

## Evaluating the Current Status of Some Residential Neighborhood Parks in Hillah City Babylon province

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**Abstract:** *The study was conducted between 2023 and 2024 to assess the current status of two parks: Al-Jam'ia Park in the large sub-sub and Al-Faihaa Park in the small park. The most important findings were the lack of services in the residential parks, such as kiosks and parking lots, the poor condition of the walkways and gates, and the lack of a plant design that is compatible with the park's size and the climate of Hillah.*

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### INTRODUCTION

The nature of residential areas requires interspersed public green spaces to provide a comfortable, enjoyable, and beautiful environment for their occupants, encouraging social life protected and shaded by appropriate plants selected for this purpose. Given the importance of these green spaces, their design should be consistent with the uses and characteristics of their occupants, in accordance with design principles and standards, while taking into account the natural and cultural environment. This enhances the unity and integration of the area and the importance of these spaces to the city and its occupants. Despite the multiple functions of green spaces, there are two main factors. The first is creating a suitable site climate through careful plant distribution, which positively impacts environmental factors and various sources of pollution. The second is entertainment through the provision of activities, amusement rides, and quality services. Park designers must take into account the environment, plants, and the needs and desires of park visitors to achieve an integrated design that provides all means of comfort and enjoyment for visitors. Therefore, parks, gardens, and green spaces are no longer merely places for recreation and enjoying the beauty of nature. Their importance has transcended to the point of affecting the lives of future generations, due to the dangerous climate change that has begun to sound alarm bells for peoples worldwide.

### RESEARCH PROBLEM:

.1The lack of urban spaces or parks designed according to design, planning, and aesthetic standards in the Hillah city .

.2The current state of parks in residential neighborhoods in Hillah is deteriorating due to neglect, lack of maintenance, failure to select appropriate plant designs, and failure to select physical structural components such as walkways, fountains, etc.

Research Objectives:

.1Field assessment of the current state of parks through a field study and comprehensive analysis of the physical and structural components of the sites.

.2Establish appropriate design standards for green spaces, consistent with the reality of Hillah city and the cultural and financial status of the residents of the residential neighborhoods. Based on these standards, allocate sufficient spaces and allocate an appropriate amount of space for each individual.

.3Identify the desires, opinions, and requirements of the residents of the residential neighborhoods.

Importance of the Study:

Parks are the only outlet for many residents in residential neighborhoods, especially after their private gardens were demolished and converted into buildings for residential or commercial purposes.

### REVIEW RESOURCES

#### Residential Neighborhoods:

A residential neighborhood park is designed to meet the recreational needs of all ages, especially children. It should be located in the center of the neighborhood, making it easily accessible on foot from all parts of the neighborhood, via safe pedestrian routes unobstructed by vehicle traffic. It is also preferable to be located next to an elementary school so that students can use it, and visitors can enjoy the natural scenery. The design may incorporate an architectural style with regularly trimmed plants. It also includes green spaces and building features such as fountains, benches, and rest areas. People spend the day in groups in these types of parks, so



they should provide ample amenities, such as seating areas, beverage outlets, and various entertainment options. These parks are surrounded by buildings and streets.

#### Points to Consider When Designing Public Parks

1. The design system for public parks and gardens is often based on the natural, organic system. Public parks can also be designed using a modern system if the area is relatively small.
2. A public park should have more than one entrance, and these should be distributed in a way that connects the park to the surrounding urban areas to facilitate access and increase the efficiency of its use.
3. The park should be connected to a road network that ensures easy and quick access for visitors.
4. Allocate sufficient spaces for visitor parking next to public parks and gardens, and allocate the necessary space in front of the main entrances for temporary public transportation parking without obstructing traffic on the roads surrounding public parks within cities.
5. The network of roads, walkways, and paths within the park must be planned in harmony with the total area of the park and with the park's capacity. This should connect the various parts of the park to ensure smooth visitor movement throughout the park. This can be achieved by logically dividing the park into main and secondary roads, walkways, and paths. Furthermore, the paths can be used for cycling, walking, and running, providing each with the appropriate width. Appropriate landscaping elements should be placed around them to create an element of excitement and suspense, ensuring visitors remain in the park for the longest possible period of time.
6. A circular road surrounding the park must be designated for the use of service vehicles, ambulances, civil defense vehicles, and emergency vehicles, without entering the park itself. This road can also be used for cycling, walking, and running.
7. The natural landscape surrounding parks on the outskirts of cities should be incorporated into the design concept by leaving gaps that allow visitors to see them from within the park.
8. Avoid resorting to costly leveling work when the land designated for the park is uneven, except when necessary. Utilize the terrain and incorporate it into the design concept to give the park a natural feel.
9. Spaces should be provided for various events and activities, for different age groups, and for both genders.
10. Diversify the use of natural and structural elements in landscaping to prevent boredom.
11. A section of public parks should be designated for children. This section should be isolated from neighboring areas, with seating areas provided for child supervision, as well as various services such as restrooms, kiosks, etc.
12. Some sports fields can be provided on the outskirts of public parks to satisfy young people's desire to play. These fields should be completely isolated from neighboring areas to limit the noise and bustle of young people playing.
13. Establish open-air theaters for concerts and other social and cultural activities.
14. Provide restaurants, especially fast-food restaurants, within public parks to keep visitors entertained for as long as possible, and allocate their revenues to cover maintenance costs.
15. Water is one of the most important landscaping elements in public gardens and parks, especially in our country. It must be used in various forms (running water within channels, fountains, waterfalls, or basins). When using running water or basins, care must be taken to ensure that the water is not deep and that it is surrounded by low-altitude plant or structural fences to protect children from falling into it. Waterfowl houses can be built within large water basins for both adults and children to enjoy.



16. Seating benches should be carefully distributed along the sides of roads, squares, and in remote corners of the park to perform their function optimally. When distributing them, visitors' needs for tranquility, shade, and year-round sun should be taken into account.

17. Restrooms should be provided in multiple locations within public parks. They are usually located at the edges of the park and in corners relatively far from frequented areas. Drinking water sources should be provided and distributed in a way that covers the entire park and facilitates access.

18. The areas allocated for parks and gardens should be proportionate to the population size served by these facilities.

19. The park's location should be appropriate for its intended use. It is preferable to be located outside the scope of future city building expansion, to ensure its location is safe and away from city congestion and traffic.

20. Provide information rooms, changing rooms, a first aid room, storage for sports and maintenance equipment, a prayer room, and a room for park guards. (Wicker, 2017) (Shura, 2016) (Al-Akkour, 2007).

## **Children's Parks**

### **Introduction:**

Children's parks, whether private, part of a public park, or at home, are important for this age group, as they are the most in need of play, fun, and running around in society.

Psychology has defined play as an activity and behavior for children. It is a space for entertainment, creativity, innovation, and the release of their internal energy, and a measure of their physical and mental capacity. Taking children to parks for play and entertainment has become a fundamental goal and a social behavior that most Iraqi families have become accustomed to. The lack of playgrounds, entertainment areas, and various games in public and private kindergartens and elementary schools, as well as their unavailability in home gardens in Iraq, has increased the importance of expanding these gardens into public parks or establishing specialized gardens for children (Al-Marshadi 2020).

Khadhra (2015) stated that children's gardens should be provided in various parks, meeting the needs of children of all age groups and all levels, abilities, and capabilities, and ensuring safety and security requirements by adopting approved design standards for children's gardens.

### **The Importance of Children's Playgrounds**

Children's playgrounds are an important component of the activities that must be available in public or home parks, due to their role in developing children's health, sensory, motor, and athletic abilities. Play helps develop children's mental and physical abilities, their dexterity, their thinking, and their overall health. It also enhances the desire for social interaction among children, fostering a desire for teamwork and cooperation. It also creates a sense of beauty and interaction with nature by drawing children's attention to the natural elements surrounding them and generating a desire to learn about them. (Coller, 2013) (Hajoz, 2011)

### **Design Standards for Spaces Designated for Children's Playgrounds**

Numerous studies and research have been published on the appropriate spaces for children's playgrounds and their design standards. It has been found that organized playgrounds serving children aged 2-5 and 6-12 should have an area of no less than 630 m<sup>2</sup>, with a barrier separating the two age groups. Children's play areas for each age group should not interfere with each other. When allocating a private park for the 2-5 age group, the area should be no less than 225 m<sup>2</sup>, with appropriate toys provided for this age group. When allocating a private space for children aged 6-12, the area should be no less than 450 m<sup>2</sup>, with appropriate play equipment provided (Wicker, 2017).



## Quality Standards for Urban Parks and Gardens

1. Ease of access.
2. Public participation in activities and events.
3. Providing sufficient space to accommodate visitors.
4. Enable social interaction among people.
5. Improving the quality of life for urban residents.
6. Creating a livable environment through good design (Hiba, 2025).

### The Field Study

Includes two phases: First: A comprehensive field survey of the sites and analysis of all components of the Al-Jam'iyya and Al-Faiha Parks in Hillah.

### Selected Parks in Hillah City

Al-Jam'iya and Al-Faihaa in Hillah City, Babil Governorate, were chosen as a practical model for developing residential neighborhood parks in Hillah City. A field survey was conducted of the complementary, physical, and botanical components of these parks (Al-Jam'iya Park and Al-Faihaa Park). Given the researcher's inability to obtain any plans, information, maps, complete designs, documents, or recent aerial photographs specific to the study area, the researcher resorted to a field

### Study Sample:

This sample focuses on studying two parks in different residential neighborhoods in Hillah City: one in the small neighborhood (Al-Faihaa Park) and one in the large neighborhood (Al-Jam'iya Park). The size of this sample was estimated based on the number of daily park users. Samples were taken according to the number of park users.

First: Comprehensive field survey of the selected Al-Jam'iya and Al-Faihaa parks in Hillah City and analysis of the physical and botanical components of the selected parks.

### Researcher's Field Evaluation

**Table (1): Comprehensive Field Survey of Al-Jam'iya Park**

First: General information				
Residential areas where visitors come from	Number of visitors	Area	Park Site	
Al-Jam'iya - Al-Shuhada District - Al-Tahmaziya - Al-Akrameen - Al-Mohandessin - 40th Street	approximately 200	3260.727	aljameia2010- 2008	
Second: Structural components				
The outer wall is in fairly good condition, but there is some damage.		Design and Construction Status	Exterior Wall Park Gate	1
Average		Evaluation		
The wall in the AL-jameia's park consists of a masonry part and a latticework part, and there is some damage on various sides.		Notes		
1		Number of Gates	Walkways Seating Benches	2
2.5 m		Gate Width		
The condition of the gate is not good for park gates.		Design and Construction Status		
In aljameia park there is only one gate on one side of the secondary streets and on the side of the fountain		Notes		
Muqarnas - concrete pouring		Type of Walkways		3
80-200 cm		Width of Walkways		



The condition of the walkways is very poor, and there are no walkways in some places.	Structural Status	Health Services Water Features	
Good	Functional Efficiency		
Most of the walkways in the park are in poor condition due to the park's age and lack of maintenance.	Notes		
Wooden - Concrete	Types of Terraces	Lighting Children's Playgrounds Parking Areas	4
Not good	Terrace Design		
Haphazard	Terrace Distribution		
Average	Structural Status		
Few of the seating areas are usable.	Notes	Kiosks	5
1	Number		
Poor	Structural Status		
The sanitary services are not usable.	Notes	Hall and Rooms Water Drinking Areas	6
1	Number		
Poor	Structural Status		
There is one fountain in the AL-jameia's park, and it is out of service.	Notes		
None	Type of Lighting	Third: Plant Elements	7
None	Distribution Method		
There is no lighting in the AL-jameia's park at night.	Notes		
5 games	Number	Trees Shrubs Herbal Plants	8
	Types		
Plastic	Material		
Fairly good - Poor	Work Efficiency		
Random	Distribution		
	Notes		
None	Area	Green Spaces Exterior Wall	9
None	Functional Efficiency		
There is no parking space in aljameia park. Visitors park on the secondary streets surrounding the park.	Notes		
None	Number	Park Gate Walkways	10
-	Design and Construction		
There are no kiosks in aljameia park.	Notes		
1	Number	Seating Benches Health Services	11
Small	Functional Efficiency		
For the purpose of the presence of the agricultural engineer responsible for the park.	Purpose of Construction		
There is one very small room where the agricultural engineer resides.	Notes		
None	Number	Water Features	12
-	Distribution Method		
There is no drinking water facility in aljameia park.	Notes		
Third: Plant elements			
3	Number of species		-1
Random	Distribution system		



The trees in aljameia park are eucalyptus, quinoa, and Washingtonia palms. These trees were randomly distributed, causing confusion in the park.	Notes	Children's Playgrounds	
5	Number of species	Parking Areas Kiosks	-2
Random	Distribution system		
Aljameia park contains a number of shrubs, including the coast flower, Egyptian acacia, beauty rose, and anticoma californica.	Notes		
3	Number of species	Hall and Rooms	-3
Random	Distribution system		
The herbaceous plants in the park are few and deteriorating due to neglect.	Notes		
20%	Area of the surface	Water Drinking Areas	-4
The condition of the green area in the park is poor due to the use of poor quality water, as well as the misuse of irrigation methods.	Condition of the surface		
The green area is depleted due to heavy footfall, the lack of good quality water, and poor irrigation methods.	Notes		
Fourth: Entertainment activities			
60%	Allocated Space	Hiking	-1
Does not meet design standards	Design Criteria		
Children's games and poor surface	Elements Used		
The outing only includes children's games and has not been maintained	Notes		
65%	Allocated Space	Children's Games	2
Does not meet design standards	Design Criteria		
The games are assembled	Elements Used		
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Source: Personal interview (Zainab Abdel Naji - Agricultural Engineer) on 6/1/2022

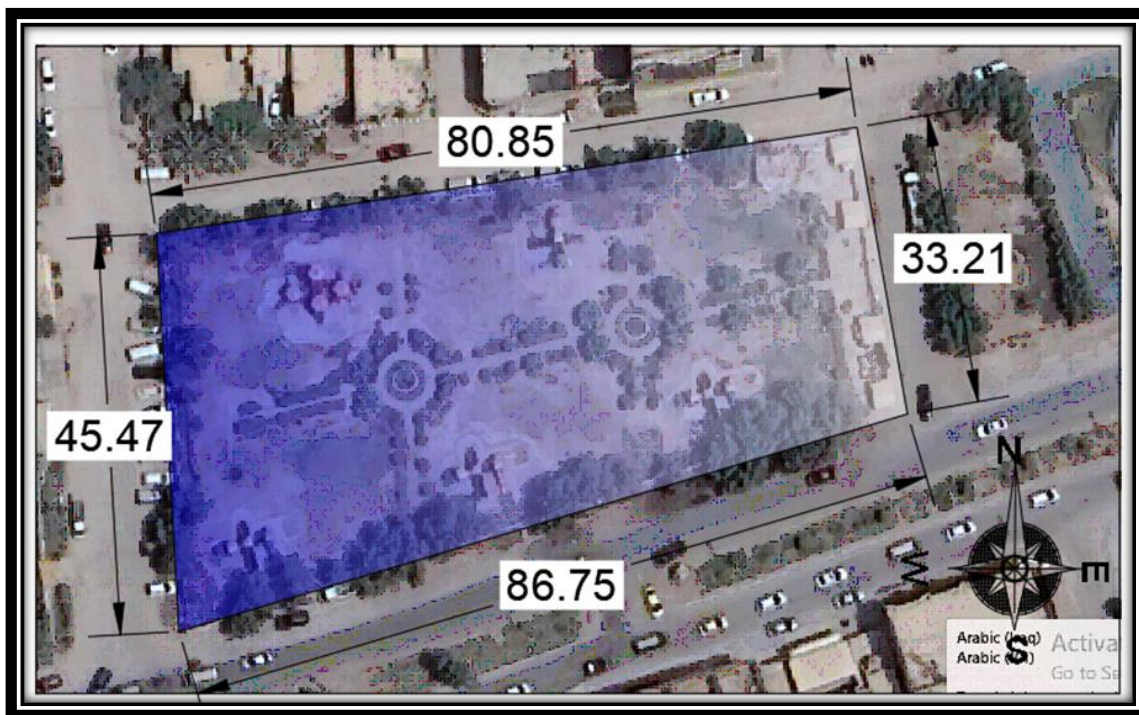


Figure (9): Aerial photo of the AL-jameia's park

Source: Researcher's work





Figure (10): The current condition of the walkways in the AL-jameia's park

Source: Researcher's work



Figure (11): The current state of the green space and seating areas in the AL-jameia's park

Source: Researcher's work



Figure (12): The reality of the games in the AL-jameia's park

Source: Researcher's work





Figure (13): The current condition of the outer wall and gate in the AL-jameia's park

Source: Researcher's work



Figure (14): Rooms and sanitary services in the AL-jameia's park

Source: Researcher's work

Table (2): Comprehensive field survey of Al-Faihaa Park

First: General information				
Residential areas where visitors come from: Babylon neighborhood, Al-Khasrouiyah neighborhood, and Al-Jazair neighborhood.	Number of visitors approximately	area	Park Site	
Residential areas where visitors come from: Babylon neighborhood, Al-Khasrouiyah neighborhood, and Al-Jazair neighborhood.	%200 -100	Approx 10 dunams	The park is located in the Babylon neighborhood. It was established in 1950.	
Second: Structural components				
Dilapidated and mostly crumbling around the park		Design and Construction Status	Exterior Wall Park Gate	1
Very poor		Evaluation		
Due to the park's age and lack of consistent maintenance, it has become dilapidated in most places, and there is no fence.		Notes		
3		Number of Gates	Walkways	2
5 m		Gate Width		



Beautiful old design	Design and Construction Status	Seating Benches	
Only one gate is currently in use, and it has a beautiful design, but its lack of maintenance has made it dilapidated.	Notes		
Concrete	Type of Walkways	Health Services Water Features	3
150-250 cm	Waywidth of Walkways		
Very poor	Constructional Status		
Good	Functional Efficiency		
The walkways in the park are efficient because they were laid out according to international standards at the time, but they currently do not serve their intended purpose due to misuse and poor maintenance.	Notes		
Pour concrete - iron, wood, ceramics	Types of Terraces	Lighting Children's Playgrounds Parking Areas	4
Ordinary	Terrace Design		
Haphazard	Terrace Distribution		
Dilapidated	Constructional Status		
The benches in the park are few in number, dilapidated, and unfit for use.	Notes		
1	Number	Kiosks	5
Poor	Structural Condition		
The sanitary services are dilapidated and unusable.	Notes		
None	Number	Hall and Rooms Water Drinking Areas	6
---	Structural Condition		
Water features are absent in the park due to its age. If they did exist in the past, they were neglected and turned into empty spaces.	Notes		
None	Lighting Type	Third: Plant Elements	7
---	Distribution Method		
There is no lighting in the park. If there is lighting, it is only found near the gate and the administration room, and there are very few of them.	Notes		
None	Number	Trees Shrubs Herbal Plants	8
---	Types		
---	Material		
---	Work Efficiency		
---	Distribution		
Despite the large size of the park, there are no games for children.	Notes		
None	Area	Green Spaces Exterior Wall	9
---	Functional Efficiency		
---	Notes		
None	Number	Park Gate Walkways	10
---	Design and Construction		
---	Notes		
3	Number	Seating Benches	11
Somewhat good.	Functional Efficiency		
Administration and small, unused rooms.	Purpose of Construction		



The rooms are few and only used for workers and for storing some tools. Some are unused and closed.	Notes	Health Services	
None	Number	Water Features	12
---	Distribution Method		
---	Notes		
Third: Plant elements			
9	Number of species	Children's Playgrounds	1
Random	Distribution system		
The trees in Al Fayhaa Park are Albizia, Cynocarpus, Eucalyptus, Mulberry, Palm, Olive, and Tamarisk. These trees are distributed randomly.	Notes		
8	Number of species	Parking Areas Kiosks	2
Random	Distribution system		
The shrubs are Dodonia, Rosehip, Coastal Flower, Oleander, Cassia, Anicoma, and others.	Notes		
10	Number of species	Hall and Rooms	3
Random	Distribution system		
These plants are distributed randomly and irregularly within basins.	Notes		
65%	Surface Area	Water Drinking Areas	4
Poor	Surface Condition		
The green space in the park is very poor and neglected, and most of the green space is empty.	Notes		
Fourth: Entertainment activities			
%80	Allocated Space	Hiking	1
No trees and empty spaces. Recreational activities only. Trees, bushes, some broken rides, and empty spaces.	Design Criteria		
No	Elements Used		
---	Notes		
---	Allocated Space	Children's Games	2
No	Design Criteria		
No trees and empty spaces. Recreational activities only. Trees, bushes, some broken rides, and empty spaces.	Elements Used		
No	Notes		



Source: Personal interview (Ali Abbas Jassim - Head of Craftsmen) on 2/21/2024

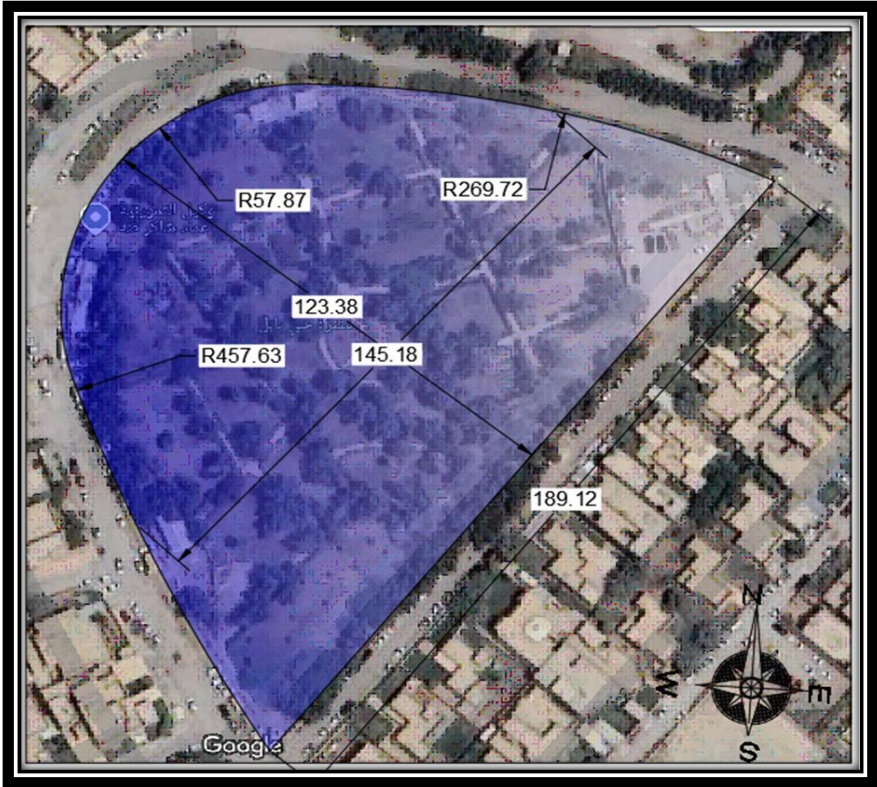


Figure (20): An aerial photo of Al-Faiha Park

Source: Researcher's work



Figure (21): The current status of the gates in Al-Faiha Park

Source: Researcher's work





Figure (22): The current condition of seating areas, their types, vegetation cover, and walkways in Al-Faiha Park

Source: Researcher's work



Figure (23): The current condition of the walkways and vegetation in Al-Faiha Park

Source: Researcher's work





Figure (24): The current state of green spaces and the external wall in Al Fayhaa Park

Source: Researcher's work

Second: The Questionnaire Phase

The questionnaire is one of the most important means of collecting data in scientific research, as it provides the necessary description of the location to be studied, as well as measuring the divergent and similar opinions of different groups regarding the components of the green urban environment to be studied. The questionnaire was used as a statistical method to facilitate the collection of information, provide data, and code it according to the needs of the study (Al-Janabi, 2020 and Khader, 2010). The researcher selected two parks (Al-Jam'iyya Park and Al-Faiha Park) as the research site, distributed across various neighborhoods in the city of Hillah (the large and small sub-districts). The sample size was determined at (500) questionnaires based on the "open society" model, with an average of 250 questionnaires per park. Second: The Questionnaire Phase

The questionnaire is one of the most important means of collecting data in scientific research, given its ability to provide the necessary description of the location to be studied, as well as to measure the divergent and similar opinions of different groups regarding the components of the green urban environment to be studied. The questionnaire was used as a statistical method to facilitate information gathering, data provision, and coding, according to the needs of the study (Al-Janabi, 2020 and Khader, 2010.)

Two parks were selected as the research site, distributed across various neighborhoods in Hillah city (the large and small sub-districts). The sample size was determined at (500) questionnaires based on the open society, with an average of 250 questionnaires per park.

Table (3) illustrates the adequacy of parks in the city.

percentage %	number	Adequacy of green spaces
% 3.4	17	Adequate
▲ % 61.4	307	Inadequate
% 35.2	176	Somewhat acceptable
% 100	500	Total

The results of the study (Table (38)) showed that (3.4%) of the respondents found the parks in the city to be (sufficient), while (61.4%) of them found the parks to be (insufficient), representing the vast majority of the respondents. (35.2%) of the respondents found the parks to be (somewhat acceptable). Despite the slow expansion in the establishment of parks, it does not keep pace with the rapid expansion and increase in population density. Moreover, many parks are unsuitable for recreation and recreation and have been transformed into barren land dominated by cynocarpus trees, unusable rooms, neglected pools, and unemployed children's playgrounds.



Table (5) shows the respondents' opinions regarding the clear interest in green spaces and parks.

percentage %	number	Interested?
% 19.7	97	Yes
▲ % 80.6	403	No
% 100	500	Total

The results of the study, Table (40), showed that (19.7%) of the respondents felt that there was a clear and widespread interest in green spaces and parks, while (80.6%) of them felt that there was a clear lack of interest in green spaces and parks in residential neighborhoods. Table (6): Have parks and green spaces been rehabilitated and developed in residential neighborhoods?

percentage %	number	Parks redevelopment and rehabilitation
%18.6	93	Yes
▲ %81.4	407	No
% 100	500	Total

The results of the study (Table (41)) showed that (18.6%) of the respondents answered "yes" that parks and green spaces in residential neighborhoods have been rehabilitated and developed, while the vast majority (81.4%) answered "no" that parks and green spaces in residential neighborhoods have not been rehabilitated and developed. We find that the majority of the respondents have not had parks redeveloped in their residential areas due to the significant damage caused by the age or poor construction of the parks. Therefore, each municipal administration must reconsider its haphazard policy and work according to a program that aligns maintenance, funding, and the establishment of quality parks. Table (7) illustrates the feeling of satisfaction and reassurance in the residential neighborhood park where children play.

percentage %	number	Satisfaction and reassurance about children's toys
% 15.4	77	Yes
▲ % 84.6	423	No
% 100	500	Total

The results of the study (Table (43)) showed that (15.4%) of the parents surveyed felt satisfied and reassured in the neighborhood park, while (84.6%) of the parents surveyed did not feel satisfied and reassured in the neighborhood park where the children play. This is due to several reasons, including the lack of safety requirements in the design of the games and the fear of accidents, as well as the distance of the park from home. They represent the vast majority of the surveyed. Table (9) shows the degree of satisfaction with the seating areas.

percentage %	number	Seating Satisfaction Rating
% 9.4	47	Strong
% 36	180	Average
▲ % 54.6	273	Weak
% 100	500	Total



The results of the study (Table (45)) showed that (9.4%) of the respondents found the level of services provided by the residential neighborhood park to citizens to be (strong), while (36%) of them found the level of services provided by the residential neighborhood park to be (average), while (54.6%) of them found the level of services provided by the residential neighborhood park to be (weak) in residential neighborhoods. During the researcher's field visits, most of the parks complained about the lack of seating, as most of them were broken and many of them were locally made and did not take into account the comforts for human sitting. Table (10) shows the degree of satisfaction of the respondents with the lighting of the residential neighborhood park.

percentage %	number	Lighting Satisfaction Level
% 7.2	36	Strong
% 35.4	177	Average
▲ % 57.4	287	Weak
% 100	500	Total

The results of the study (Table (46)) showed that (7.2%) of the respondents found their level of satisfaction with park lighting to be (strong), while (35.4%) of them found their level of satisfaction with lighting in residential neighborhood parks to be (average), while (57.4%) of them found their level of satisfaction with lighting in residential neighborhood parks to be (weak). Many parks lack lighting, and this is the main reason for the reduced recreational efficiency of the park and the small number of visitors, as the presence of lighting helps attract passers-by at night, especially during hot summer evenings and nights. Table (11) shows the evaluation of water elements in residential neighborhood parks.

percentage %	number	Water Elements Assessment
% 9	45	Adequate
% 40.4	202	Inadequate
▲ % 50.6	253	Somewhat
% 100	500	Total

The results of the study (Table (47)) showed that (9%) of the respondents found the water features in the residential neighborhood park to be sufficient, while (40.4%) of the respondents found the water features to be insufficient in the residential neighborhood parks. The vast majority (50.6%) of them found the water features to be somewhat sufficient in the residential neighborhood parks. Most parks complained of the lack of water features such as fountains and water basins, and if they existed, they were in poor structural and design condition. Table (12) Respondents' opinions regarding the preference for the type of activities in the residential neighborhood park.

percentage %	number	Activity Type
▲ % 38.4	192	Large Green Area
% 34.4	172	Children's Playground
% 9.2	46	Fountains
% 18	90	Flower Beds
% 100	500	Total

The results of the study, Table (48), showed that (38.4%) of the respondents prefer green spaces over other park activities, representing the vast majority of the respondents, while (34.4%) of the respondents prefer creating a children's garden, while (9.2%) of the respondents prefer fountains, and (18%) of the respondents prefer flower beds in residential neighborhood parks. Table No. (13) Distribution of respondents according to the type of plants preferred in the residential neighborhood park



percentage %	number	Type of flowers
% 18	90	Trees
% 27.4	137	Shrubs
▲ % 54.6	273	Flowers
% 100	500	Total

The results of the study, Table (49), showed that 18% of the respondents preferred trees, 27.4% preferred shrubs, while the vast majority of them, 54.6%, preferred flowers in the residential park. Table (14) shows the respondents' opinions about the type of seating they prefer.

percentage %	number	Seating Type
% 15	75	Single
▲ % 59	295	Group
% 26	130	Two
% 100	500	Total

Because most park visitors come in groups, whether with their families or children, and due to the social nature of the individual in Iraq, most of them prefer group seating. The results of the study, Table (50), showed that (59%) prefer group seating, and that (26%) of the respondents prefer both (single and group seating), while (15%) of them prefer single seating in the residential neighborhood park. Table (15) shows the respondents' opinion on the adequacy of restrooms in the residential neighborhood park.

percentage %	number	How efficient are the restrooms?
% 13.2	66	Yes
▲ % 86.8	434	No
% 100	500	Total

The results of the study, Table (51), showed that (13.2%) of the respondents answered "yes", meaning that the restrooms in the neighborhood park were adequate, while the vast majority of the respondents answered "no" (86.8%) in the residential neighborhood park. Most parks lack the necessary amenities, such as restrooms, and if they exist, they are not fit for use. This is a real problem that reduces the park's efficiency in receiving visitors, especially children. Table (16) shows the quality of the walkway design in the residential neighborhood park.

percentage %	number	Walkway Design Quality
% 15	75	Yes
▲ % 68.6	343	No
% 16.4	82	Somewhat
% 100	500	Total

Most modern parks suffer from inefficient design, particularly the distribution of walkways to reach the entire park and its various activities. Most of them have only one main walkway, with design specifications that are not suitable for accommodating the number of visitors. The results of the study (Table (52)) show that (15%) of respondents find the level of walkway design in the park good, while (68.6%) of respondents find the level of walkway design in parks poor, representing the vast majority of respondents. Meanwhile, (16.4%) of them find the level of park design somewhat good in residential neighborhood parks. Table (17) Adequacy of waste containers in residential neighborhood parks

percentage %	number	Adequate waste containers
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% 11.4	57	Yes
▲ % 70.8	354	No
% 17.8	89	To some extent
% 100	500	Total

The results of the study (Table (53)) showed that (70.8%) of respondents believed that waste containers were insufficient in parks in residential neighborhoods, while (11.4%) of respondents believed that waste containers were sufficient in residential neighborhoods, and (17.8%) of them believed that waste containers were somewhat sufficient. Most of the chronic services in Hillah's parks cast a shadow over all aspects, including waste containers. The lack of sufficient numbers and the lack of thoughtful distribution caused waste to spread throughout the park.

#### Proposed Design Concept for the Parks

The design concept for the parks was based on several key elements that formed the basis for the emergence and development of the design concept, namely:

First: Aljameia park

The following is a simplified explanation of the design concept for aljameia park, its constituent elements, and the most important objectives and solutions included in the proposed evaluation.

(1Entrances: Two entrances have been proposed for visitors: the first is located on the main Al-Jam'iyah Street, to facilitate entry for the many visitors coming from the eastern side of the park or via public transportation from distant locations. The second entrance is located on a secondary street, separating the park from the other side of the Al-Jam'iyah neighborhood, to facilitate entry for visitors coming from this side of the neighborhood or neighboring neighborhoods. The third entrance has been proposed on Al-Jam'iyah Street to facilitate the entry of visitors' vehicles, eliminating the chaos observed during holidays and special occasions due to parking and traffic obstruction. A sufficient width of 7 meters has been proposed for the entrance, along with a rest and waiting area with a fountain in the middle, at both entrances.

(2Walkways: A network of primary, secondary, and peripheral walkways has been proposed to easily connect the various parts of the site and allow for free movement of visitors by providing appropriate width. The primary and secondary walkways connect to the central area (the proposed plaza for the park). The peripheral walkway circles the park and is used for long walks, jogging, or cycling, with individual and group seating distributed at various distances on either side. 3) The Central Square: Located in the southern part of the park, its location was chosen to be central to family activities and to provide the children's garden with sufficient space to accommodate the largest number of children, as it is the main attraction for families.

(4Afforestation: A. Large evergreen trees were chosen around the park along the perimeter walkway to provide windbreaks and reduce internal and external noise. For the park, especially on Al-Jam'iyah Street, the proposed trees include: Sparrow's Tongue, Carob, and Tremelina.

B. Evergreen shrubs and hedges were proposed around the proposed play area to provide isolation and reduce noise. The proposed shrubs include: Egyptian Cassia, Anticoma, Gardenia, Camel's Hoof, and Coffee Rose, and the hedges include: Elias, Doranta, and Dodonia.

C. Green spaces were proposed throughout most of the park, with the exception of areas with heavy use and concentrated in small spaces, such as the central square and the seating area for families accompanying children.

D. Palm trees were essential due to their multiple importance and their status as a national symbol of Iraq.

(5Recreational Activities: Three main activities were proposed:



A. The picnic area was designed according to design standards, consisting of a green area with a group of deciduous and perennial trees distributed in the middle for families to sit in, along with a spacious area providing seclusion for families to enjoy the freedom of the park, with the provision of group and individual seating areas.

B. The play area was also designed according to design standards, consisting of an open green area for running and playing, while providing extreme isolation around it. A cafeteria and a special hall were designated for families to sit in and hold events. C- Children's Garden: Given its importance, the park occupies the largest area of the park. Its location was chosen close to the parking area and entrances to facilitate children's access, rather than having to walk long distances throughout the park. It is divided into two sections, according to age, from 3-5 and 6-12, with appropriate games for each age group. There is also an indoor playroom, a cafeteria, and private bathrooms in the park. Benches, both shaded and uncovered, are available for families to monitor their children.

D- Arches and Pergolas: Botanical arches and pergolas covered with climbing plants were proposed to emphasize the main and secondary entrances.

F- Several fountains were proposed and distributed throughout the park, depending on the importance of the site and its uses.

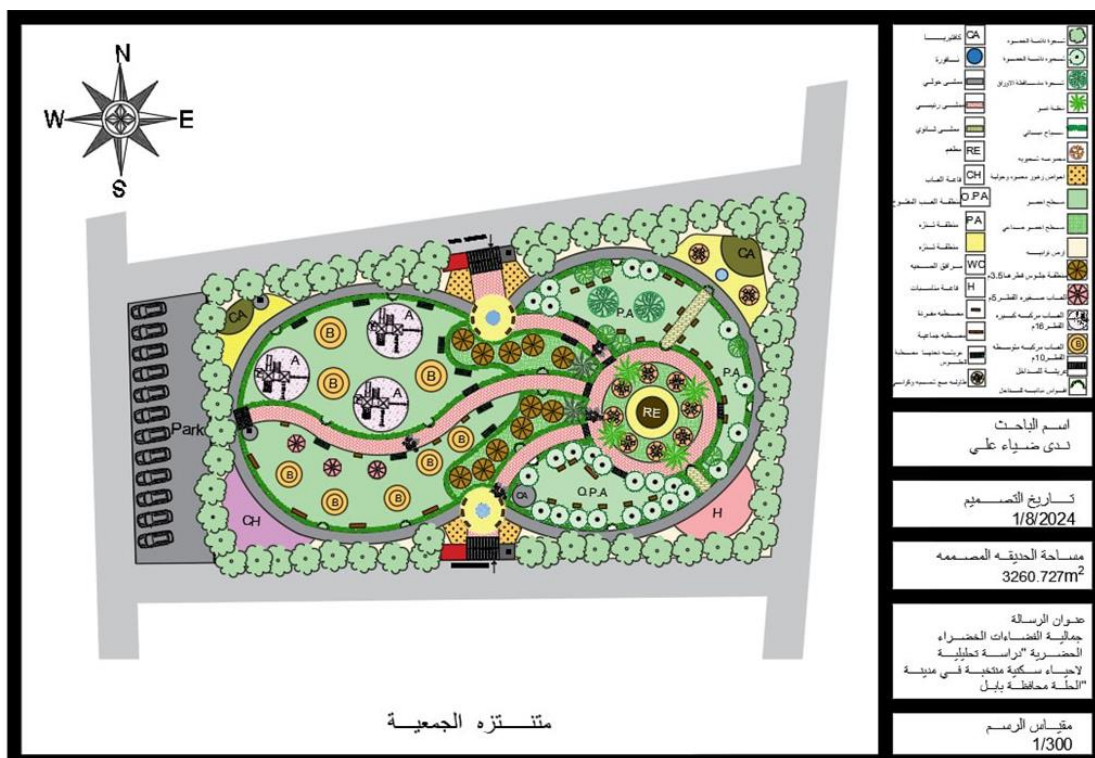


Figure ( ): Design proposal for aljameia park

Source: Researcher's work

Second: Al-Faihaa Park

Al-Faihaa Park in the Babylon neighborhood is one of the oldest parks in Hillah city. Adequate space was allocated to it in the 1960s to accommodate visitors from various residential neighborhoods.

The proposed mixed-use, natural-oriented design for the park incorporates the natural forms of green spaces and walkways, while taking into account the design standards for residential neighborhood parks. This design includes providing sufficient green spaces to accommodate the proposed activities and necessary services, based on their importance to visitors.



The researcher considered increasing the recreational efficiency of the park by attracting a greater number of visitors through the following factors:

- (1) Entrances: He proposed four entrances to facilitate visitor access to the park from all sides and directions.
- (2) He proposed a parking lot.
- (3) He proposed a network of walkways covering the park and facilitating visitor access to the required activities.
- (4) He proposed a set of necessary services, such as restaurants, kiosks, health services, rest areas, and information centers.
- (5) Incorporating water features, such as fountains and water basins, in appropriate locations.
- (6) Proposing plant arches and pergolas to emphasize and distinguish entrances.
- (7) Proposing dense afforestation around the park to provide privacy and reduce the impact of indoor noise on neighboring homes, in addition to its environmental impact.
- (8) Planting trees along the walkways to direct traffic and provide shade.
- (9) Proposing areas for leisure activities, active strolls, open play, and a children's garden.
- (10) Proposing a children's playroom and another for fitness.

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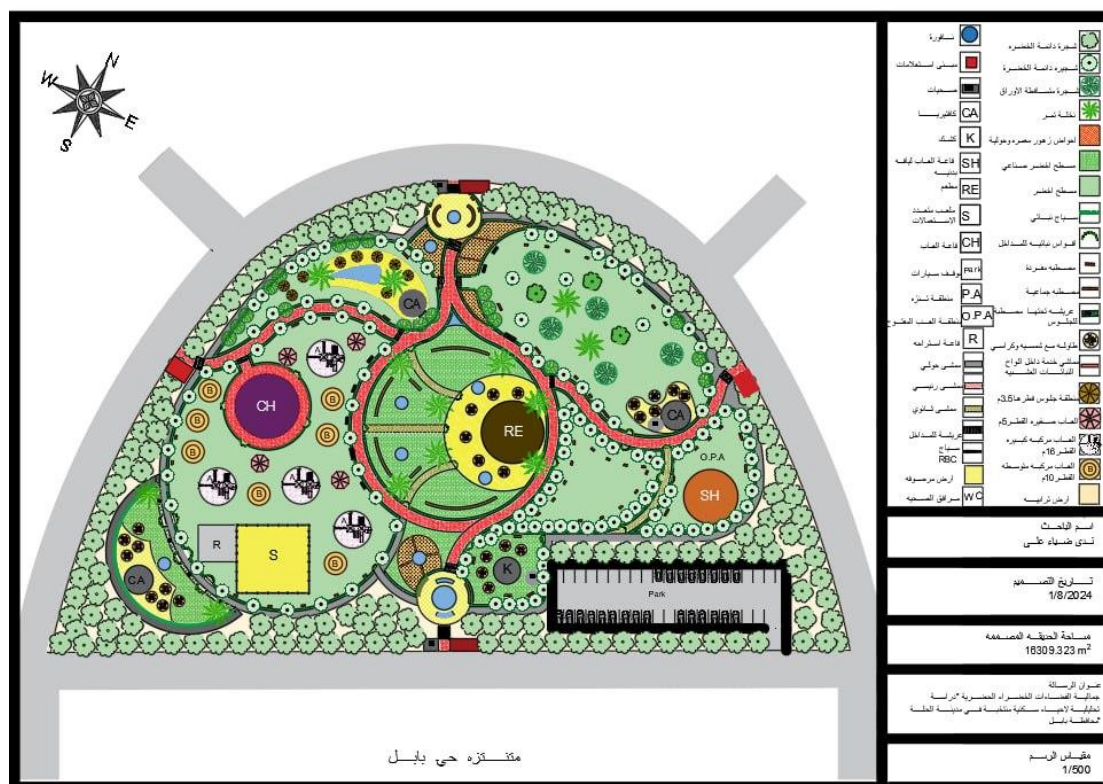


Figure ( ): Design proposal for the AL-jameia's park

Source: Researcher's work

Conclusions

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Comprehensive designs were not prepared for residential neighborhood parks upon their establishment, in accordance with park design and planning standards. Rapid urban expansion has resulted in several design errors at the expense of green spaces and parks, resulting in small areas between residential neighborhoods.

.2The failure to implement basic design standards for urban green spaces, which are the responsibility of municipalities, due to their lack of financial capacity and awareness of the importance of urban green spaces.



.3No comprehensive maintenance, development, or modernization of the parks has been carried out in accordance with international principles and standards since their establishment. Maintenance is in the form of random patchwork operations, including the addition of benches, waste containers, or random planting.

.4All parks consist of unusable children's playgrounds, poor surface areas, and randomly planted plants.

.5The lack of a clear design for the parks; they are simply poorly landscaped areas surrounded by trees, shrubs, and a few cacti and herbaceous plants.

.6The recreational efficiency in all parks is at a low level, for several reasons, including: the lack of a variety of recreational activities for walking and playing, the failure to adhere to design standards for park design, and the lack of aesthetic elements in the seven parks, as well as the lack of specific features for these activities.

.7The lack of designated spaces for various activities, such as isolated areas for reading and relaxation, and children's gardens. Most of the park walkways are unusable and deteriorating, designed with widths outside the design standards for pedestrians. Most of them are made of concrete, and if muqarnas stone is found, it is dilapidated. There are no sanitary services, rooms, or halls in any of the parks, and if they do exist, they are for workers only.

.8The failure to use trees and shrubs in appropriate locations to reduce noise from the main streets surrounding all directions of the parks, such as the broad-leaved, environmentally resistant Sparrow's Tongue trees, which are recommended for use in such situations.

.9The lack of amenities, such as seating and umbrellas, in all parks. If they exist, they are unusable due to poor maintenance and age. There are also no restaurants, dining chairs, or kiosks within the parks.

.10The lack of a clear maintenance program in all parks to guide workers on required tasks and appropriate timings, such as irrigation, mowing, fertilization, pest control, planting annual plants, etc.

## RECOMMENDATIONS

.1Develop development designs for parks in residential neighborhoods based on a future perspective and scientific data to prepare residents for the coming years.

.2Develop an appropriate plant design and select species suitable for all ages, taking into account the needs and desires of residents and climatic conditions, as well as the design criteria for green spaces in parks.

.3Select a significant and suitable location to establish a children's garden in all parks in residential neighborhoods, providing seating beside it and a playground.

-4Taking into account the city's prevailing climatic conditions when designing parks and gardens by providing canopies and shaded seating areas and selecting plant and structural elements.

-5Establishing a large garden that accommodates various events and activities according to approved design standards.

-6Establishing a restaurant or cafeteria in all residential neighborhood parks.

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#### Questionnaire

Research Title: Evaluating the Current Reality of Some Residential Neighborhood Parks in Hillah City, Babil Governorate

1. How adequate are the parks in the city?

Adequate ( ) Insufficient ( ) Fairly acceptable ( ).

2. Do we find a clear focus on green spaces and parks in green areas such as parks?

Yes ( ) No ( ).

3. Have parks and green spaces in residential neighborhoods been rehabilitated and developed?

Yes ( ) No ( ).

4. Do you feel satisfied and reassured in the residential neighborhood park where children play?

Yes ( ) No ( ).

5. How would you rate your level of satisfaction with the seating and number of seats in the residential park?

Strong ( ) Medium ( ) Weak ( ).

6. Your level of satisfaction with the lighting of residential neighborhood parks?

Strong ( ) Medium ( ) Weak ( ).

7. What is your assessment of the water features in residential parks, whether fountains, ponds, or waterfalls?

Adequate ( ) Inadequate ( ) Somewhat ( ).

8. What activities do you prefer in a residential park?

- A wide green area ( )

- A children's playground ( )

- Fountains ( )

- The coordination and arrangement of flower beds and fountains together ( )

10. Do you prefer trees and shrubs or flowers in a residential park?

Trees ( ) Shrubs ( ) Flowers ( ).

11. Do you prefer seating areas?

Single ( ) Group ( ) Both ( )

12. In your opinion, are the restrooms in residential parks adequate?

Yes ( ) No ( ).

13. What is your opinion of the quality of the walkway design in the residential park?

Yes ( ) No ( ) Somewhat ( )

14. In your opinion, are the waste containers in the neighborhood park sufficient?

Yes ( ) No ( ) Somewhat ( )