

The importance and distribution of green spaces and their design systems in cities (The City of Alamara Case Study)

Mohammed Arab Almusawi ¹

Abstract:

The study aims to identify the form of geographic extent of green spaces and the actual high density Centre of population and urbanism and the expected one. Also, the study aims to identify the connection of green spaces with population distribution and urban extent in addition to the suitability of their characteristics and advantages in the city according to the two domestic and global standards.

The questionnaire was randomly distributed to a sample of 15521 people, 2 percent of the total number of families in the city of Amara which was 77646 families as estimated by the Central Statistical Organization in 2018. The study has a group of conclusions and recommendations, the most important of which are the lack of investment awareness in the field of gardens and public parks in addition to the lack of economic return estimate of green spaces. Also, the city of Amara has planning problems in using green spaces because of the spatial variation among the city areas and its residential stores

Keywords: *green spaces, open areas, parks, gardens.*

Introduction:

Green spaces are spaces or places within a community or a geographic region controlled by a plant element. Green spaces represent a physical need to the city besides their helping necessity to purify the air since plants produce oxygen during the day and consume carbon dioxide through photosynthesis. With regard to urban planning, green spaces cause a break in the urban fabric, but they add a formula of beauty to the urban areas. They are a lot and various and each one of them has its particular use and special handling. Green spaces are very essential element for any city that seeks to achieve comfort element, prevention and picnicking for its people. They are also considered to be the lungs of the city in addition to their being of the most important wanted services for people because of their benefits and effective impact in improving people's health level, their pleasant looking and their having good effects on the souls.

¹ Department of Geography - College of Basic Education - University of Misan. alshra652@uomisan.edu.iq.

The research problem is centered on the following questions: - What is the role that green spaces play in the planning of the city and what is the importance of these areas? . What are the challenges that face providing the necessary services of green spaces? . What is the reality of green spaces in the city of Ammara and if there is enough green spaces?

The importance of the research:

- Knowing the reality of the green spaces in cities and the reasons which led to their degradation.
- The attempt to know the correlation of green spaces and its size with the urban environment.
- Knowing the portion of an individual and a family of green gardens and highlighting the spatial disparity.

Methodology:

On the subject of the study, it was depended on the depictive analytical method that aims at analysis and interpretation to understand the phenomena studied and the used methodology should be serial. Also, the questionnaire and the field survey of green areas in the studied region were used as well as using special maps of the city of Alamara marked with green areas using geographic information systems.

The study area (the city of Alamara):

The city of Alamara represents the center of Misan Governate as the governate is located in the south eastern part of the Republic of Iraq, and it takes the north eastern, south western of Misa Governate. Misan is between latitudes (15 - 31 degree - 45 - 32 degree) in the north and between longitudes (30 - 46 degree - 30 - 47 degree) in the east. Misan Governate is bordered to the north and northwest by Wasit Governate, to the south by Basra Governate, and to the west by Dhi Qar (4) Governate, while it is bordered to the east and north east by Iran, map No. 1 . The governate has an area of (16072) square km. and includes 6 districts with 9 subdistricts as this represents (3.7%) of Iraq's area which is (435025) sq. Km. The area of the city of Ammara within the municipal boundaries is (48. 5) sq. Km. . which means (0.3 %) of the governate's area. Misan Governate mediates urban agglomerations. It is borded to the north by Kumait subdistrict which is (40 km.) away. It is borded on the east by the two Almashrah subdistricts, (30 km.) away, the Kahla subdistrict (24) km. , the south by Almajer Alkabir and the Citadel of Saleh, with a distance of (32 km. , 37 km.) respectively, and from the west Almaymouneh with (22 km.).

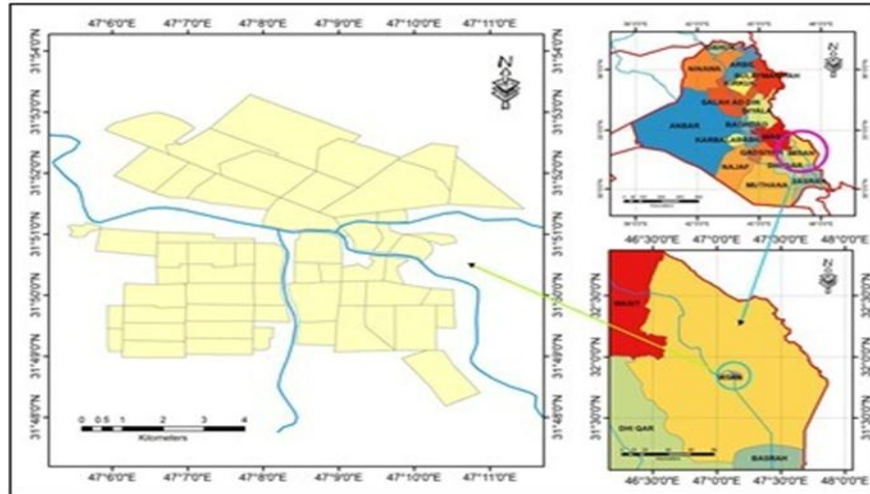


Figure 1 : Map Geographical location of the Al- Amara city

The surface of the city is characterised by flatness in general. According to its climate, the annual average temperature in the city has reached 24 degrees Celsius. There is a variation in the months of the year in which the temperature rises in summer, especially in the months of June, July and August when it is not less than 36 degrees Celsius. The average temperature for these months is 35 degrees Celsius. The highest temperatures are recorded during the month of July, with an average maximum of 45 degrees Celsius and a minimum of 29 degrees Celsius. Temperatures decrease during the month of January and February. The average for these months reached 13 degrees Celsius. The northwest wind is prevailing over the city. (ALmusawi 2016).

Per capita of green spaces:

In the 1960s, the planner Simmons determined an average of 90 sq. m. for the family and stated that the percentage of green areas in the city should not be less than 10%. Also, Paul Ritter determined 10 sq. m. Of recreational green spaces per person (Alzaaffarani, 2003). In the nineties, a number of international organizations such as the United Nations Environmental Program UNEP or the European Union and others as well as some of the municipal institutions , without disagreement, tried to establish a quantities standard that define the minimum of green areas required to be provided. This minimum ranges between 12 m. to 16 m. per person. Most developed countries achieve this number twice. In most European countries, the number is between 40 - 20 m. per person (Alsayed , 1998). This number remains a useful indicator for those who reach or are close to this number. Several factors control this indicator such as: Population density: the higher the population, the lower per capita of green spaces is, and the reason that the occupancy of the largest space in the city with the residential buildings. The degree of urbanization in the country: the developed countries always strive to increase the number of gardens in the city, so that to suffice the needs of the residents. These countries put environmental matters on the top of their priorities in order to improve human health, preserve the environment from pollutants and improve the overall appearance of the city. Examples of this, Brussels 29.2 sq. m., Glaxo 55.6 sq. m. Vienna 124. 6 sq. m. in comparison with Cairo 1.5 sq. m. and Baghdad 1 sq. m. (Berman2008)

The planning standards to construct green spaces:

It is important to achieve the aims and the purposes to plan public spaces (garden spaces) by the integration of the set of the elements altogether and the situation conditions. Also, it is essential to have an environmental specialist to understand climatic conditions of the area besides having a specialist of botany and soil. In addition to that, it is important to clarify the design standards of gardens such as harmony, balance and determining the center of rule and correlation. (H, k 2007) According to the previous points, it is important to have a map of the whole area to find out more of its domestic characteristics. On the other hand, going back to old maps and survey works can help to get historic details that may have direct connection with planning and design since the existence of green spaces in big cities is very essential because of their effects on reducing air pollution and improving it for breathing. Also, they improve local climatic conditions in cities and reduce the effects of auditory and visual pollution (Cullingwort, 1972).

The assessment of the efficiency standards of area and population with regard to green spaces in the city of Alamara, 2019:

The area of public gardens and parks in the city of Alamara was 925000 m square (Alamara Municipality directorate, 2019) . The portion for each person of this area was 6.0 m square. This portion was very little according to the local standard which indicated that each person should have 6.5 m square. So, as can be seen, the city suffers a major shortage of green spaces. As a result, to improve the situation of services in the city of Alamara, the city should have 841379 m square of green spaces to compensate for the shortage according to what the planning standard identified.

The research results:

1. Most of Arab cities suffer from shortage and neglect of gardens and green spaces in addition to the existence of contradiction between the numbers of population and green spaces in a way that doesn't fit the International standards.
2. There are no binding rules in the urban planning of the new cities to create gardens and parks such as determining the area of gardens and parks and its fitting for the size of the cities and residential neighborhood as well as administrative ones. Also, it should be taken into consideration the available natural resources, for example, water, nature and soil.
3. The lack of the investment awareness in the field of gardens and public recreational areas in addition to the estimate of their economic return.
4. The city of Alamara suffers from planning problems in using green regions since there is a spatial disparity between the city regions and its residential stores.
5. Most of residential areas lack to public gardens, recreational areas and green spaces in most sectors of the city of Alamara.
6. The city of Alamara suffers from a lack of gardens especially in the heart area of the city which lacks to these open green spaces. As a result, it is necessary to keep what is actually existed. In addition to that, there is a disparity between the numbers of population in the sections in a way

that doesn't fit the International standards which makes it necessary to go back to the guide of the bases and standards of civilized coordination.

7. The actual existed gardens don't conform with the global standards neither with the design and available infrastructure, being equal to the numbers of population that they serve or the services that they contain.

8. Green areas are 925000 m square which are equal to 92.5 hectares with 1.9% of the total area of recreational areas and green spaces in the city of Alamara which indicates that they disproportionate to area and population.

9. The field study shows that the degree of satisfaction with the green spaces services is little with an arithmetic average of 2,45. This degree indicates the absence of attention of those who are in charge of green spaces inside the city.

The research recommendations:

1. The need to take care of gardens and green spaces in cities and allocating areas to them spread across the residential units which aim to cover the population's needs. Also, there is a necessity for a comprehensive database of gardens to be able to put appropriate development plans to develop these services. This burden falls on those who are supervisors and in charge of gardens.

2. Providing basic infrastructure to construct gardens and parks within the framework of urban planning in a way that achieves recreational sufficiency for the population in the city.

3. The necessity to allocate areas for gardens spread across the residential units and are proportional to the numbers of population in them.

4. The interest to provide the necessary infrastructure to construct gardens that are proportional to the needs of the population.

5. Preventing urban sprawl and building on lands for parks or gardens in the city of Almmara. This can be done by increasing environmental awareness of the importance of gardens.

6. Applying the principle of justice when distributing gardens, parks and green areas throughout the city, especially green spaces and children's play parks.

7. Reducing the excesses on green areas, public gardens and parks as well as providing necessary services for them.

8. The joint corporation of the population to form special committees that are concerned with beautifying the residential neighbourhoods and areas across the city of Almmara alongside the increasing of afforestation of green spaces and paying attention to their cleanliness.

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