

Design Impact of Green Open Spaces Within the Iraqi Hunting Club and Their Role in Social Interaction



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ABSTRACT

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aesthetic quality, garden decorations, green space ornamentations, green space, landscape, built landscape, planning and design, social interaction

The research reviews the design and planning impact of green spaces and their role in social interaction within the spaces of the Iraqi Hunting Club in Baghdad, which is characterized by its recreational, cultural, social, and sporting identity that targets all age groups. The research addresses the issue of lack of social interaction and its objective is to increase social communication, as well as focus on good design and planning for the distribution and scheduling of social recreational activities and services that encourage social interaction to form social networks that contribute to the development of society and enhance social cohesion. The research assumes that the elements of design and planning are the basis for supporting social interaction, and this was proven as there was full agreement with some questions in the researcher's questionnaire such as the integration of security and privacy systems gives a sense of confidence in place and others. Design and planning are the bases on which the work and success of other factors affecting social interaction such as the environmental factor and activities, events, and services factors are based. The methodology included using a Likert Scale as a statistical method, and the sample is club members.

1. INTRODUCTION

The paper defines the research questions which is the design, planning, and aesthetic quality within the green open spaces of the Iraqi Hunting Club the most supportive of social interaction, as well as the role of the environment, activities, and events held in the gardens, and how this is measured, and the research objectives to support and attract all age groups of children and youth and develop their skills under an institutional perspective and with the participation of their parents to encourage them to continue sports and social activities, as well as the elderly.

Given the importance of social interaction in mental and physical health, strengthening family ties and community belonging through the development of community networks, social interaction refers to how members of a community or group interact, behave, and communicate with each other [1, 2], it is necessary to study the factors that support and increase social interaction within green spaces by preparing a plan of the club site showing the division of green spaces and pedestrian walkways, so it is necessary to study the factors that support and increase social interaction within green spaces.

How to distribute activities and events within them to give an analysis of the extent of the functional and design efficiency of the design and planning elements associated with green spaces, as well as the distribution of activities and services and the organization of events that are attractive to members and

their guests by their requirements, identifying the axes affecting social interaction and finding solutions to support them and reduce their negative effects if any, and finally, good planning to provide sustainable services of distinctive and quality, which is an important factor in extending the impact of the club.

Determining the importance of these themes and ranking them in terms of the extent to which they contribute to supporting social interaction within the club's parks and utilizing leisure time properly to avoid many societal risks, including alcoholism and drug abuse, which have deepened and widened in recent years [3], especially since Iraq is on the verge of the "demographic opportunity" phase [4], which is a statistical term. Especially since Iraq is on the brink of the "demographic opportunity" stage, which is a statistical term summarized as the period in which the working-age population of a society reaches its maximum to the lowest proportion of its dependent population, which consists of the elderly and children. This phase, described by some as a generation, is followed by a positive imbalance between the active population and the dependent population, especially the elderly. It is sometimes described as an explosion in active population generation [5]. Since these issues are prevalent among the youth, it is imperative to pay attention to recreational green spaces and the important activities they contain, such as sports, which are considered an outlet for individuals in the community.

2. METHODOLOGY FIELD STUDY

The first step of the methodology is to understand the nature of social interaction among the members of the Iraqi Hunting Club, which occurs through communication and building social relationships between families and forming interactive social networks that contribute to the development and cohesion of society, as the target population is all members of the club, whose number reaches (60,000) members. Secondly, the type of the study is descriptive and exploratory and depends on collecting information from field observation, observing social interactions, distributing questionnaires to collect data about members' experiences and their direct opinions, as well as using the Likert five-point scale or the Likert Scale which is a commonly used measurement tool in sociology and social sciences in general. It is also used in urban planning science due to its ability to collect and analyze multifaceted data related to the attitudes and opinions of residents towards various issues to understand the needs and expectations of residents and assess public satisfaction. The Likert Scale measure the extent of consensus on the questions of the questionnaire to reach accurate answers. Thirdly, the sample was selected with a value of (382) with an error rate of 5% according to the Thompson formula as shown in Eq. (1) and the closest value to the size of the community from the Morgan table, as the members were selected based on the criterion of age older than (18) years and randomly for all ages, and the criterion of sex (female and male), as the sample was divided into (191) samples for females and (191) samples for males.

$$n = \frac{N \times p(1 - p)}{[N - 1 \times (d^2 \div z^2)] + p(1 - p)} \quad (1)$$

where, n = sample size; N = 60,000 study community size, which that Club's members; Z = The standard score corresponding to the significance level is 0.95 which equals 1.96; d = The error rate is 0.05; p = Ratio of property and neutral availability = 0.50.

2.1 The case study

The Iraqi Hunting Club is a recreational club with a cultural, social, and sporting identity. It was founded in 1969. It is located in the Iraq country, Baghdad Governorate, on the Al-Karkh side, in the Al-Mansour region, neighborhood 601, as shown in Figure 1. It is one of the distinguished clubs in the capital, and it has been carrying the same identity for more than 50 years. It is a civil society organization and is registered as a UNESCO club. Those who share UNESCO's ideal and work to spread awareness of it by participating in UNESCO clubs include individuals of all ages and backgrounds, both socially and professionally. This worldwide organization's task is to carry out initiatives that are directly motivated by its initiatives. There are various types of UNESCO clubs, including associations, centers, forums, and groups [6]. The Iraqi Hunting Club ranks first in Iraq in terms of clubs, third in the world out of 195 countries in the world. The Iraqi Hunting Club community is considered A diverse community composed of all age groups, including children, teenagers, youth, adults, and the elderly, all of whom come from educated backgrounds with a minimum of a bachelor's degree in various disciplines. It provides cultural, recreational, sporting, and

social activities through a group of diverse facilities, and seeks to achieve sustainable development goals and implementation. UNESCO's principles to achieve sustainable economies through entertainment, sports, and cultural activities and events [7].

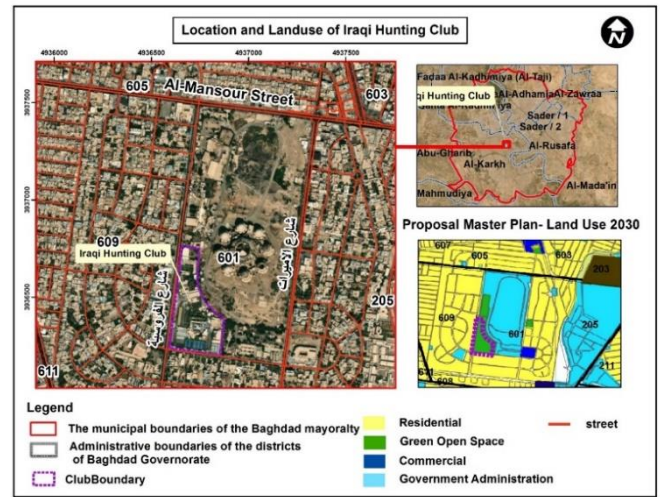


Figure 1. The club's location and its use in relation to the design of the City of Baghdad

Source: Prepared by a researcher using ArcMap GIS 10.8 software

2.1.1 Green spaces within the Iraqi Hunting Club and their role

Open or green spaces are open natural areas containing plants and trees. These spaces are considered part of semi-public facilities such as clubs, which are within the structure of recreational spaces and are represented by gardens that work to provide a distinctive environment for enjoyment and entertainment [8]. They are an important part of the design or urban landscape of the club through the interconnection of structures and gardens. These spaces also provide areas to entertain, relax, improve air quality, and encourage social communication within nature [9]. The green spaces within the Iraqi Hunting Club occupy 26.36% of the total area and provide opportunities for social interaction and entertainment. These spaces are distributed into different areas and designs within the club site to organize recreational social activities as shown in Figure 2, such as children's activities in playgrounds shown in Figure 3 and Figure 4 and organizing social recreational activities for other age groups, such as the bingo game. It is a social entertainment activity that enhances communication and social entertainment for all age groups. The gardens, in addition, organize the events that take place at specific times of the year, such as carnivals, bazaars, and other events under partnerships according to sustainable agenda Goal 17, such as local governments, non-profit organizations, and local communities participate in financing and organizing celebrations or honoring artists and Creative people and thus highlighting the media spotlight on the place, as result, socio-economic dominance will occur at the national and global levels, the media contributes to achieving cultural awareness and economic polarization by attracting visitors to the place [10, 11] also include various commercial activities such as Entertainment-oriented retail [12], such as restaurants and cafes, and open and closed theaters as in Figure 5 and Figure 6, that provide a dining experience in a beautiful and comfortable environment, which adds an entertainment atmosphere to the place.



Figure 2. Distribution of activities in the Iraqi Hunting Club gardens



Figure 3. Children's playgrounds in Poets Garden



Figure 4. Children's playgrounds in Yasmine Garden



Figure 5. The open theater overlooking the gardens



Figure 6. Restaurants in gardens and lighting at night
Source: The activities and services observed by a researcher inside green spaces at the Iraqi Hunting Club on 10 March 2024

2.1.2 The role of planning and design in social interaction

Planning and design are two multi-step processes aimed at creating and organizing spaces and linking them in a harmonious sequence to move from one space to another, as it allows for the juxtaposition of appropriate services that complement each other functionally [13], as in the location of restaurants within or overlooking green open spaces. Therefore, successful planning and design of club gardens is of great importance in attracting and enhancing social interaction among members, and the balance between visual aesthetics and functionality [14], distributing spaces contributes to creating a beautiful and functional environment that meets the needs and expectations of members to visit gardens, and contributes to social sustainability [15]. The design of the spaces and the way of distributing buildings and green spaces reflects the identity of the community [16], and the planning and design of the club's spaces contribute to the formation of its urban landscape through the distribution of spaces. A sustainable environment that achieves comfort and safety for the local community and increases multi-disciplinary social interaction (social sphere, economic sphere, environmental sphere) is made possible by the application of principles of architecture and urban design [17]. The effective and good design of green spaces also supports the optimal use of the available space, such as providing relatively small but design-efficient areas for children's playgrounds that allow them to play within the open spaces [18], the design also reflects the function of the club, whether it is a sports, social, or cultural club, or it combines all of these identities, as in the Iraqi Hunting Club, as well as the role of planning in providing effective, complex paths that help with flexible movement and good ease of access, the paths are distinguished with the branches and curves that give it an aesthetic experience and the charm of exploring the place by reducing the speed of movement, which contributes to enjoying the landscapes. Achieving visual quality in the design of the club's gardens is considered an essential element to attract members and motivate them to enjoy the place, the presence of analog represents the quality of beauty in the design of the landscapes of the green spaces, through the axis that separates the green spaces and gives a visual balance to the landscapes an axis is an outline of a curvilinear element that connects two points, it may be a path, a wide road, or a commercial center. It is considered an element of communication in land planning, it also has boundaries, and it has important applications because once it is introduced, it is a feature of the prevailing landscape, and as

such, the scene is a function of the axis as it becomes so insistent that all other elements must be directly or implicitly connected to it, any area or structure that collides with the axis, adjacent to the axis, or is directed toward the axis the elements of the symmetrical plan for green spaces are the same in a state of balance around a central point such as a fountain or a square, as in the Yasmine Garden around the fountain, or opposite sides of the axial line, as in the path separating the Poets Garden and the Baghdad Garden as in Figure 7. The role of the water element in this context is significant it is one of the natural elements, it is like a magnet in the landscape, and it gives a feeling of cohesion in the design when used or found naturally in the built landscape [19]. We also obtain visual quality by achieving harmony coordinating plants, decorations, and furniture to achieve a distinctive scene and add visual appeal to the place.

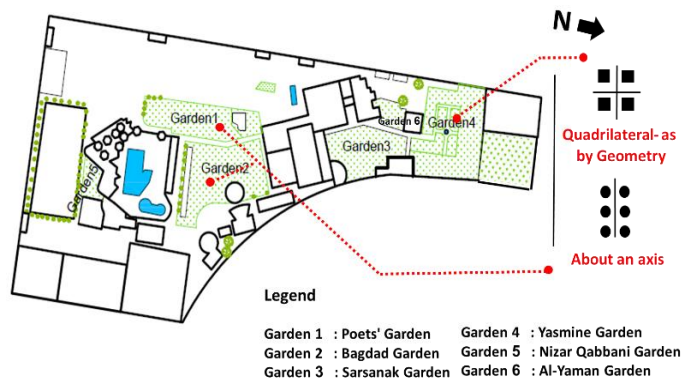


Figure 7. Symmetry in designing, and the visible landscape
Source: Prepared by a researcher

In addition to the tree, which is also a natural element, the tree is considered the most widespread element among all the natural elements that help improve the club's urban landscape. There is a concept that considers the art of creating a vital and humanist landscape with raw materials, urban blocks, trees, and paths which makes the club's urban landscape. As with buildings, the tree is considered an organism and is treated as a structure for which decorative architectural planning is done to distribute its planting [20], a good design method is to use trees or plants in general to isolate spaces or give privacy to some of them, as in Sarsanak Garden. Good planning and design are characterized by the distribution of services that provide activities and events desired by members effectively to achieve the best-desired results, such as distributing dining and barbecue places and shade areas to give additional comfort on hot summer days, while adopting sustainable design practices and methods with the help of environmentally friendly technology to achieve environmental sustainability and what fits with goal (15) of the international sustainable development goals that stipulate preserve, repair, and encourage the sustainable use of terrestrial ecosystems; manage forests sustainably; prevent desertification; stop and reverse land degradation; and stop the loss of biodiversity [21].

The planning evaluation of the green spaces in the Iraqi Hunting Club is good, despite there was a deficiency in the area of accessibility for some spaces, such as the lack of more than one path for members linking the green spaces on the northern side of the club with the spaces on the southern side due to limited space, and the irregular shape of the plot of land on which the facility is built on, which are narrow in certain parts of the club's territory. As for the design aspect in general,

it is good, but in the field of designing the built landscape that includes the water element there was a lack, and when it was found represented in reality by the fountain in gardens, it was very weak, and small scale in gardens such as exist in the Yasmine Garden.

2.1.3 The green space ornamentations and aesthetic quality

Landscape decoration usually falls within the scope of landscape design, which includes determining the aesthetic and functional details of gardens, including the selection of plants, materials, furniture, and garden decorations such as statues, fountains, and lighting, as shown for the study area in Figure 8. Garden decoration is one of the various elements that add beauty and enhance the visual appeal of the garden and is the process of enhancing and beautifying green spaces through aesthetically arranged planting of flowers and trees to add elegance to the place to provide a comfortable environment that encourages members to relax [22]. Fountains or wall waterfalls give a soothing sound and a sense of calm, as in Figure 9 at the main entrance of the club and the Yasmine Garden. The garden terrace is part of the garden furniture and garden structures Terraces serve as shaded retreats within the courtyard and overlook the open space and are designed in different styles and decorated with plants, and are used for seating and include furniture and furnishings that withstand weather conditions and are easy to move and umbrellas or illuminated roofs to provide shade and protection from the sun, and their furniture and accessories determine the parameters of the activities Its furniture and accessories determine the parameters of the activities provided by the terrace, which is a place for food and coffee or entertainment to watch the landscape and sit in the open air, and the location of the garden terrace can be on the ground or a roof or suspended on another level as in some club restaurants, as there are restaurants that have an upper terrace overlooking the wide green spaces. Lighting and decoration are also one of the garden decorations and furniture, as night lighting gives a distinctive night scene that contributes to the formation of the urban landscape of the club [23], as well as lighting is one of the elements of beauty at night because it provides a beautiful atmosphere that gives a beautiful experience to individuals, as well as highlighting the beauty of specific features or specific plants at night, in addition to that external displays, arches and huge sculptures decorated with mosaics and artistic sculptures, and monument of poets and local figures as in Figure 10 and Figure 11. The use of the fog water sprinkler system [24], which is part of the garden furniture, is an important amenity as it has an important effect in cooling the hot summer days, prolonging the stay of members in the gardens, and creating a beautiful feeling that enhances the garden experience and makes it more comfortable and here it is not considered part of the traditional furniture of the garden irrigation systems. With these aesthetic elements that give a sense of comfort, green spaces play a role in reducing the negative effects of human activities [25].

The evaluation of garden ornamentations and decorations, in general, is acceptable, but it is necessary to renew and support them continuously by increasing the provision of shade places within the gardens and garden terrace and supporting the cooling system by spraying water mist and fountains to reduce the severity of the weather temperatures in the summer, which reach 50 degrees Celsius on most days of the year [26], to enhance the attractiveness of the spaces and make them feel comfortable in them, and prolong their stay.

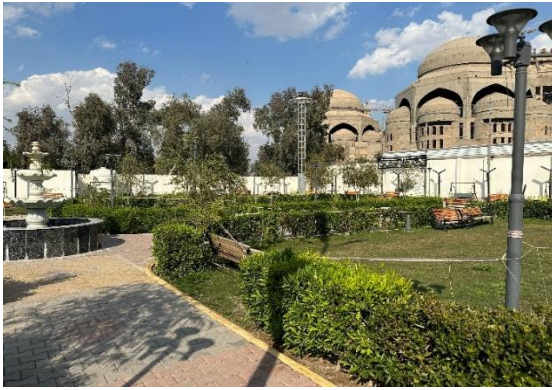


Figure 8. Light poles, seating chairs and fountains



Figure 9. Fountain, main entrance to the Hunting Club



Figure 10. The arches and monument are mosaic



Figure 11. Hunter's monument at the entrance to the Hunting Club

Source: The green spaces furniture was observed by a researcher at the Iraqi Hunting Club on 10 March 2024

3. RESULTS AND DISCUSSIONS

3.1 Derived indicators

The indicators obtained from the theoretical framework of the study are presented herewith. The theoretical and conceptual basis of the study provided the main concepts related to social interaction, and based on this framework, the indicators that can be measured and evaluated by the questions of the researcher questionnaire were identified.

3.1.1 Designing and planning indicators

(1) Enhancing privacy and integrating safety and security systems, gives a sense of confidence in the place, and encourages social interaction.

(2) Using garden decorations to enhance the aesthetic quality such as a garden terrace and fountains, and providing shade areas using awnings to achieve shade areas to provide comfort and increase remain times the families in gardens.

(3) Providing flexible paths passage, and effectively designing spaces that enhance social interaction.

(4) The use of sustainable technological techniques, such as smart lighting, outdoor display screens, environmentally friendly mist cooling systems on hot summer days, and others, encourages extending the stay time of members in the gardens and supports social interaction.

(5) Providing children's playgrounds with their equipment is an important factor in attracting families, supporting individual and social recreational activities, and enhancing social interaction.

(6) Providing commercial entertainment services such as cafes and restaurants to serve food in the club's gardens supports social interaction.

3.1.2 Environmental indicators

(1) Supporting the planting of trees for multiple purposes, including providing shade areas and spatial separation to give privacy between spaces.

(2) Increasing the ratio of green space areas, in comparison to the ratio of building areas, which enhances social interaction.

3.1.3 Recreational activities, events, and services indicators

Organizing carnivals, bazaars, concerts, and celebrations at local and national level.

3.2 Questionnaire results and analysis

Concerning Appendix Table 1 and Figure 12, there is acceptance and satisfaction with all questions for males, except for the indicator that the presence of children's playgrounds in the green spaces makes them more attractive for social interaction, as the answers to this question were characterized by neutrality. As for the rest of the questions, their answers were characterized by agree and strongly agree with the question about the use of the cooling system by spraying water mist on hot summer days, the indicator of security and privacy systems gives a sense of safety and confidence in the place, as well as to the questions related to aesthetic quality.

Concerning Appendix Table 2 and Figure 13, there is acceptance and satisfaction with all questions for females. Most of the answers were characterized by strongly agree or agree, and they united opinions with the male answers about the questions such as using a cooling system by spraying water

mist on hot summer days, the security and privacy systems, and the aesthetic quality by using garden decorations.

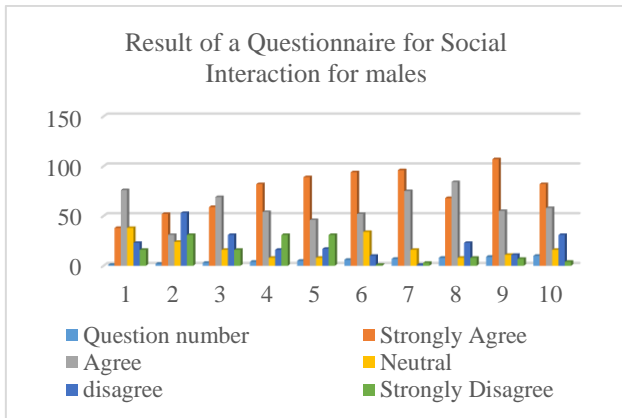


Figure 12. Males questionnaire results

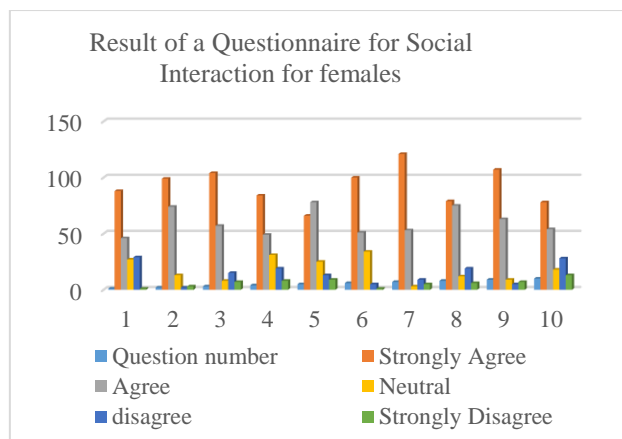


Figure 13. Females' questionnaire results

3.3 Limitations and suggestions for the study

One of the limitations of the research is that the sample was taken from club members, who are the target group to study social interaction. On some days, guests of members were also present, but these individuals were not included in the study sample. Consequently, the results may be biased towards club members, as they are the target group for whom the factors affecting their interaction are known.

I suggest for future research to study the appropriate planning and design factors to minimize the environmental impact of high summer temperatures and reduce the impact of climate change on green spaces within the club. The climate in Iraq is characterized by high temperatures, drought, and intense sunshine during the day, all of which discourage families from gathering in green spaces during the summer, thus reducing social interaction between them.

4. CONCLUSIONS AND RECOMMENDATION

4.1 Conclusions

(1) The design and planning indicators of green spaces are the basis for the other factors influencing social interaction such as environmental, and service distribution indicators through the design of the built landscape, space distribution,

and interconnections between the aesthetic quality of the facility, and their functional services.

(2) Integrating the safety and security systems, through good planning and design gives a sense of confidence in the place, and encourages social interaction.

(3) The hot atmosphere during the summer season prevents families from visiting green spaces for communication, and social interaction purposes, so environmental factors such as planting trees, increasing the ratio of the green space area to buildings area, and effective planning, and design by distributing sustainable cooling systems, which spraying environmentally friendly mist water that supports extending the time families stay in the gardens and encourage social interaction.

4.2 Recommendations

(1) Promote the aesthetic quality and garden decorations to achieve comfortable senses such as wall waterfalls, sun umbrellas, garden terraces, and focal central fountains that form a visual axis and are considered a visual sign that adds joy and cohesion to the place and contribute to supporting social interactions as they are attraction points for families.

(2) Pay attention to the natural environmental aspect, landscape design, and built landscape to create a balanced natural environment with visual quality that supports social sustainability and well-being for the local community and encourages social communication.

(3) The diversity and uniqueness of recreational activities, events, and programs, that are organized or held inside green spaces for all club members, further than the quality and continuous renewal of the facilities that provide these services.

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APPENDIX

Appendix Table 1. Questionnaire questions for males about social interaction in green space inside the Iraqi Hunting Club

Questions Text	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree	Arithmetic Mean	Sample Trend
1. Do you participate or frequent activities and events held in green spaces that enhance social interaction?	16	23	38	76	38	3.50	Agree
2. The presence of children’s playgrounds within green spaces makes them more attractive for individuals, families and social interaction?	31	53	24	31	52	3.10	Neutral
3. Do you think planning and disturbing commercial entertainment services represented in coffees and restaurants in green spaces influence social interaction?	16	31	16	69	59	3.64	Agree
4. What is your opinion on supporting tree planting that enhances social interaction?	31	16	8	54	82	3.73	Agree

5. Do you agree that increasing the ratio of green spaces to the ratio of buildings areas supports social interaction?	31	17	8	46	89	3.75	Agree
6. What do you think about using the cooling system by spraying mist water mist on hot summer days, which contributes to supporting social interaction?	1	10	34	52	94	4.19	Strongly Agree
7. How do you evaluate that the perfection of safety, security and privacy systems gives a sense of trust and security to green spaces and contributes to supporting social interaction?	3	1	16	75	96	4.36	Strongly Agree
8. Please indicate your level of satisfaction with traffic flow level that is achieved by providing efficient paths through green spaces that supports social interaction?	8	23	8	84	68	3.94	Agree
9. What is your impression of the aesthetic visual quality of garden ornaments, furniture and decorations and their importance in supporting social interaction?	7	11	11	55	107	4.27	Strongly Agree
10. What are your expectations that the use of technological techniques, such as smart lighting, the provision of outdoor display screens, etc., will encourage social interaction?	4	31	16	58	82	3.95	Agree
Five-point gradient measurement	-1 1.80 Strongly Disagree	-1.80 2.60 Disagree	-2.62 3.40 Neutral	-3.41 4.2 Agree	-4.21 5.0 Strongly Agree		

Appendix Table 2. Questionnaire questions for females about social interaction in green space inside the Iraqi Hunting Club

Questions Text	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree	Arithmetic Mean	Sample Trend
1. Do you participate or frequent activities and events held in green spaces that enhance social interaction?	1	29	27	46	88	4	Agree
2. The presence of children's playgrounds within green spaces makes them more attractive for individuals, families and social interaction?	3	2	13	74	99	4.38	Strongly Agree
3. Do you think planning and disturbing commercial entertainment services represented in coffees and restaurants in green spaces influence social interaction?	7	15	8	57	104	4.23	Strongly Agree
4. What is your opinion on supporting tree planting that enhances social interaction?	8	19	31	49	84	3.95	Agree
5. Do you agree that increasing the ratio of green spaces to the ratio of buildings areas supports social interaction?	9	13	25	78	66	3.93	Agree
6. What do you think about using the cooling system by spraying mist water mist on hot summer days, which contributes to supporting social interaction?	1	5	34	51	100	4.27	Strongly Agree

7. How do you evaluate that the perfection of safety, security and privacy systems gives a sense of trust and security to green spaces and contributes to supporting social interaction?	5	9	3	53	121	4.44	Strongly Agree
8. Please indicate your level of satisfaction with traffic flow level that is achieved by providing efficient paths through green spaces that supports social interaction?	6	19	12	75	79	4.05	Agree
9. What is your impression of the aesthetic visual quality of garden ornaments, furniture and decorations and their importance in supporting social interaction?	7	5	9	63	107	4.35	Strongly Agree
10. What are your expectations that the use of technological techniques, such as smart lighting, the provision of outdoor display screens, etc., will encourage social interaction?	13	28	18	54	78	3.81	Agree
Five-point gradient measurement	-1 1.80	-1.80 2.60	-2.62 3.40	-3.41 4.2	-4.21 5.0		Strongly Disagree Disagree Neutral Agree Strongly Agree