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Park visitation in the context of Khartoum town

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ABSTRACT

Parks improve people's physical and mental well-being, strengthen communities, and make towns and neighborhoods more appealing places to live and work. Many reasons discourage frequent park visitations, such as poor park characteristics, poor management system, and the lack of programs to encourage park visitation. Participation in different outdoor activities has become a necessity for many people nowadays. However, many residents are not engaged in recreational activities in Khartoum, making parks an important element. Therefore, the study aimed at investigating parks characteristics and different patterns of users based on societal needs. The study concentrates on the residents' characteristics such as age, gender, income, education level; these characteristics are tested against park visitation patterns such as type of visitation, the best day for visitation, and visit frequency. A two hundred and fifty (250) participant questionnaire survey was carried out in Al Tifl Park to assess the park's visitation pattern based on the purposive sampling technique. The result shows that most of the visitation patterns were not frequent regardless of the visitors' characteristics. It proves that the visitation pattern was not based on the visitors' characteristics but rather on the park characteristics. The study recommends that the park's features be redesigned based on user affinity to improve visitation, visitor benefits, and income generation.

1. Introduction

Urban parks worldwide have been recognized as an important recreational resource to local people and out-of-town visitors. An individual's decision to visit an urban park can improve social relations and explore new avenues to improve people's lives and reduce social stress. Though there is little well-empirical knowledge about the public's use of such natural environments in cities, such information would be very useful to managers, planners, designers, and people who use urban parks for leisure and recreational activities while enhancing park efficiency.

The Urban Parks system's environmental quality offers visitors important opportunities to see and experience unique natural, historical and cultural resources by constructing recreational areas for parks and open spaces in residential areas. Parks are developed to provide city dwellers with an escape from engaging in overloaded, unnatural, and busy city life (Daniels, 2011). It is considered an opportunity to allow people to get out of factories and their work and enable residents to socialize with other society members and engage in physical activities. Residential areas with accessible, proximate, and attractive park spaces tend to be considered places that encourage frequent visitation and lead to restorative, active, and friendly communities (Sugiyama et al., 2009). Parks contribute significantly to providing community places that attract people and promote a better understanding among them. This understanding of the broader benefits is a result of the frequently increasing park uses. Unfortunately, the availability of accessible recreation areas such as parks and open spaces that help people contact nature and the

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natural environment is limited. In turn, people's demands for recreational activities have significantly increased all over the world.

In Sudan, the demand has increased since the end of the nineteenth century because park spaces are insufficient or not well distributed according to the population (Liski and Kauppi, 2000). A major problem of Khartoum town and most Sudanese towns is the rapid population increase. This increase in demand may be for many reasons; firstly, displaced people; the natural disasters that attacked the country in the 1970s and early 1980s generated drought and famine. This disaster forced people to move from Darfour and Kordofan to Khartoum and other towns. Besides that, North-South civil wars between 1956–1972 and 1983-2005 caused millions of people to migrate from Eritrea, Ethiopia, and Somalia to Khartoum (UNHCR, 2007). This displaced people in different areas, accompanied by limited opportunities for outdoor recreational places where people can meet and enjoy nature—secondly, the change of employment time or application of 2 day-weekend holidays.

The reasons mentioned above and the natural population growth led to the crucial demand for more parks and open spaces. Hence, investigating parks characteristics and different sectors of users from society need to be a priority. An increase in population leads to increased leisure time, contributing to increased recreation activities (Wolch et al., 2004). The increment in recreational activities must be met by parks and open spaces in active or passive recreational activities. These passive and active recreational activities require a system of parks suitable to meet the need of various population age groups with different cultural bases (Driver et al., 1991; Godbey et al., 1992; Bedimo-Rung et al., 2005; Ho et al., 2005). The planning and design for recreational activities raise questions such as how much, what type, what size, how to distribute, and what attributes of parks suit the needs of those who have different age grouping and cultural backgrounds.

2. Literature review

2.1. Parks benefits in the context of Khartoum

The main usage of parks in Khartoum are for social and recreational benefits. Parks should be designed and planned according to functions, benefits, and required user needs. Parks are established to offer relief and a nice place to sit and talk, gather, play, and relax. They are established to relieve the hectic city life and a nice place to gather, sit, talk, and play. Parks are places that can support and enhance the social and relational ties in the area by offering opportunities for people to be in parks and socialize with each other (Woolley, 2006). They can also help people escape from a narrow private grey environment to a wider green space, in which they can contemplate better. Another benefit of social interactions is health, which is considered a product of social interaction (Kuo, 2001; Morris, 2003). It is also beneficial to the health of children through performing activities in different creative plays. Park systems in Khartoum can also support children's academic ability by improving their cognitive ability to talk through gatherings in playing areas.

2.2. Parks' activities in Khartoum town

Types of activities available in parks will affect the pattern of park visitation. The types of activities available in parks will affect the park's visitation pattern. Almost all parks' systems function as recreational and leisure places, particularly for the town's residents. Such parks' systems can absorb the recreational opportunities of thousands of people during the weekends. As recreational areas, parks' systems contribute to the leisure and physical activities of the residents and offer contact with nature and natural elements to encourage people to visit frequently. Well-designed, planned, and managed park systems may work as the visual and social well-being of the urban outdoor environment (Shaftoe, 2008). The study of Jim and Chen (2006) explained the importance of numerous activities in parks and open spaces across various levels of age and income groups. Studies done by Nemours' scholars revealed that the reason for frequent visiting of open spaces and parks vary from walking activities, playing active activities such as sports, enjoying a natural environment, and doing passive social activities such as attending events (Dunnett et al., 2002; Woolley, 2006). Children's play is one of the important activities in parks that influence the patterns of park visits. According to Dunnett et al. (2002), it proved that one of the main reasons for visiting parks is taking children to play in parks. Another study identified that visitors visit parks because it provides greenery and recreational opportunities for them and their children (Loukaitou-Sideris, 1995).

Parks are places that enable residents to engage in different types of activities. These activities are, in most cases, influenced by the quality of the area (Golicnik and Thompson, 2010). These activities range from jogging and walking for fresh air, standing and watching people, sitting for reading or relaxing purposes, and socializing with others such as engaging in pleasant conversation with other people. These activities require certain attributes and facilities in parks. If these attributes and faculties are well designed and managed properly, it may encourage frequent visitations (Shaftoe, 2008). Normally, activities may take place without any force or intervention; however, well-managed parks that have been designed in a good manner encourage people to visit regularly.

Moreover, the quality of the attributes and facilities and the external environment of the parks should be considered more to allow frequent activities to take place in parks (Woolley, 2006). For instance, a well-designed and supported park with

attributes and facilities offers various activities that enable all types of activities required by visitors to take place. On the contrary, poor or limited activities and services in poorly designed parks may ruin or discourage frequent visits (Golicnik and Thompson, 2010). Accordingly, the availability of well-planned systems of well-designed parks with attributes and facilities may greatly influence the opportunity to engage in them.

Parks, in most cases, are considered natural green oases in a naked and bare environment. The natural elements of the parks act as stress relievers and visual comforters. Accordingly, parks are visited with the desire to contact humans and/or natural settings. Two major studies related to parks, done in San Francisco and London, revealed that most of the reasons for park visitations were "contact with nature." In Manhattan, visitors mentioned relaxing and resting as a frequently cited reason for visits. They also mentioned using the parks because of their greenery, tranquillity, comfortability, peaceful, natural, calm sanctuary, and urban oasis (Marcus and Francis, 1997). The need for passive leisure recreation, human or social contact, is composed of overt and covert socializing, considered equally important reasons for park visits. There are two types of overt socializing in parks: Coming to the park with others and coming to the park to meet others. Covert socializing, which carries the meaning of people visiting parks merely to watch people and with no interest in talking or being in contact with others, also takes place in parks. Two main types of activities taking place in parks are conventional and unconventional activities. Conventional activities are considered as gaining the acceptability of the entire spectrum of society, such as informal recreation, like sunbathing, lawn games, jogging, sledding, skating, and picnicking. On the other hand, unconventional activities may not accept some park users or maybe considered unsuitable by society, such as dog-walking, cycling, skateboarding, and roller-skating (Marcus and Francis, 1997). According to the literature, generally, three main types of activities take place in parks. These are, firstly, active social activities, sometimes called physical kinetics. These include walking, jogging, playing football, cycling, children's plays, swimming, exercising, and playing outdoor or indoor sports with friends or activities like boat paddling (Takano et al., 2002). Secondly, passive social activities are those taking place in groups, such as recreation with family, meeting friends and neighbors, camping, having lunch picnicking with friends, and finally, passive individual activities, such as watching, sitting on benches and lawn, riding, strolling and reading (Woolley, 2006). In Khartoum, the visitors practice passive activities more than active ones. Passive activities are in the form of talking in a group, recreation with family, meeting friends and neighbors, camping, having lunch with friends, sitting on benches and lawns, and picnicking. The other types of passive activities, such as watching people and strolling, are very rare since these types of activities are not Sudanese habits. On the other hand, the only active activities in parks are activities such as playing in the playgrounds and walking. All other active activities that are not taking place in the park may be attributed to three reasons; firstly, parks are not prepared to practice many of the active activities, such as jogging, playing football or basketball, cycling, swimming, and exercising, since these activities take place in other limited places. Secondly, the hot weather does not encourage people to practice any types of active activities; among the reasons why is because most people use the public transport that is located far away from their homes and are often exhausted when they return home late into the evening. This is due to the improper planning system that makes the trip to-and-fro from their residence to their workplace or school extremely long and exhausting. Accordingly, the types of activities that take place are concentrated mainly on passive activities, such as meeting friends, relaxing and resting, readings, and gathering. Few active activities take place, such as playing on the ground play areas. On the other hand, active activities, such as playing with balls or jogging in most cases, do not take place in the park, though they may take place in the playing fields outside the park. Moreover, the case of visiting parks for passive activities, such as watching people and looking at a scenic view, is not that much, since watching people is not one of the traditions of Sudanese people, and most people do not prefer it. Greater attention should be given to the locations of park spaces. The location of these facilities had to support the environmental functions and serve a different user age group rather than merely stem from uses of vacant land (Malike, 2010). The location of these facilities should be formative rather than merely residual ones: Park has to be spatially distributed (Gutiérrez, 2011). Spatial accessibility to amenities generally refers to the ease with which amenities can be reached (Besler, 2011). The design and location of access roads, parking areas, boat ramps, paths, steps, ramps, and trails must follow how visitors use and participate in the parks' facilities. Accessibility is a tool to know whether or not an even spatial distribution has been met (Talen, 2000). People who live closer to a park or trial use it more frequently, on average than people who live farther from these facilities (Hoehner et al., 2005). The suitable site must be selected or appointed to the appropriate activity with the knowledge that no single element in the park works in isolation with the other elements but that they work together to make the users feel comfortable. All elements and components of the parks must be designed with a purpose (Rutledge, 1986). The circulation of visitors throughout the park is a key factor to the park design's success. It can be achieved by anticipating the flow of the visitors, eliminating obstacles and confusion, and providing a well-defined and logical pathway by excluding all obstacles. A well-done design will eliminate zones of conflict to make the user feel comfortable. People visit recreational areas if

recreational areas are well equipped with facilities and amenities (Neuvonen et al., 2007). Qualitative surveys done by researchers suggested numerous factors that influence park usage. These factors were aesthetic features of the park, such as the presence of trees, water (e.g., a lake), (Tinsley et al., 2002; Holman et al., 1996; Raymore and Scott, 1998; Gobster, 2002), and park maintenance (e.g., irrigated lawns), (Tinsley et al., 2002; Gobster, 2002; Holman et al., 1996). Vegetation is clearly identified as having both play and social importance in common outdoor spaces within the residential housing scheme, (Woolley, 2006). The findings presented by Nikolopoulou and Lykoudis (2007), confirmed that there is a strong relationship between a microclimatic condition and the use of parks, she also discovered that people prefer a shaded area in a hot climate. As it can be said, some elements may attract people or encourage visitation, for instance; urban landscape, parks, water features, while others may deter or discourage visitation, such as industrial and commercial areas, pungent or disturbing odors, noise, and litter.

3. Material and method

The study adopts the assessment used by Said and Touahmia (2020) to evaluate all the parks in the study area and determine which park is suitable to process the study. The survey questionnaire, which is considered the main tool used in is this research to collect data, is an essential source of data that assisted in the planning, design, and management process (Oguz, 2000). The survey questionnaire is used to collect data from the visitors who used to visit Al Tifl Park.

Interview questions that are complementary to the survey questionnaire and related to questions to those responsible for park planning, design, and park management, to fill the data gap which both primary (field data) or the secondary data that discourage people from participating in park visitation.

The questionnaire was used to collect, efficiently, the field data that was not available in the other sources of data; for instance, the secondary data. According to De Vaus, the advantage of collecting data through the questionnaire is that the participants are not forced or pushed to answer the questions. They were issued the questionnaire to fill at their discretion. Moreover, the questions can be answered without identifying the respondents, which made them feel comfortable. The questionnaires were collected in a short period with low cost and effort. The final data of the research was collected from an Arabic-speaking Sudanese after it was rendered into an Arabic questionnaire. The translation was done as closely as it were in the English version of the questionnaire. After the assessment tool evaluated the park, the questionnaire was employed at Al Tifl Park (Said and Touahmia, 2020). Many authors talk about the importance of collecting data from visitors when planning and managing recreation are a target, e.g., Perez-Verdin et al. (2008) and Watson (2000). The survey questionnaire included four parts of research that stemmed from the research questions that paved the way for the objectives to be achieved, as shown in Table 3. A covering letter describing the potentials precedes the questionnaire and emphasizes collaborating visitors in the study. It also implied to the participants what the study revolved around, how they would participate, and the expected time needed to answer. The questionnaire itself was composed of three main parts that were inclusive of the profile of the respondents. The first part of the survey questionnaire evaluated park accessibility with three variables: Ease of access, proximity, and mobility. Nine questions were formulated to measure these variables and ranked them by using the Likert scale. The second part is intended to answer the research question related to the visitors' attitudes and evaluation towards the park, firstly: Variables related to the park characteristics (characteristics include the provision, spatial distribution, readiness, equipping, and attractiveness). Secondly, the internal environment of the park was considered. The variables were measured categorically, also using close-ended questions with one to five Likert-scale ranking.

The third part was designed to answer the research questions related to the personal intention variables to visit the park, such as the reason for a visitation, time and duration of visit, and motivation of park visitation. Variables were measured categorically using close-ended questions. The 4th part of the survey questionnaire focused on the demographic variables of the visitors. Demographics, perceptions, and attitudes of visitors will enable the identification of problems and all issues related to the parks. All questions were categorized as close-ended questions. Concerning park visitation, collecting personal data on every person present was not feasible.

The only people who participated in the questionnaire were used as a representative sample to understand the overall population trend. Although the survey questionnaire technique was limited to the park users, it was still a valid technique for this study for three reasons. It is normal to investigate the actual park user since it provides important information for this study. Secondly, in the park survey, the visitors who come from different places may provide information that may enrich the investigation by the varieties of respondents. Thirdly, the author was interested in collecting data about the reason that deter the visitors from frequently visiting the parks. This characteristic is not available for those who do not visit the park. The variables related to the study are as follows: The limited amount of free time during working days results from the decrease in park visitation. A field study concluded that married people have less leisure time than single people (Godbey et al., 2005). Safety in and around the park is also a very important issue that enhances or ruins a park's visitation, especially for families with small kids and

older people (Dunnett et al., 2002). Women would be highly motivated, compared to men, if more emphasis is put on safety measures (Dunnett et al., 2002).

Regarding the factors that hinder visitations in Khartoum, the parks system has some special characteristics that might be uncomfortable with most frequent visitors. The distribution of parks within a residential area of Khartoum suffers from a spatial equality problem; the amount of resources is not distributed evenly to the community's residents. Secondly, spatial compensatory equity; the resources that are being spatially distributed did not meet the needs of the residents, the amount areas allocated for parks and open spaces in Khartoum are far below the theoretical standard ratio of urban open space, which recommends that 25% of the city area can be reserved for open spaces (Heslehurst et al., 2007). Another factor is that all parks are fenced and belong to private, semi-private, or even governmental organizations. Parks are not open to the whole public freely. That means, everyone must pay whenever he wants to visit the park, not only for himself but also for all members of his family and paying for their car, in the situation of visiting the park with a private vehicle. All parks start opening for visitors from 3 or 4 pm to 11 pm except for Al Mugran Park, which opens earlier, around 10 in the morning, and closes at the same time that other parks do. And almost all parks are located far from residential areas or next to busy roads, which complicates frequent visitations. The matter of security and safety is not an issue since none related to this issue was recorded during the previous history of the parks.

In summary, parks are mainly used for passive social activities and other active activities. All factors mentioned above can be grouped into three main reasons that affect park visitation in Khartoum. The first factor is visitors' characteristics, the second is the parks' characteristics, and finally, the surrounding environments, as shown in Table 1. These factors are influencing directly on nature of the visit, that is, the visitation pattern.

4. Result and discussion

Concerning the nature of the visit to the park in terms of regularity based on demographic characteristics, Table 1 shows the result of the cross-tabulation from the field concerning this visitation type. The result shows that approximately the larger proportion of park users or two-thirds of the respondents (60%) suggested that they do not regularly visit the park. At the same time, the rest mentioned that they visit the park regularly. These results contradict many researchers' results, e.g. (Greenhalgh and Worpole, 1995; Woolley, 2006; Bell, 2008), which indicated that people regularly visit parks and other recreation facilities. The findings also contradicted, it was reported in Wong and Domroes (2005), in which a regular base type of visitation was the general trend of the people. There was no significant difference in the park's interest in visitation regarding gender, age, and educational categories. In other words, considerable numbers of visitors did not visit the park frequently irrespective of gender, age group, and educational background. However, the visitation to the park was considerably affected by the visitors' level of income, with a p-value of 0.015.

Table 1: Visitation type based on visitor characteristics

Variable	Measure	X^2	Visit type		N=250
			regular	irregular	
Gender	Male	P=0.313, df =1	41(41)	53(35)	94
	Female		58(59)	98(65)	156
Age	Adolescent	P=0.313, df=2	20(20)	18(12)	38
	Adult		64(65)	122(81)	186
	Elderly		15(15)	11(7)	26
Income level	Low	P=0.015, df =2	73(37)	122(63)	195
	Medium		15(50)	15(50)	30
	High		11(44)	14(56)	25
Education	Completed school	P=0.757, df =2	20(20)	25(17)	45
	University		67(68)	106(70)	173
	Graduated		12(12)	20(13)	32
Total			99(40)	151(60)	250

*p<0.05 significant at 95% confidence levels. The number between the Parentheses indicates the percentage

About the visit, nearly half of the visitors (47.2%) used to visit the park on special events and festival days. Visitation to the park on weekends or holidays is not a common pastime. Only 0.4 % of the visitors patronize them during other public holidays apart from the Eids' Muslim festivals, as shown in Table 2. The result of Chi-square indicates that gender and level of income reveal no significant difference with the value of p-value is greater than 0.05. While the difference is substantial for age group and level of education, the p-value is less than 0.05. The university adult from the low-income group constitutes the highest number amongst visitors who used to visit the park during occasions and festivals.

This result contradicts many studies; for instance, Greenhalgh and Worpole (1995) revealed that visitation to parks was almost daily. The effect may be attributed to several reasons. Most of the visitors are students with little or no financial support for their recreational outings. Likewise, the park attributes facilities and the surrounding

environment do not encourage visitors to visit regularly, such as weekly visits.

Table 2: The best day for Al Tifl park visitation

Variable	measure	X^2	What is the best day for visiting the parks: During the weekend, 28.8%	During public holidays0.4%	On occasion and festival days, 47.2%	Unspecified day 23.6%	N=250
Gender	male	p = 0.775	25	0	45	24	94
	female	df =3	47	1	73	35	156
Age	adolescent	p = 0.000*	5	0	28	5	38
	Adult	df = 6	41	0	90	54	186
	elderly		26	0	0	0	26
Income level	Low	p = 0.664	52	1	95	47	195
	medium	df = 6	9	0	15	6	30
	high		11	0	8	6	25
Education	Completed school	p = 0.003*	22	0	15	8	45
	university	df = 6	39	0	90	47	173
	graduated		11	1	13	9	32

*p<0.05, significant at 95% confidence levels

The purpose of asking the last time of park visit is to understand the importance and nature of park visitations.

The dominant features when the last visitation took place either before or after a month. Table 3 shows that nearly two-thirds (61.3%) of the visitors fell under the group of previous time visitors, irrespective of their characteristics this happened before more than a month. Type of gender, level of income, and level of education do not influence the frequent pattern of the park visitation with P values (p=0.188, p=0.234, and p=.086 respectively) which are greater than 0.05. On the other hand, there is a significant difference among age groups regarding "when did the last visitation take place." Adults are more represented than others with p=0.003, which is less than 0.05. These results indicate that the park does not influence the visitors' interest in visiting regularly and may suggest that the park was not well equipped to get into it frequently. Another reason may be attributed to the financial status of the visitors since the majority of the park visitors are from low-income groups who have to pay to enter the park and use the facilities found in it.

Table 3: Last visit by respondents based on their characteristics

Variable	measure	X^2	When was the last visit?: before 2 weeks 9%	before 1 mths27%	before 2 mths28%	before 6 mths27%	before a year 6%	first time 3%	N=250
Gender	male	*p* =0.188,	5	28	30	20	7	4	94
	female	df=5	17	39	41	49	7	3	156
Age	adolescent	*p*=0.003*,	2	12	14	8	2	0	38
	Adult	df=10	19	51	53	50	6	7	186
	elderly		1	4	4	11	6	0	26
Income level	Low	*P* =0.234,	19	52	55	56	9	4	195
	medium	df=10	2	8	7	6	4	3	30
	high		1	7	9	7	1	0	25
Education	Completed school	*p* =.086.,	7	11	7	15	5	0	45
	university	df=10	11	48	57	46	6	5	173
	graduated		4	8	7	8	3	2	32

*p<0.05 significant, mths=months

5. Conclusion

The park is a suitable place to gather and connect with people because there are no alternative places to meet outdoors. The study found that a significant number (60%) of Khartoum residents did not visit parks frequently regardless of their demographic characteristics. Visitors visit the park mainly on occasions and festivals such as Idul Elfitri and Idul Adha, weddings, or events to bid farewell to guests or welcome guests. Hence, few benefits can be obtained from the parks' usage during the festivals and when people meet. Most of the visitors are females from low-income groups who visit the parks from their homes and stay for a long time in the park.

The above findings are attributed to several reasons. Firstly, most of the people of Khartoum belong to low-income groups that cannot support themselves to visit the park frequently. Secondly, the problem of accessibility. The location of parks is sited near busy roads, which makes accessibility by elderly and children difficult. Thirdly, the attributes and facilities of the park do not encourage people to visit frequently. These indicate that the parks do not influence the visitors' interests to patronize them regularly. Invariably, the parks are not well equipped to serve ideal recreational environments as obtainable in many countries. Another reason is the economic status of the visitors. Since the majority of the park visitors are from low-income groups, payment for entry and use of facilities in the park seems to be a huge burden.

On the other hand, the gender dimension of this finding shows that females have ample time to patronize parks more than their male counterparts

do. Based on the Sudanese culture, men are more occupied in greater parts of the day. Since the respondents perceived the entrance fees to be high, whenever they visit the park, they stay for a longer time, from the early time of entering to the closing time of the parks, to enjoy their money. Therefore, the research recommends remodeling the park's attributes based on users' values to enhance visitation, visitor benefits, and optimal revenue generation.

Compliance with ethical standards

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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