
ABSTRACT

The research focuses on the study of green areas , and if the proportion of an area are suitable with the size of the population as well as to identify the share of each person of it , and infer the extent of fulfillment of this ratio. And took the GREEN ZONE model for the study and after the required field visits to obtain maps, the green spaces were calculate using Arc map program and compare it with the numbers of the population according to the approved criteria for assessing the reality of the region and determine the actual need witch is suitable with the population and to provide planning proposals that achieve the best results for the development of the region.

KEYWORDS: planning standards for Services- Recreational facilities - parks in residential area.

INTRODUCTION

Numerous psychological and social studies confirm that the green spaces has positive impact on the psyche of man , and that these green spaces relieve stress and anxiety and publishes the spirit of reassurance , with the increase in population and the large number of means of transportation and the large number of factories , the studies and scientific research has shown that the production of the individual increase if he found in a place with permanent greenery and a nice view and its not useful only on the aesthetic side , it has several and many significant benefits like protecting the environment from pollution and reducing the escalation of dust through the roots stabilization of soil as well as providing shading and reduce optical radiation of the sun through the reflections of radiation on the leaves , leading to lower the heat

THE THEORETICAL RESEARCH

- **Aim of the research** : to identify who much the green areas are suitable with the size of the population , and calculating the share of each person and comparing it with the approved standards.

- **The problem** : the problem of the study are summarized in : insufficient green space that fits in with the size of the population has led to the loss of environmental and aesthetic , social and economic role.

- **THE hypothesis of the research** : increasing the share of the person in green space is increasing the impact of environmental and aesthetic , social and economic role.

- **The limits of the study area** : limited within the green zone district / Karkh district , which includes the locality 639 and the locality 641, an area of (2.52830) km².

TO ACHIEVE THE AIM OF THE RESEARCH , IT WAS DIVIDED TO

1. Definition of the concept of green areas and their importance in general and in residential areas in particular.
2. Identify the classification of green areas in accordance with the established standards.
3. Identify the issue by the Ministry of Planning and relied on its standards.
4. definition the area of research and analysis of the distribution of gardens according to the population factor and walking distance and easy access standards .

SECTION I/THE THEORETICAL CONCEPTS OF THE SEARCH

1. The concept of green areas : known as the planted green space in open land with recreational side (Marc Landy, 1979, p.156) , also known as the spaces that the big part of it will be covered with greenery . Green areas may be the big part of the open spaces and most researchers called it (the open green places) . The search will be limited to studying the green spaces in residential areas , which are characterized as being the Lands that reserved for recreational activity and have a significant role in climate impact and psychological and aesthetic side in the residential area . (Obaid , p. 57) .
2. The importance of green areas : green areas have functions of environmental ,preventive , social and economic .Its purify the environment from dust and reduce the wind and dust storms and soil stabilization , which is reflected on the health side of the citizens by providing shade and protection from the sun's heat and lower humidity and reduce the noise level as well as it performs the functions of planning , where it works on locating urban residential and public and separate the different facilities beside it beautify and coordinate fields as well as secure the rest areas of the citizens and provide quiet places for children to play safe from the various incidents and provide suitable places for relaxation and peace of mind and peace of nerves places as well as beauty function such as green implants for sidewalks and green strips between the streets and residential areas network . The social studies confirm that green spaces has major impact on human behavior and actions . (Abdullah , p. 13) .
3. Private residential areas of the green areas : this kind of space meets the recreational needs of all ages in general and children in particular, and be located in the center of the neighborhood to be easily accessible by walking from all the neighborhood Parts, across the safe pedestrian roads with no vehicular traffic and the need for the open spaces , including parks and playgrounds , not just for kids but for the elderly , young people and athletes and all the segments of society and easily accessible for more than one locality just as in the case for schools and markets with sufficient area and is located in a central location for the whole residential sector or through residential complexes and high ones, especially areas for the Community of the elderly and children's games as well as some medium-sized squares for the young games and the presence of men during the holidays, events with roofs to sit down and play mass sports and others. And design entertainment places to serve the largest number of residents with an emphasis on that part of them should be close to residences and with small sizes to serve residential groups, this is what leads us to say that there should be a clear gradation of these recreational spaces of green spaces and open public areas , beginning at the housing unit then residential area, down to the residential sector . As well as the interdependence of these spaces can make joint use to achieve three goals the first task is achieving accessibility and the second is achieving the largest amount of social relations between the residents and the third is the climate treatment in the area.
4. Classification of green areas: green areas classified within the city in accordance to the established standards which were classified by the use of a green Implants with public and limited benefit and Implants with particular importance like plant gardens and zoos gardens , and maybe classified depending on the function performed such as productivity section and preventive implants, and aesthetic purposes and recreational areas and both classifications limited trading in the field of scientific research. The residential areas and its hierarchical classifications is the most importance classification in the field of urban planning, where green areas vary in size according to the numbers of the living in the area or the neighborhood, so it is classified as follows: -

GREEN AREAS ON RESIDENTIAL GROUP LEVEL

5.1 for privet green areas : a house private garden that provides breathing space for the family and environmental and visual impact of the region as a whole and does not have a minimum .

5.2. green areas at the level of the residential locality : the most important is the children's games squares and its open to all groups and without restrictions or fees and easy access suit the population density of an area with courts for children with enough seats , toilets and garbage bins

5- 3. The green areas on the neighborhood level : It is larger than its predecessor in terms of space , and with a variety of events suitable for all ages , serving 4 residential sites or more , and in some countries have what is called (Play Field).

5-4 -The green areas on the residential sector level: Represented at the most, by the residential sector park (district park), which is an open place, with a lot of tourist services offers its services to all city residents and visitors. Planning rates for gardens and parks depends generally on the local circumstances of each city and would give to each inhabitant of the city's specific area of greenery. The green areas that are gaining the current objective of the study are of great importance because it represents recreation centers for the population and the clean breathe away from pollution and suffocation, in addition to their environmental and aesthetic role ,there are educational and social aspects performed by the community.

THE STANDARDS OF PLANNING TO CREATE A GREEN RESIDENTIAL SPACE

planning standards depend primarily on the space factor where planners proposed to allocate the percentage of the area of the city or the neighborhood area of green spaces (this percentage ranged for the total area of the city between 5-10 % and for the area of the neighborhood between 40-50% (Hassan and al-Hiti , p. 148)

Demographic factor where planners suggested that to determines the share of the person of greenery ,and the US Parks Department Affairs to allocate (40) m² per head of population while in most industrialized countries the share of person is (40-41) m² (Murphy, p. 477) .

1. The distance factor like near green spaces and easily accessible, in Sweden and Denmark under the law there should be a 300 m² of green space within 50 m of the 30 apartments ,in Britain ,the residents of the city have the right to the access to the park of at least an area of about 20000 m² within 300 m and a regional park of an area not less than (1) km² within 5 km (Hussein 2010, p. 33-34). In Iraqi cities, the Iraqi Ministry of Planning had adopted the standard (demographic factor) to determine the green areas in the Iraqi cities where the share of the person is 6.5 m² per head of population and this percentage, which constitutes only 16% of the allocated to the urban population in industrialized countries as shown in table 1:

(Table - 1) division of parks and determine the per capita share of greenery in Iraqi cities

park Type	individual / m ² share
Mahala Park	2
Park neighborhood	0.5
Sector Park	2
city park	2
Total	6.5

Source: (Ministry of Planning,1977 , p. 52).

From the study prepared by Paul Service in 1973 it has been proposed 5m² / person as standard ,it supported the green areas within the planning units (district + locality) like playgrounds for children , parks .In the light of various intensities and according to land that cut and distributed on the design that these spaces will increased to 11m² /person in the residential construction sites. The residential private gardens are the most types of green recreational areas in development and heavily used by families .And it is important to the whole city , as its index reach up to 12 m² / person , but their geographical distribution is not equal in all parts of the city.The plan for the year 2000 included another indication to account of green space for each person of the total population at the level of residential areas and were divided into three regions , a first and a second and a third and were given for each specific area of green space per person as shown in table -2 .

(Table - 2) green spaces indicators in residential areas

Size residential areas	Target residential area rate	Green space m ² / person
The first of the area	150 m ²	6 m ²
A second zone	300 m ²	4 m ²
Third area	600 m ²	3 m ²
5/2average person		

krinkels , landscaping , volume one: the source

Through the table , we find that the size of residential area is in anti relationship with the person share of the external green spaces and this is linked to increase the green space for each residential house and if there is an increase in residential density ,there will be an increase in the share of the person of green space as shown in the table above (Nouri , p. 26) . Also identified the general outline of the housing standards in the regulation of residential areas of different sizes for residential locality start from the smallest size of 2400 people , and 4800 and 7200 and 9600 and 12,000 people (Ministry of Housing, pp.122), And the locality consists of a group of residential groups , which range a population of 100-450 people clustered around the center of the locality .

It suggested that the planned distribution of green spaces are graded so that it will achieves completeness with the spaces of homes and also shown (Table 3)

(Table 3) planning standards relating to public green spaces planned for Housing

Space type	Emaar space users	The per capita share of space m ²	A total area of the space m ²	Access between the floor and the space distance
H Gardens	6-11year	5	-900	-300
Park	12-18 year	0	-1500	-800
	All ages		-----	800

the source: Ministry of Housing and construction, p.179

THE EXPERIENCES OF SOME COUNTRIES IN DEFINING STANDARDS FOR GREEN SPACES

1. Singapore City -South East Asia

The public green space for a person is 4 m² / person in 1973 and after the treatments and improvements and re-planning of the city, it improved in status and the person share of green space increased to 70 m² / person in 1992 and thus achieved exemplary success in this area like other successes and moved during the 20 years from the city of proverbial pollution and poor living to the city of the proverbial global leader in beauty and order ,and the new environmental level had improve the level of person income and has become an example for success in many countries in the developing world.

(Alabs 0.2003 , p. 62-63) .

2-Arabian experience / City of Tripoli planning

Awareness and interest in projects, parks and city beautification strengthened in the Libyan Arab Republic which recently began . There is increase in business in all the different activities like in schools gardens , stadiums, parks ,children Toys Gardens and expansion the streets and cultivation the sides of it to protect the public from the heat of the sun and to the city beautification. It is worth mentioning that it might have been planted more than sixty thousand different tree in the city of Tripoli alone in one year (a forestation and city beautification , 1982) .All cities and its accessories in the Libyan Republic may work with new plan ,which included ,modern housing places and services , transportation and commercial spaces , gardens and parks , especially for the people of the city of Tripoli

as it takes into account the steady increase of the population and the population in this city is 1 million and the share of the person is (20) m² of green space per person in that city , and as shown in Table -4 .

(Table 4), the per capita share of greenery in the city of Tripoli

the green Zone	Allocated (m ² / people) space
Parks	
Green spaces in residential area	
Green pitches	
Greenery in the streets	
Total	

Source: planting and beautification of cities, the Arab Institute for Urban Development , the Arab Towns Organization , 1982 , p. 236 .

The second topic analysis of the reality of green space as a standard demographic factor:

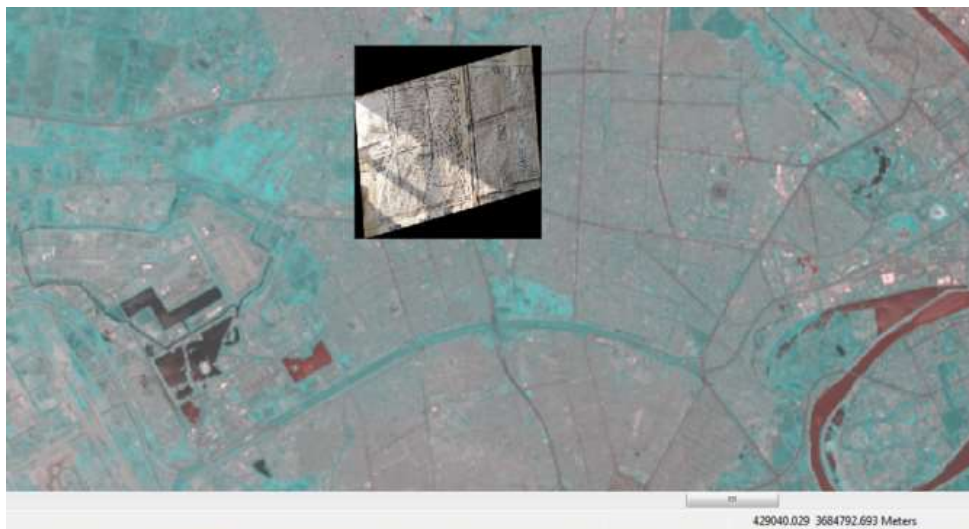
The choice is GREEN ZONE which is a residential neighborhood in Baghdad province and is divided to two locality 639 and 641, GREEN ZONE is located north-west of Baghdad and is surrounded by the Amiriya district from the south and the Ghazaliya from northwest and AL-GAMEAA district from the east. Contains one main street, and a main commercial street called STREET Zubair, and has a health care center (clinic) and a police station and the Centre for Civil Defense and many different shops, and the houses there with area of 600 square meters, and contains the first secondary school for the outstanding (boys and girls) in Iraq, in addition to a number of elementary and junior high schools, and also contains a number of places of worship (mosques). With the case of displacement between 2006 \ 2007, which increased the number of its inhabitants the house of 600m² were divided into five or six houses with an area of between 100 m² to 50 m² due to the difficult economic situation and the state's inability to find solutions to the shortage of housing units in a lot of families took refuge in cutting a housing unit to number of units to be sold either for profit or to marry off their children and to provide separate accommodation for them. To achieve the aim of the research we will try to assess and analyze the green spaces in the study area by comparing it with the standard of demographic factor adopted by the Iraqi Ministry of Planning and PAUL SURF study which identified the person share of 5 m² per head of population and depending on the data mentioned from various sources and we obtained satellite image from the Internet and (Figure 1) shows the site of study area (GREEN ZONE) within the city of Baghdad and using GIS technologies and the introduction of satellite image of the city of Baghdad and GREEN ZONE map and match them on the satellite image after patching them through Arc Map program as shown in (Figure 2) and by Editor tool the geographical phenomena and the limits of residential neighborhoods was painted (Figure 3). Through the Cut polygons tool the greenery locations in the neighborhood were identified where there are four gardens locate and also shown in (Figure 4). After calculating the area of parks green space through a program of GIS and using the tool Zoom to layer and then go to the Open Attribute table tool as shown in Figures (5-6-7-8), and comparing it with the approved standards the population for the base year 2016 was estimated depending on the population of 1997 and the rate of 1.26 growth and using the equation $P1 = p0 (1 + r) n$ and (Table 5) shows the locality area 641 and 639 and the number of the population of the last enumeration of 1979 and projection for the year 2016 and forecast for the target year 2025 and through the Arc map program the green area was measured as shown in shapes 5-6-7-8, that in reality the green spaces is much less than the rates and standards that have been saying 5 m² per person as a criterion, but after the calculation , which included living space and the number of population and parks area as shown in the table (table 6) shows the shortage with a person share 0.6 m² Furthermore there are wide places are distant and out of service as shown in Figure 8. Through the use of the Buffer tool and shape 9 shows the exploit places and proposed to turn them into parks to raise the person share of them and It provides easy-to- access places to be an outlet for young people , children and the elderly.

(Figure -1) satellite image of the city of Baghdad by a specific study area



Source: WWW.USGS.com.

(Figure -2) dropping Green neighborhood map and match them on the satellite image



Source: researcher

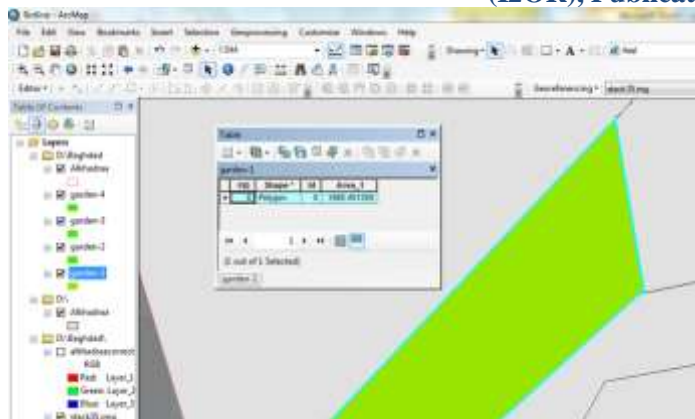
(Fig. 3) Drawing geographical phenomena and the limits of residential neighborhoods



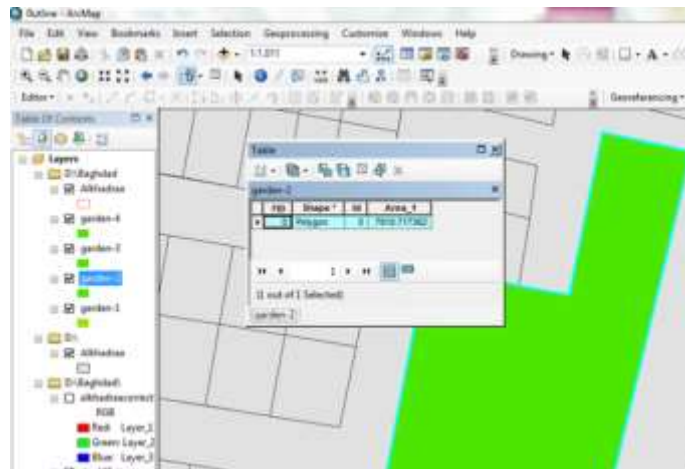
Source: researcher
 (Figure 4) shows the distribution of green areas in the green neighborhood



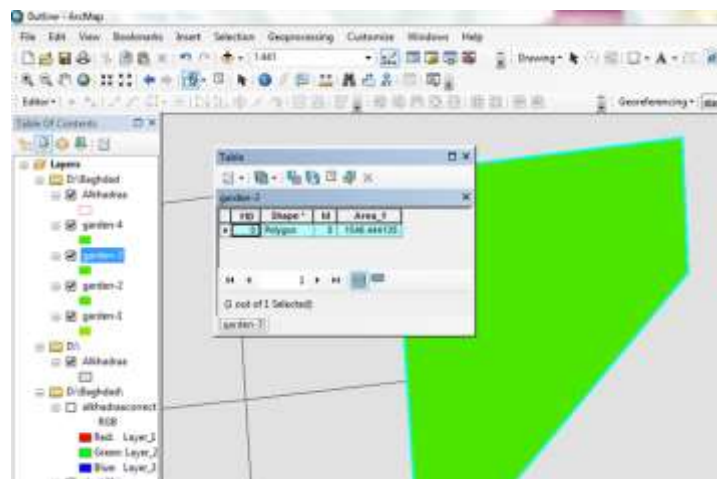
Source: researcher
 (Figure 5) shows park area measuring 1



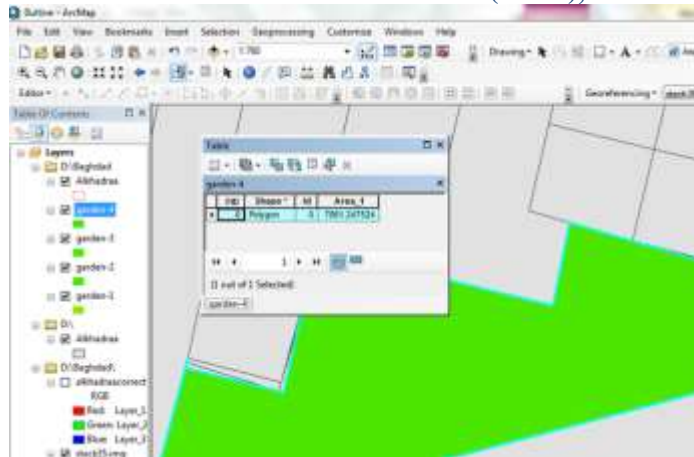
(Form -6) illustrates park area 2 measure



(Figure -7) illustrates the measurement of the park area 3



(Figure -8) illustrates the measurement of the garden area of 4



(5 -Table) shows the numbers of the population to the latest census projections

halla	ce / km	Population 1979	/ ections for 2016	dict 2025
	3515	0	83.56	41.80
	9315	58	45.65	83.18
al	2830	48	29.21	24.98

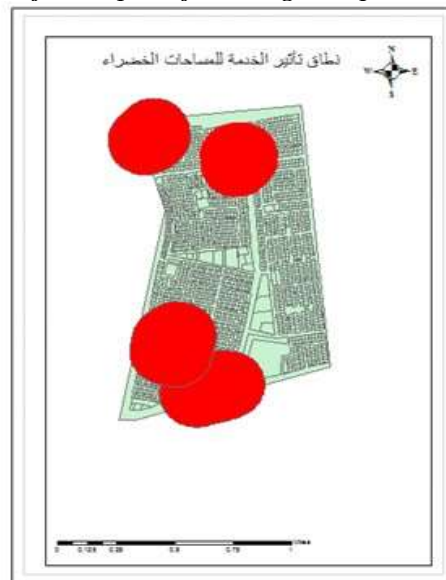
Source: researcher

(6 -Table) shows the per capita green area

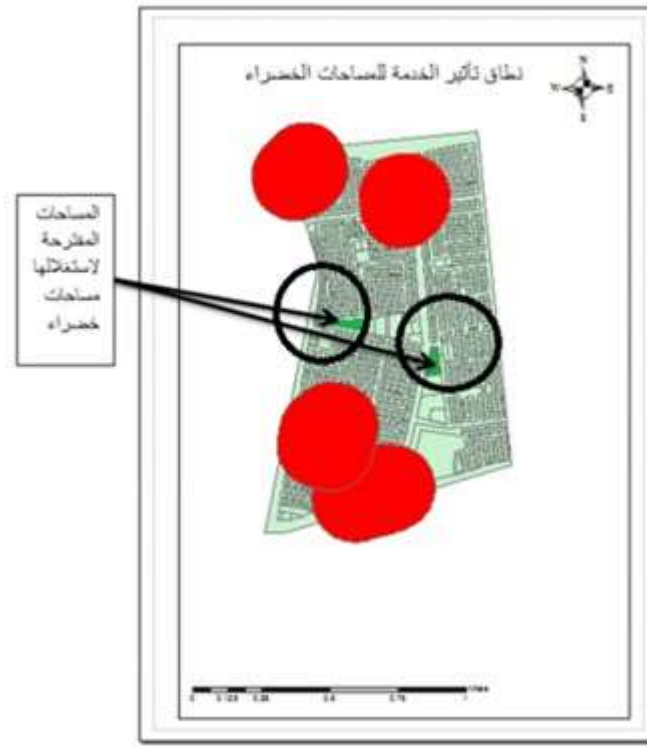
Source: researcher

District	Area / km 2	For the year 2016 population	Gardens area	M 2 / per person
Green neighborhood	2.52830	29229.21	19311.86	0.6

(Figure -9) the scope of the impact of service green spaces in the study area shows



(Figure -10) illustrates determine the proposed green spaces to exploit parcels



ANALYSIS AND CONCLUSION

- 1 - The total green area in the study area (119,311.86) which is a small percentage compared to the number of the population , particularly the number of population increase due to the number of displaced people to the area.
- 2 - The division of the residential area to the number of pieces led to surpass upon the private gardens leading the families to need an outlet as an alternative for private gardens .
- 3 - through the field visits to the gardens,the gardens were neglected and lacks many of the requirements that meet the needs of the population of children and young people and the elderly.
- 4 - Change in the use of land and the removal of large areas of private gardens which located within private property overlooking the street and converted into shops led to reduce the person share of gardens.
- 5 - The lack of clear legislation to preserve green space and prevent overtaking them.
- 6 - Lack of management and the preservation maintenance , rehabilitation, and outreach process used to preserve the public property.
- 7-The technological progress has big role in environmental control , they managed some of the harsh weather (desert) employing the techniques available to them and turn the desert to green space .

RECOMMENDATIONS

1. Use the empty spaces left near a AL-MOTAMIZIN (distinguished) school and near Ajnadayn school and turn it into a garden of variety of plants and can be customized to be partly educational for school students, and also entertaining and lead at the same time the environmental role of the neighborhood and achieves the aesthetic side.
2. We can educate parents to use the surfaces and turn them into gardens as an alternative to the green space that has been converted to a building and it will be an outlet for them as well as it can bring them a profit through the planting the vegetable crops that needed by the family to daily use .
3. awareness neighborhood youth to plant the pavement that in front of the houses with trees and climbing plants, that will achieve environmental and aesthetic aspect and lower the temperature and reduce dust.
4. It is noted during field visits to the region that the moderation carrots were neglected because of the security situation of the country and that if it has been planted would achieved the aesthetic aspect and environmental role

and ,so activate the youth and students of schools and social organizations role and even mosques in organizing campaigns to donate plant , organize, thus fulfilling the educational role and Human Development and the preparation of community a sense of responsibility towards the neighborhood

5. make good efforts to increase the green areas through the selection of appropriate plant species that withstand the extreme climatic conditions and suggest techniques for the operation and maintenance of the employees in the secretariats to develop the level of services.

REFERENCES

- [1] Abdullah , Pasem Raouf and others , Study the conditions of the inhabitants of the residential buildings in Rusafa (Zayouna) , General Organization for Housing , Design and Studies Department , in November 1982 .
- [2] Nouri , Alaa Abdul-Kadhim , Functionality of green spaces in residential areas , Master Thesis , Department of Architecture , University of Technology , 1989 .
- [3] Obaid, Essam Ali , 1981 , in the open spaces of the modern Iraqi Architecture , Master Thesis , Faculty of Engineering / Architecture Department , University of Baghdad .
- [4] Hiti , Sabri Fares , Urban Geography , 2010, the Dar Al Safa for Publishing and Distribution, Amman
- [5] Hussein , Abdul Razak Abbas , Urban Geography , Asad Press , Baghdad, 0.1977 .
- [6] Alabs , Abda Thabet , "green space planning in the cities and their impact on the environment ," Journal of the Faculty of Engineering / University of Sanaa , No. / 1 - the first volume in 2003 .
- [7] afforestation and beautifying cities, the Arab Institute for Urban Development , the Arab Towns Organization , 1982 .
- [8] The Ministry of Planning , Housing and Human Settlements Division (principles and criteria of Urban Housing) , 1977 .
- [9] Krinkels," Landscaping ,Recreation ,zawra park" , Amanat-Al-Assima, Volume one , Baghdad , 1981 .
- [10] Mare land , 'Environmental impact statement glossary' U.S.A., 1979
- [11] Murphy , Raymond E, The American city An urban Geography , Mc. Graw-Hill-Inc. , New york , 1971 .
- [12] Hinisstry of Housing and construction , " State organization for Housing , Housing Technical Standards and cods of practice " , Report Two, Iraq , Baghdad ,1982 , pp.122.