98	.000	4.335
12	Screening undesirable view	47.0	31.1	12.9	2.3	6.8	2.57	0.88	.377	0.886
13	Recreational activities	32.6	37.9	17.4	3.0	9.1	2.73	0.96	.007	2.726
14	Property value increase	36.4	40.9	9.1	.8	12.9	2.48	0.86	.840	-0.202
15	Traffic control	43.9	18.9	9.1	1.5	26.5	2.15	0.97	.261	-4.132

Assignment of numerical scores to the respondents rating: very important = (5), important = (4), not important = (3), Neutral =(2), unclear = (1)

The results show that the observed t is higher than table critical value at the level of $p \leq 0.05$, therefore the difference of Benefits of green spaces(1-14) except traffic control(15)are meaningful. Therefore,Interpretation of the average score for Shading, Wind protection, Increase relative humidity, Lower air temperature, Air pollutant absorption , Noise abatement, Glare and

reflection control, Soil erosion prevention,Flood abatement, Aesthetic enhancement, Screening undesirable view, Recreational activities and Property value increase are high, for Wastewater management is medium and for Traffic control is low.

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