Green Open Spaces Criteria to Achieve Social Interaction of Karkh Community in the City Baghdad, Iraq

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Abstract. This paper outlines the issue on open spaces, which led to decrease social interaction among residents in Baghdad city nowadays. The main objective of the paper is to identify the criteria of green open spaces to achieve sound social interaction in Baghdad city, Iraq. This paper employed quantitative method, in the form of survey, for data collection. Data were obtained from questionnaires, through the selection of 270 respondents in a single-stage random procedure from ten specific neighbourhoods in *Karkh* district. The study findings confirm that the appropriate criteria of open spaces and parks is essential to enhance social interaction. The results of this study are useful reference for urban and landscape planners, architects, social psychologists, the Municipality of Baghdad, and researchers in this field.

1. Introduction

Social interaction can be described as an interchangeable sequence of dynamic exchanges through which individuals can attach meaning, interpret, and respond [17]. While public space allow people to meet on ostensibly neutral grounds in planned and unplanned ways, to interact with others within the context of the whole community. Social relationships vary according to the age, gender and place, where place element is a key factor to determine the nature of social activity for all ages [12]. Factors affecting social interaction in public spaces can include; activities, spaces design, maintenance, management, safety and security [12]. Therefore, physical space is an essential to achieve social interaction, so place and its elements could be a key factor to solve social interaction issues [12].

Baghdad is the capital of Iraq and largest city in Iraq. Located along Tigris River which runs through Baghdad center and divided it to two parts *Karkh* the western shore of the Tigris and Rusafa the eastern shore of the Tigris [2]. Since the establishment of Baghdad by the Abbasid caliph *Al-Mansur* (766 CE) it had become a cultural, historical and social center for Arab and Islamic civilization. Baghdad was characterized by gardens, orchards and cultural and social diversity [1-2]. Presently, the City of Baghdad has been exposed to multiple changes as result of political conflicts, religious diversity, ethnic diversity, administrative changes and technological developments. All of these factors lead to disintegration and change in social interaction, neglecting many recreational facilities and open spaces in Baghdad [11].

This paper elaborates the issues of lacking of social interaction as a result of lacking of an appropriate criteria of the green open spaces in the city of Baghdad. Therefore this paper employed quantitative method by survey for data collection from 270 respondents in ten specific neighbourhoods in *Karkh* district, Baghdad. The objective of this paper based on paper issue is to determine the criteria of a recreational green open space, to promote social interaction in *Karkh*, Baghdad.

2. Social Interaction in Green Open Spaces

The design of outdoor spaces has a great role to lead individuals to outside spaces, socializing and being together, also space design tools can be used to provide social interaction and the feeling of being a community, especially in transformation places [22]. Complex social diseases can be cured through different house surroundings, parks, and new spatial arrangements [22]. To achieve social interaction physical space must be provided, thus parks have crucial roles to develop and enhance cities as well as social relations, making them not only places where people join the nature but also communicate with each other socially and culturally [15]. While, to achieve a successful public park, good of access and linkage (GAL) should be the main factor in designing a park, followed by sociability (SOC), user and activities (UAC) and degree of comfort and image factors (DCI) [21]. Park was an important space in the relationship of man and nature to promote and provide space for physical activity, health behaviour and can reduce some diseases such as diabetes and certain cancer [21]. Parks also provide the benefits of community interrelationship, as well as increase the value of the property [21].

The development of social relationships in an urban scale should begin with careful attention to specific spaces by implementing the use of interaction design approaches [24]. Specific spaces should be used to effectively address the sociocultural relationships of the people [24]. With the shift to a service-based society, providing opportunities for outdoor recreation that enable mental and physiological self-regulation has become an increasingly important landscape function [25]. The quality of the nearby recreation area is at least as important condition for these benefits as the easy access to these areas. Inhabitants' satisfaction with the recreation areas, their activity and interaction level within the recreation areas, as well as the time spent in the recreation areas appeared to be more relevant predictors for these benefits than the frequency of visits in these areas [25].

3. Social Life, Recreation and Landscape in Baghdad, Iraq

Since the Baghdad foundation, it was given a special interest for recreational facilities, open spaces, green areas, and parks. While, Baghdad's name has been accompanied with the names of paradise, garden, and orchard. The tributary of Tigris flowed in all districts in Baghdad, to promote its beauty and splendour, and the vast orchards extended along the banks of this tributary [3]. While, the first zoo was established in 797, during the *Harun Al-Rashid* rule, which contained various types of birds, rabbits, fishes, monkeys, lions, etc. [3]. Some open spaces were also used to play golf or horsemanship [3]. While social life of Baghdad in Abbasid period (762-1258) based on two different social layers; 1) caliphs and ministers life lived a comfort and luxury life, and 2) local people who lived a simple life with high social interaction, where some poor people shared the same house [2]. Community of Baghdad was diverse in ethnic and religious, but it was open and amicable therefore, e.g. many of Muslim men married a Christian women [2]. People in Baghdad shared the important social events e.g. Friday prayer, Eid, Ramadan, promenade after Eid, weddings and festivals and etc. [2]. The period of founding the first Iraqi state in 1920 had a great influence on Iraqi society, where political awareness appeared, attention to follow the news and newspapers, emergence the movement of constitutional claim, referendum appeared for the first time in Iraq [7-8]. The revolution has also influenced a lot in the culture of Iraqi society, it became more coexistence community after the revolution [5-6-7-8].

War of 2003 in Iraq has led to loss of lives, social capital and destroyed the Iraqi infrastructure. This substantially lowered the quality of life, led to the inability to provide essential services and rendered state-building activities even more difficult [13]. Ethnic relations in Iraq have been strained since the last war 2003, ethnic relations have been particularly uncooperative and violent. The crisis aggravation between different ethnic in Iraq led to the decay the interaction between them [20]. Since 2003, the establishment of military-controlled zones, lengthy strips of T-walls, road-blocks and checkpoints interrupted movement along the arterial roads linking the different areas of Baghdad [14]. These barriers have created a widespread congestion and made routine journeys longer, meaning that local residents prefer to shop, work and socialize within their neighbourhood without interacting with other neighbouring people [14]. As well as many local open spaces where families would commonly walked or children played, have become dumping sites for garbage or collection areas for sewerage and stagnant water [11]. Recreational places, such as city parks and stadium and activities such as walking along or boating on the Tigris were either closed or off limits since 2003 [11]. The lack of safe public spaces means that families have little respite from the pressures of daily life [11-20].

In 1960   In 2007

Figure 1. Umma Park after and before the War of 2003
Source: algardenia.com

Existing parks in Baghdad do not perform their role effectively, this in turn reflected on residents' interaction which limited to indoor spaces only [19]. Responsible authorities should make more efforts for open spaces and parks maintenance, construction and administration, as well as provide a variety of facilities especially children's facilities could improve the function of this spaces as well as provide more parks in Baghdad could improve the interaction of community [19]. Governmental efforts toward this issue are also slight as a result of political and economic issue experienced by the country since the war of 2003, also charities and the general financial allocations only belong to humanitarian crisis and living conditions [19].

4. Paper Methodology
This study was implemented to identify the basic criteria of green open spaces to promote social interaction of *Karkh* communities, Baghdad, Iraq. *Karkh* district in Baghdad was chosen as a research area. Where *Karkh* is the western half of Baghdad, its area is around 2,650 km2, it consist of about ten basic sections (neighbourhoods) according to Ministry of Planning, Baghdad. The ten neighbourhoods are characterized by physical, social, economic, educational and cultural variances. The ten neighbourhoods are; *Amiriya*, *Mansour*, *Jihad*, *Ghazaliya*, *Mamoun*, *Saidiyah*, *Salehia*, *Doura*, *Baiyaa*, and *Utaifiyya*. The population of these ten neighbourhoods was about one million person, according to the Ministry of Planning, Baghdad in 2009. While, the respondents selected by using a simplified formula [23] as shown below. Where n is the sample size, N is the population size (1,000,000), and e is the level of precision (±6%). So the respondents were 270 people, taken in a

single-stage, random procedure from the specific neighbourhoods, and these 270 respondents is representing the whole district (*Karkh* district). The individual characteristics of respondents varied in terms of age groups (18-55), two genders, various income levels, education, occupation and accommodation.

$$n = \frac{N}{1 + N(e)^2}$$

Equation 1. A Simplified Formula for Proportions
Source: Yamane, 1967

This paper adapted Creswell recommendations to design the methodology of this study. A quantitative method was adapted in this study in terms of a survey by using questionnaires to assess the population opinion about the appropriate criteria of open spaces and parks to enhance social interaction. Closed-ended questions used as a basic tool to collect data, where (Edith, Joop and Don) international handbook of survey researches used to design the questionnaires of the study. Then information evaluated using statistical analysis by Statistical Package for the Social Sciences (SPSS) version 23.

5. Analysis and Discussion

5.1. Sample Characteristics
The 270 respondents were taken from different locations within the neighbourhoods like universities, work sites, streets, and shops. Regarding the sample gender, female respondents made up (51.9%) of the total sample which is (4.5%) more than male respondents. Male respondents made up (47.4%) of total sample, and there are two missing answers for gender survey. All respondents were found to fall within the age range from 18 to 55 years, where most of respondents were between the ages of 18 to 24 years (41.9%). While only a few respondents within the ages between 47 to 55 years (6.3%), as it was very difficult to get respondents within this age group from the selected places for the survey (Table 1).

The number of respondents from each neighbourhood was almost close, where the largest respondent number (12.2%) was taken from *Amiriyah*, while the lowest respondents' number (7.4%) was taken from *Utaifiyya*. As for the income of respondents, the majority (81.1%) represented middle income level, and (15.2%) of the respondents were high income level and only (3.7%) of the respondents were from the low income level. Regarding occupation of the respondents, (49.3%) were students, and (40.4%) of the respondents were employee, while only (8.5%) of them were unemployed.

Table 1. Sample Characteristics: Age Ranges

		Frequency	Percent
Valid	18 - 24	113	41.9
	25 - 31	69	25.6
	32 - 38	40	14.8
	39 - 46	31	11.5
	47 - 55	17	6.3
	Total	270	100.0
Missing	System	0	0.0
Total		270	100.0

Table 2. Sample Characteristics: Accommodation

		Frequency	Percent
Valid	Amiriyah	33	12.2
	Mmansour	32	11.9
	Jihad	32	11.9
	Mamoun	28	10.4
	Doraa	27	10.0
	Saidiyah	24	8.9
	Ghazaliya	23	8.5
	Salehia	23	8.5
	Bayaa	22	8.1
	Utaifiyya	20	7.4
	Total	264	97.7
Missing	System	6	2.2
Total		270	100.0

5.2. Analysis of Criteria of Open Spaces and Parks

Questionnaire format of the green open spaces criteria was a matrix questions regarding respondents' preferences on five criteria of open spaces and parks comprising: design and image, activities and quality in terms of availability of diverse activities with high quality, accessibility and linkage, safety and security, and management and maintenance. The criteria of green open spaces in general have been identified and mentioned through the studies of previous literature in introduction section.

Table 3. Statistic: Criteria of Open Spaces and Parks

		Design & Image	Activities & Quality	Access & Linkage	Safety & Security	Management & Maintenance
N	Valid	268.00	268.00	267.00	269.00	269.00
	Missing	2.00	2.00	3.00	1.00	1.00
Mean		1.99	1.79	1.92	1.90	2.23
Median		2.00	2.00	2.00	2.00	2.00
Mode		2.00	2.00	2.00	2.00	2.00
First Value*		1.00	1.00	1.00	1.00	1.00
Last Value*		5.00	4.00	5.00	4.00	5.00

Values are: 1=Strongly agree, 2=Agree, 3=Undecided, 4=Disagree, 5=Strongly disagree

Table 4. Frequency: Criteria of Open Spaces and Parks

		Design & Image		Activities & Quality		Access & Linkage		Safety & Security		Management & Maintenance	
	Likert	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Valid	1	75	27.8	106	39.3	81	30.0	79	29.3	57	21.1
	2	147	54.4	125	46.3	136	50.4	139	51.5	136	50.4
	3	21	7.8	21	7.8	36	13.3	47	17.4	34	12.6
	4	18	6.7	16	5.9	12	4.4	4	1.5	40	14.8
	5	7	2.6	0	0.0	2	0.7	0	0.0	2	0.7
	Total	268	99.3	268	99.3	267	98.9	269	99.6	269	99.6
Missing	System	2	0.7	2	0.7	3	1.1	1	0.4	1	0.4
Total		270	100.0	270	100.0	270	100.0	270	100.0	270	100.0

Values are: 1=Strongly agree, 2=Agree, 3=Undecided, 4=Disagree, 5=Strongly disagree

Mean, median, and mode values of design and image of open spaces are 1.99, 2.00, and 2, where 1 referred to "strongly agree", 2 referred to "agree", 3 referred to "undecided", 4 referred to "disagree", and 5 referred to the value of "strongly disagree" (Table 3). (27.8%) of the respondents strongly agreed that design and image is an important criteria and (54.4%) of the respondents are agree to that, while (6.7%) of the respondents disagreed, and only (2.6%) of the respondents showed strong disagreement. Mean, median, and mode values of availability of high quality diverse activities criteria are 1.79, 2.00, and 2 respectively (Table 3). Where (39.3%) of the respondents strongly agreed that high quality diverse activities is an important criteria and (46.3%) of them agreed to that, while (5.9%) of the respondents disagreed and no one of them showed strong disagreement (Table 4).

On the other hand mean, median, and mode values of accessibility and linkage criteria of open spaces are 1.92, 2.00, and 2 respectively (Table 3). Where (30.0%) of the respondents strongly agreed that accessibility and linkage is an important criteria, (50.4%) of the respondents agreed to that, while (4.4%) of them disagreed, and only (0.7%) of them showed strong disagreement. Mean, median, and mode values of safety and security criteria are 1.90, 2.00, and 2 respectively (Table 3). Where (29.3%) of the respondents strongly agreed that accessibility and linkage is an important criterion, (51.5%) of the respondents agreed to that, while (1.5%) of them disagreed and no one of the respondents showed strong disagreement (Table 4). Meanwhile mean, median, and mode values of management and maintenance criteria are 2.23, 2.00, and 2 respectively (Table 3). Where (21.1%) of the respondents strongly agreed that accessibility and linkage is an important criterion, (50.4%) of them agreed to that, (14.8%) of them disagreed, and only (0.7%) of the respondents strongly disagreed to that (Table 4).

6. Finding Methodology

Findings from the descriptive and frequency analysis emphasize that most influential criterion in open spaces in *Karkh* is activities and quality in terms of the availability of high quality diverse activities, followed by safety and security factor, accessibility and linkage factor, design and image factor, and management and maintenance factor. However, all these standards are clearly influential according to the respondents' answer, which confirm that all these criteria is required in open spaces and parks planning and design in *Karkh* district, Baghdad to increase the number of visits to the proposed space and in turn increase the social interaction. This result is similar to (Holland, Clark, Katz and Peace) results, about the importance of effective entertainment activities, design, maintenance, management, safety and security factors to achieve effective public spaces [12]. The results of the study are also similar to (Skip, Akhir and Omar) findings, which confirmed that good accessibility and linkage, degree of comfort and image, users, and activities and sociability are important factors to determine the successful public park in Malaysia [21].

So achieving the criteria of open spaces and park in *Karkh*, Baghdad is an essential to enhance social interaction there, and that in turn leads to enhance physical, health, mental, social, environmental, and aesthetic aspects for residents and residential area of *Karkhs'* community. On the other hand, this study was conducted as a result of previous studies findings about the lack of open spaces, recreational open spaces and social interaction in Baghdad after the war of 2003 [13-14-19]. Where this study was conducted in an attempt to provide solutions to these issues.

Table 5. Means to Enhance Social Interaction in Green Open Spaces of Baghdad
Source: Authors, 2016

Objectives	Results	Findings
Main Obj. The criteria of green open spaces to achieve social interaction in the city of Baghdad.	_Support Pervious Literatures:_ Parks must have an appropriate criteria and components to encourage social interaction.	1. Availability and quality of activities. 2. Safety and security. 3. Accessibility and linkage. 4. Design and image. 5. Management and maintenance.

7. Conclusion

Paper results indicate that one of the means to achieve social interaction in Baghdad nowadays is to provide an open space with an appropriate criteria. So criteria of green open space are an important factor to achieve sound social interaction. These criteria include; activities and quality, safety and security, accessibility and linkage, design and image, and management and maintenance. Where, existing parks in _Karkh_ nowadays do not perform their role functionally and effectively this in turn led to decrease the social interaction among residents. Thus, there is a close correlation between the lack of social interaction and the lack of parks or lack of appropriate criteria in the existing parks. The results of this paper are useful reference for urban and landscape planners, architects, social psychologist, and researchers in this fields, so the significance of this paper lies in linking social-psychology to architectural research.

8. References

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