Assessment of facilities quality in historical center of Baghdad

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Abstract. Research is based on assessing and measuring quality of facilities provided and extent of residents satisfaction with them in locality in Al-Jumhuriya neighborhood of historical mixed use center in city of Baghdad. It is one of most important urban lands uses in city, and also issue of quality has become important in planning Cities to assess extent of residents satisfaction with urban quality and through its multiple indicators, including those related to economic and urban quality, facilities and management, as well as social quality. Comfort, safety, and meet all requirements of living and quality of life.

Keywords: facilities, city center, Baghdad, quality, urban

1. Introduction
Facilities are very important as they are considered an inevitable necessity due to urgent need for them, and no can do without these facilities. Life cannot be without presence of a specific type of these facilities. The city center is distinguished by presence of various facilities Administrative, social, infrastructural and others, as for shops in it, they are like any other locality that needs service sector, but continuously and largely, due to specificity of region. It is characterized by crowding and is considered heart of life, as well as a center for commerce and administration and a cultural and historical center that represents heritage of Iraq. Hence, it is imperative to look at extent of adequacy of facilities in historic Center in Baghdad city, by measuring degree of satisfaction of people in terms of a basis for measuring quality of facilities in city center.

Study problem: Insufficiency and quality of facilities and level of population satisfaction in Baghdad. Hypothesis: Measuring and evaluating quality of facilities and determining level of satisfaction of population helps to clarify adequacy of facilities in study area. The aim of study is to assess and measure quality of facilities and satisfaction of population with them in order to improve and provide them in a manner that helps to adequacy and achieve continuity in them, thus achieving a state of satisfaction among population and helping to meet their daily basic needs of facilities provided.

2. Theoretical Frame
2.1. Facilities in City
Facilities are an essential element of social and economic development. Through facilities, state can establish necessary social and economic concepts for society, so these facilities must be inappropriate places according to needs of population and according to planning standards set for them.

2.1.1. Defining city facilities. According to standards set by official authorities in specialized ministries such as Ministry of Housing and Public Municipalities, they are facilities and services provided to population in city according to residents need and.

2.1.2. Planning public facilities in city [1]. Public facilities are institutions and facilities that are constructed for population to use. The organization of public facilities and services in city is considered a goal and a means, an aim to make facilities accessible to population to serve various purposes of society and achieve the desired standard of living, and a mean if public facilities are
established on an appropriate link to develop the social spirit and create a community with belonging real for the homeland. The actual needs of the population are determined by studying the function and extent of the impact of public facilities and facilities that already exist through [16]:

- The needs of individuals and groups: housewives, youth, elders.
- Population trends and their social habits.

These facilities must be close and available to home:

- Daily needs food.
- Needs less frequent shaving, etc.

- Rarely demanding needs can be in city center, so general idea in distributing public facilities on city roof is to create a hierarchy of required facilities (in terms of size, number of inhabitants, corresponding to them. It is noted that among facilities that are required for a minimum number of residents justification Its economic establishment, such as educational facilities - health facilities, stores, and other facilities can be created according to size or according to number of people who are created for them, such as public parks and basis of appreciation in them is what is decided as a minimum for a share of one person. Therefore, a hierarchical scale is taken for each of facilities: Education, health, stores (as a nucleus, each of which defines a residential group that it follows and fits with one another, because each has a special scope of influence, and to which other facilities are added to extent that population of each group is equivalent to following: Educational facilities, Health Facilities, and Shops).

Public facilities are considered a human activity, as many sciences participate in study of this phenomenon, and accordingly, definition and division of public facilities vary from one direction to another, and therefore public facilities include education and health facilities, parks, sports clubs, social and cultural centers, media, religious facilities, and other facilities. Land uses for service purposes are also classified as follows: Educational facilities, Health facilities, religious and administrative facilities.

2.2. Distribution of Facilities according to City Level

Facilities and facilities are considered one of main elements in functional construction of cities and towns, as well as places of work, housing, transportation, and entertainment, and it is not hidden that any palace or defect in one or more of these elements will lead to failure of city’s functions to be optimized and thus citizens are negatively affected directly. One of most important practical goals of planning is to provide a decent life for citizens. Moreover, to create an atmosphere conducive to living, work and rest in a way that ensures development of their scientific, social, cultural, and economic capabilities and develops their creativity. Process of providing facilities plays an important role in achieving these goals.

Depending on classification of residential areas, service buildings can be divided according to need into three groups as follows:

A- Facilities buildings to meet needs of citizens at locality level, such as primary schools, nurseries, and local market, playgrounds for children

B- Service buildings at district level include preparatory schools, fire stations, playgrounds, green areas for adults, and a police department.

C- Service buildings at city level, such as theaters, buildings, financial departments, postal agencies, and green areas.

3. Quality in City Center

3.1. Definition of Quality

There are several definitions of urban quality, language, procedure, and convention, as follows:

- Defining quality as a language [3]: It came in Arabic dictionaries that quality means that a thing is good and its action is serious in perfect work. As for English dictionaries, Wester dictionary indicates that quality is “a distinct and necessary feature, a degree of excellence, and quality in
general means “some signs, or indicators by which an object can be identified or understood. Concept of quality refers to the Latin word Qualitas, which means distinction or excellence [4].

• Definition of procedural quality: means conformity and suitability according to standards, applicable controls, needs, and requirements, as quality is the responsibility of the individual for design, and this indicates the principle of social participation of individuals in developing and managing future and action plans.

• Quality idiomatically: it meets moral needs and desires that affect the extent of satisfaction with the implementation of service. Quality represents leadership in responding to the requirements of citizens and excellence (perfection, control, and accuracy) in the performance of planning and implementation.

3.2. Quality of Life is Defined by Theorists

• Urban quality of life: Quality of life is individual perception of his living situation within context of culture and values systems in society in which he lives and relationship of this perception to his goals, expectations, and level of interest.

• Abdel Mauti defined it as process of raising level of material facilities provided to society and embarking on a lifestyle characterized by luxury. This pattern can only be achieved by society, as Crosby defines it as conforming to requirements, while Juran defines it briefly, because quality is appropriate for use [5]. It has been defined by some theorists as follows [6]:

• Szalai (1980): Quality of life refers to the degree of distinction or satisfactory life character. A person existential state, well-being, satisfaction with life is determined in terms of facts and external factors (“goal”) of his life and, on other hand, from perception and self-evaluation of these facts and factors, of life and of himself.

• WHO-QOL 1993) group: an individual perception of his situation in life in context of culture and value systems.

• RIVM 2000: Quality of life is material and immaterial equipment of life, and its perception is characterized by health, living environment, legal and fairness, work, and family.

In a schematic model formulated by World Health Organization in 2000, health and living are paralleled as separate dimensions of quality of life, as in Figure 1, and treated as aspects of a dynamic process (transactions). The model examines a range of measurable spatial, physical and social aspects of environment and its visualization. This perception is not only related to objective characteristics of environment but also personal and contextual aspects.

![Figure 1: Outline of basic elements of quality of life, health and daily living environment](image)

3.3. Urban Quality [8]

Urban quality is defined according to Urban Design Handbook (for City of Woodbrook 2009) as:
Policy or management for high-level planning and development is effective to enhance the sense of place with good position. It considers the principles of good and sustainable planning for development and development of the city to achieve spatial sustainability [17], and a high-quality and attractive urban environment that works on social cohesion and interaction according to mechanisms that support comfort and safety, Safety, and luxury. Among the most prominent of its goals are:

Achieving a medium and sustainable urban density to enhance a variety of residential models and a high-quality living environment and attractive housing creates a dynamic advantage by creating a cohesive urban structure based on it [14].

4. The Concept of City and its Center
It is a description of civilization, and it is a place where people spend a civilized life and contribute as members of society, and in development of this life, which ensures best conditions and best capabilities. Some researchers also describe it as a high-density population gathering in a specific spatial space with certain limits, and it provides various judicial, religious, administrative, economic, and social facilities to surrounding areas [15]. Based on this, "City is not confined to its physical boundaries as in old cities confined between its walls. The city belongs to a system of intertwined relations between it and what surrounds it, and farthest from that between it and between other cities within other regions, as this relationship is what determines its strength." And its spatial power, as well as economic" [18].

As for city center, It was defined by Dal (1993) [12]:
A city center can be defined as a city node, a meeting place for major hubs, and an area for largest urban activities, including administrative buildings, banks, major commercial establishments, and cultural and religious needs of public life. From foregoing, city center combines following characteristics: "It is appropriate point for accumulation and representation of all ideological concepts and symbols of an administrative and cultural nature. The various economic, social, cultural, and administrative activities are most attractive, vital, and active area within city.

5. City Center Function
Despite diversity of centers, this central place of city includes a set of jobs, perhaps most prominent of which are following [13]:

1- The commercial function: has evolved in modern and contemporary cities, and markets have become a dominant feature in these cities.
2- Spiritual function: This function was concentrated in temples of Romans, Greeks, mosques among Muslims, and church in Middle Ages, and no center was devoid of this function, except for modern secular cities in which this function was confined to ancient churches.
3- Social function: This function is represented in meeting and social exchange between people and those coming from other suburbs; city center is preferred place for meeting of different social strata and spending leisure time, whether on occasions or during trials in Roman Forum, and prayer at Muslims, as well as Christians during normal times, such as Agora for Greeks, as well as the market, café, squares, and baths
4- Cultural function: for Greeks, Agora is a center for cultural exchange and dialogue, and mosque and its surrounding schools in Islamic city are a source of culture and science. In contemporary modern cities, this function is represented in museums, cinemas, and theaters, which are concentrated in city center.
5- Comfort and leisure function: City center usually contains cafes, public squares, and parks for rest and entertainment.

6. Study Area: Al-Dahana and Qanbar Ali
To determine quality standardization of facilities in study area, which will be by measuring level of satisfaction of residents of Qanbar Ali and Dahana, within Municipality of Rusafa Center. This will
be through conducting a population questionnaire through questions related to indicators of quality and through questions that have been derived from theoretical side to find out extent of residents satisfaction with facilities provided to them in their residential area.

6.1. Historic Overview
Study area is part of important historical areas in city of Baghdad, whose history extends over successive stages. These stages have added to it new features and morphology that changed urban formation in it, and most important characteristic of urban historical centers is their distinct moral value and history. Cultural and scientific, as Baghdad was a center that flourished with science, art, and culture, it was Baghdad in past, and before Abu Jaafar al-Mansour conceived it, it was mentioned in Chaldean and Babylonian codes, as well as Assyrians and some Arab codes before and after Islam. The Islamic history of Baghdad began when Abbasid Caliph Abu Jaafar al-Mansur decided to build his new capital instead of Anbar, so his choice fell on this fertile region that mediates regions of his state. The area was located between several inhabited villages in Monasteries. It is located on western side of Tigris River and to south of currently sacred city of Kadhimiya (figure 2). No remains of city have been discovered, and it has lasted for more than 300 years after its existence.

6.2. Land Use Distribution
The land used in study area is characterized by poor organization. Furthermore, there is a clear invasion of commercial activities at expense of housing, as wholesale trade occupies a central part in it, and this makes it central sites despite its effectiveness as it serves a limited number of residents from outside area of shoppers, and visitors to area and thus transforms nearby areas and surrounding them, to inactive areas for storage. The following are most prominent land uses in study area (table 1):

A- Residential use: It occupies about (19.58) %. The residential areas are characterized by a compact organic pattern and are in middle of roads and tracks axes (figure 3).

B- Roads: It represents (44.31)% of study area, and it has several main types, secondary, pedestrian, public roads, main and public intersection, and most prominent public roads are Al-Khulafa Street in south of region, and Ghazi Street in north, surrounded by several public squares and intersections such as Al-Wathba Square, The Secretary is in Al-Khulafa Street in south, Al-Wasi Square, and Zubaydah in Ghazi Street in north. The main path in center of study area represents old Thulathaa market and section representing middle, which extends

![Figure 2: Al-Rusafa area after its establishment. source: Baghdad municipal](image-url)
from shrine of Sheikh Abdel Qader to Al-Midan Square.

C- Commercial use represents about (18.39%), as it occupies a large percentage of studied area. It is distributed on axes and tracks of study area (figure 3).

D- Mixed use: commercial, industrial, administrative works, and it represents (9.38%).

E- Religious and cultural use represents (0.87%) of study area and represents main nodes in study area and major axes in its spaces, such as Khulaphaa Mosque.

F- Social Facilities (figure 4): Primary and secondary schools represent (1.34%), and there is no dispensary or police station. As for parking spaces (4.77%), and open spaces (1.27%).

**Table 1**: shows current land use ratios (2020)

| Exist land use | Density | Rate  | Area / ha |
|----------------|---------|-------|-----------|
| Mixed use      | 1682    | 19.53%| 7.32      |
| Commercial     | 1052    | 31.23%| 11.70     |
| Education      | 11171   | 2.94% | 1.10      |
| Religion       | 23583   | 1.39% | 0.52      |
| Residential    | 850     | 38.63%| 14.47     |
| Open space     | 12198   | 2.69% | 1.01      |
| Parking        | 9148    | 3.59% | 1.35      |
| Total area/ha  | 328     | 100%  | 37.47     |

Source: researchers/2020

**Figure 3**: shows study area and intensity of each of current uses
7. Quality Measurement in Study Area

7.1. Measuring Sample Size
To identify appropriate sample size to achieve objectives of research, a formula for measuring sample size equation (Richard Gager) was adopted, so that sample size is (62), and it was found that:

\[ n = \frac{373}{6} = 62 \]

There are (62) questionnaires were distributed randomly, and results were obtained. Quality is achieved through process of measuring degree of satisfaction of residents by answering main and secondary indicators deduced from theoretical chapters, and by using triple Likert scale and extracting weighted arithmetic mean of research sample, whose number is (62) questioned, through following equation:

\[
\text{Weighted arithmetic mean=} \left( \frac{3 \times \text{good}}{62} + \frac{2 \times \text{middle}}{62} + \frac{1 \times \text{bad}}{62} \right)
\]

As for the decision, it shall be according to the following degrees:

|  | good | middle | bad |
|---|------|--------|-----|
| 3 | 2,33 | 1,66   | 1   |
8. Analysis of Results

8.1. Analyzing Results of a Population Questionnaire

One of most important indicators affecting satisfaction of population is availability of basic and essential facilities in their daily life (table 2), and this depends on response of local and municipal authorities to availability and continuity of these facilities for sake of citizen well-being, comfort, and safety, and fulfillment of all his basic requirements such as clean water and electricity, and infrastructure facilities such as sewage, disposal from waste, as well as community facilities such as availability of mail and communications.

Table 2: Results of level of satisfaction related to indicators of quality of management and main and secondary facilities for residents

| Questions for secondary indicators                                                                 | Good | Middle | Bad  | Weighted mean | sample | Rank | Main variable | Indicator of urban and facilities |
|---------------------------------------------------------------------------------------------------|------|--------|------|---------------|--------|------|---------------|----------------------------------|
| Level of service provided by telecommunications and internet providers                            | 12   | 25     | 25   | 1.8           | 62     | Middle | Indicator of urban and facilities |
| To what extent municipal authorities respond to complaints of lack of or poor service             | 8    | 32     | 22   | 1.8           | 62     | Middle | Indicator of urban and facilities |
| Extent of efficient management of waste disposal and recycling                                    | 8    | 12     | 42   | 1.5           | 62     | Bad   | Extent of efficient management of waste disposal and recycling |
| Extent of obtaining safe drinking water                                                            | 19   | 14     | 29   | 1.8           | 62     | Middle | Extent of obtaining safe drinking water |
| Extent of your self-reliance to ward off natural and abnormal dangers(floods, torrential rains, earthquakes, high temperatures, crimes, terrorism) | 6    | 27     | 29   | 1.6           | 62     | Bad   | Extent of your self-reliance to ward off natural and abnormal dangers(floods, torrential rains, earthquakes, high temperatures, crimes, terrorism) |
| Extent to which green and open areas can be enjoyed                                               | 2    | 11     | 49   | 1.2           | 62     | Bad   | Extent to which green and open areas can be enjoyed |
| How do you feel about inclusiveness, positioning, and management of center                       | 9    | 16     | 37   | 1.5           | 62     | Bad   | How do you feel about inclusiveness, positioning, and management of center |
| Extent of your satisfaction with availability, variety and quality of facilities                  | 10   | 15     | 37   | 1.6           | 62     | Bad   | Extent of your satisfaction with availability, variety and quality of facilities |
| Extent of coverage of all facilities (electricity, water, communications, transportation, sewage, health facilities, educational facilities). | 10   | 14     | 38   | 1.8           | 62     | Bad   | Extent of coverage of all facilities (electricity, water, communications, transportation, sewage, health facilities, educational facilities). |
|                                                                                                  | 9.9  | 18.8   | 33.3 | 1.6           |        |       | Extent of coverage of all facilities (electricity, water, communications, transportation, sewage, health facilities, educational facilities). |

Also, availability of nearby schools, kindergartens, and health centers in area, as well as emergency facilities in dangerous situations that region is exposed to, such as security and safety from crimes, fires, and emergency accidents, all of them, as there must be flexibility in dealing with them as quickly as possible to avoid Material and human losses, this indicator was of a poor level at levels of all main and secondary indicators if all questions express citizens dissatisfaction with facilities provided to them and that there is a clear deficiency in them (figure 5). There is also a clear imbalance in process of urban management in this region through apparent negligence in it. And urban landscape is distorted due to abundance of waste and spread of water and other inappropriate views as an area of interest, central, and attractive to various functions (table3).
Table (3) Results of level of satisfaction related to indicators of management quality and main and secondary facilities for shop owners

| Questions for secondary indicators                                                                 | Good | Middle | Bad  | Weighted mean | Management and facilities quality index |
|---------------------------------------------------------------------------------------------------|------|--------|------|---------------|-----------------------------------------|
| Extent of cooperation, communication, and response from municipal authorities to improve service   | 4    | 8      | 18   | 1.5           | Bad                                     |
| and prevent abuses in area                                                                       |      |        |      |               |                                         |
| Availability of transportation and parking spaces in or near your work area                       | 5    | 7      | 18   | 1.6           | Bad                                     |
| Extent of efficient management of waste disposal and recycling                                    | 4    | 9      | 17   | 1.6           | Bad                                     |
| Extent of easy and easy access to safe drinking water                                            | 6    | 8      | 16   | 1.7           | Bad                                     |
| Extent of your enjoyment of self-reliance to prevent natural hazards and safety from accidents    | 3    | 6      | 21   | 1.4           | Bad                                     |
| (fire, electricity, crimes, high temperatures, floods, earthquakes).                             |      |        |      |               |                                         |
| Extent to which community facilities can be accessed and obtained (banks, courier facilities)     | 6    | 5      | 19   | 1.6           | Bad                                     |
| Extent to which green and open areas can be enjoyed                                              | 2    | 6      | 22   | 1.3           | Bad                                     |
|                                                                                                  | 4    | 8      | 16   | 1.6           | Bad                                     |

8.2. Analyzing Results of Survey of Shop Owners

One of most important indicators affecting satisfaction of shop owners as a work environment for them to meet daily needs of transportation and waste treatment facilities as well as a safe work environment is extent to which these basic and essential facilities are available in their daily life, and this depends on response of local and municipal authorities in providing and maintaining these facilities for sake of citizen well-being. And its comfort and safety and fulfilment of all its basic requirements such as clean water, electricity and infrastructure facilities such as sewage and waste
disposal, as well as community facilities such as providing mail and communications, as well as emergency facilities in dangerous situations that region is exposed to, such as security and safety from crimes and fires, and all emergency accidents as there must be flexibility in dealing with them as quickly as possible. In order to avoid material and human losses, this indicator was of a poor level at all levels of main and secondary indicators if all responses to questions express dissatisfaction of shop owners with facilities provided, and that there is a clear deficiency in them, and there is also a clear failure in process of urban management in this region from During apparent neglect and distortion of urban landscape due to diffuse waste and spread of water and other inappropriate views as an important, central and attractive area for various activities.

9. Conclusions and Recommendations
City facilities are of great importance because they are one of most basic needs of citizens. Therefore, historical city center has many advantages and requires many daily essential facilities throughout the day. Also, quality of city life is one of the most important foundations of new urban development, and it helps to promote city vibrant city and its center. Most important results of measuring degree of satisfaction were poor and express dissatisfaction with area residents with facilities and management systems in their area of residence.

The research recommends paying attention to city center as it is basic nucleus of city as a whole and main axis of business and basic functions in it. As well as setting an urban policy that takes into account urban quality in city and its historical urban center, especially development and rehabilitation of all infrastructure facilities as well as social facilities, with an emphasis on paying attention to city management, especially Facilities side, with participation of residents and shop owners in participating in development of their area for "Sustainable urban quality".

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Acknowledgment

Thanks to residents of study area and owners of shops in it. And special thanks are presented to Dr. Jamal Baqer for his guidance in preparing questionnaire form.