

Spatial Analysis of Urban Housing function Variables in Cities of Iraq (The city of Hilla as a model)

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Abstract

The residential function is considered one of the most significant functions as it is a humanitarian function that works to achieve the stability of the family and reassurance of the individual inside the house. This study was concerned with analyzing the urban variables of the residential function and revealing some of the problems that these variables suffer from and providing appropriate solutions to them. The urban variables were the history of residential construction, the area of residential plots of land and the building materials of the residential unit, which included the building materials of the walls of the residential unit and the material of the roofs. The variables also included the number of floors of the residential unit, the number of total rooms and bedrooms in the residential unit, the connection of the residential unit, the design of its model and the modification of the residential unit. This research aims to identify the problems of the residential function and provide appropriate solutions to them.

Keywords: *Family, Housing units, pointers, Hailla city, Residences.*

1. Introduction

Housing is one of the most important and necessary requirements such as food, clothing and clothing. The need for housing is a life need related to the type of life that an individual lives, the level of goals that he seeks to achieve and the type of professions and activities that he practices. Housing is not only a place to shelter, but also a place for socialization and a place to establish family ties. The importance of the housing function increases day by day and its development depends on the development of other functions and uses.

1.1 Research problem:

What are the urban variables of the residential function in the city of Hilla?

1.2 Research Hypothesis.

The most important urban variables for the Housing function in the city of Hilla are the construction date of the residential unit, the area of the residential plots, the building materials of the residential unit, the number of floors of the residential unit, the number of total rooms and bedrooms in the residential unit, the connection of the residential unit, the design of its model and the modification of the residential unit.

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1.3 Research objective.

The research aims to know the urban variables of the Housing function in the city of Hilla and to know the problems experienced by the residential district and provide appropriate solutions to it.

1.4 Research Methodology.

The fundamental or systemic curriculum was used by testing a basic subject first, which is the Housing function, and then moving to the regional curriculum that applies to a selected school district, which is the city of Hilla.

1.5 Limitations of the study.

The limitations of the study were the spatial limitations of the city of Hilla, located at a latitude of (29,33 °) north and a longitude of (26,44 °) east, containing (97) residential neighborhoods distributed over five districts (Al-Zuhur - Al-Salam - Al-Firdous - Euphrates). See map (1). As for the temporal limitations, they were the study of the Housing function in the city of Hilla for the year 2023.

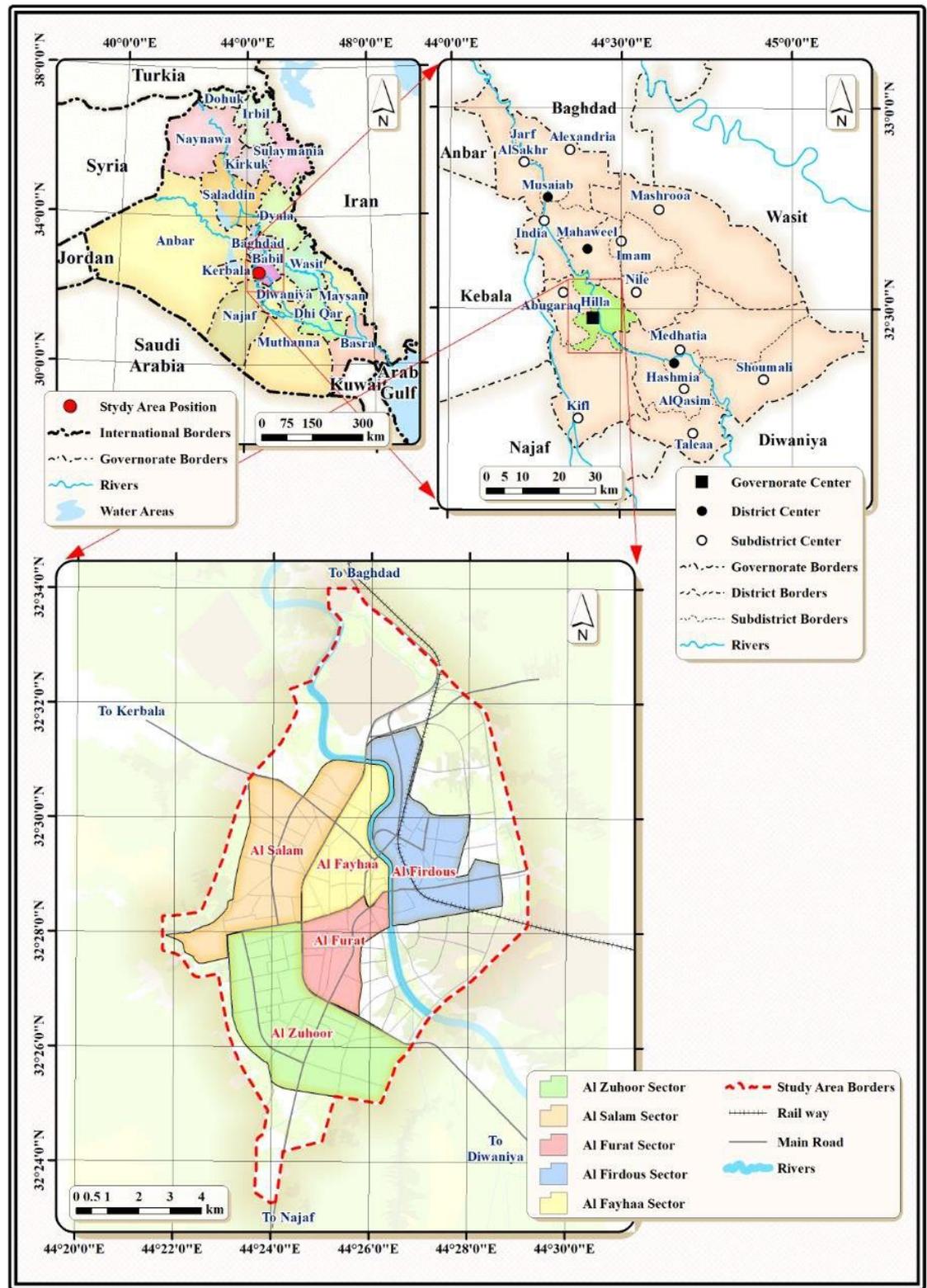
Introduction

The significance of the housing function has increased after the growth and development of other civilizational functions due to their mutual interdependence. This function is distributed in most parts of the city because housing is an important aspect of human life and is considered a place for establishing family relations and gives humanity a sense of security, stability and belonging to society ^[1].

As cities differ in their area, there is a large area of cities that helps to attract a lot of urban uses or the area of these cities sometimes decreases as the city expands ^[2].

Among the most significant indicators adopted in this study in order to analyze the Housing function of the city of Hilla were the following:

Map (1) The limitations of the study area, the location of the city of Hilla in relation to neighboring cities and governorates.



Source: Republic of Iraq , Ministry of Water Resources, Directorate of Public Survey, Map Production Department, unpublished data for 2022 .

2. Urban variables of Hilla city

The urban variables of the housing unit are among the most basic aspects that reveal the housing patterns, as they reflect the social and economic situation of the residents of these units and clarify the urban development witnessed by urban communities in the residential field, and we will address these variables as follows:

1- Construction date of the housing unit

The construction date of housing units is one of the most important indicators that planning and academic studies are concerned with, as this indicator depends on the distribution of housing where the date of origin, and shows the model of construction of housing and building materials that were used, as well as some important things in the housing unit, as shown by the age of residential areas^[1].

From Table No. (1), we find that the buildings built before 1920 have disappeared because of their age. As for the buildings built during the period (1921-1952), they amounted to (10) residential units at a rate of (0.67%) of the total sample size. They represent the role of the first phase of the city's life. They were concentrated in the peace district .

As for the time period (1953-1972), the number of housing units built during this period amounted to (3) units only, at a rate of (0.20%) of the total sample size. In this period, we note the decrease in the number of buildings and the reason is due to the demolition of many of them in this period due to the deterioration of their physical reality and the high economic and living standard of the owners of these houses and their desire to modernize and develop them.

As for the housing units built during the period (1973-2023), they reached (1495) housing units at a rate of (99.13%), as we note the increase in the number of housing units in this period, the Al Zuhour district ranked first in terms of the increase in the number of buildings, as it reached (395) housing units at a rate of (99.7%) of the total housing units.

We conclude from this that most of the housing units in the city of Hilla are still within the shelf life of the buildings and that the urban environment of the city is good and does not suffer from deterioration in the housing units in terms of the above percentages. Figure (1) illustrates this.

Table (1) The date of housing construction for the city of Hilla until 2023

DISTRICTS	Creation - 1920		1921-1952		1953-1972		1973-2023		Sample size	
	Number	%	Number	%	Number	%	Number	%	Number	%
Al Salam District	-	-	7	2.3 %	1	0.3 %	300	97.4 %	308	20.4 %
Furdos	-	-	1	0.3	0	0.0	307	99.7	308	20.4

District				%		%		%		%
Al Zuhour District	-	-	1	0.3 %	0	0.0 %	395	99.7 %	396	26.3 %
Euphrates District	-	-	0	0.0 %	1	0.3 %	290	99.7 %	291	19.3 %
Al-Fayhaa District	-	-	1	0.3 %	1	0.3 %	203	99.4 %	205	13.6 %
Total	-	-	10	67 %.	3	0.20 %	1495	99.13 %	1508	100 %

Source: The work of the researcher using the statistical program spss

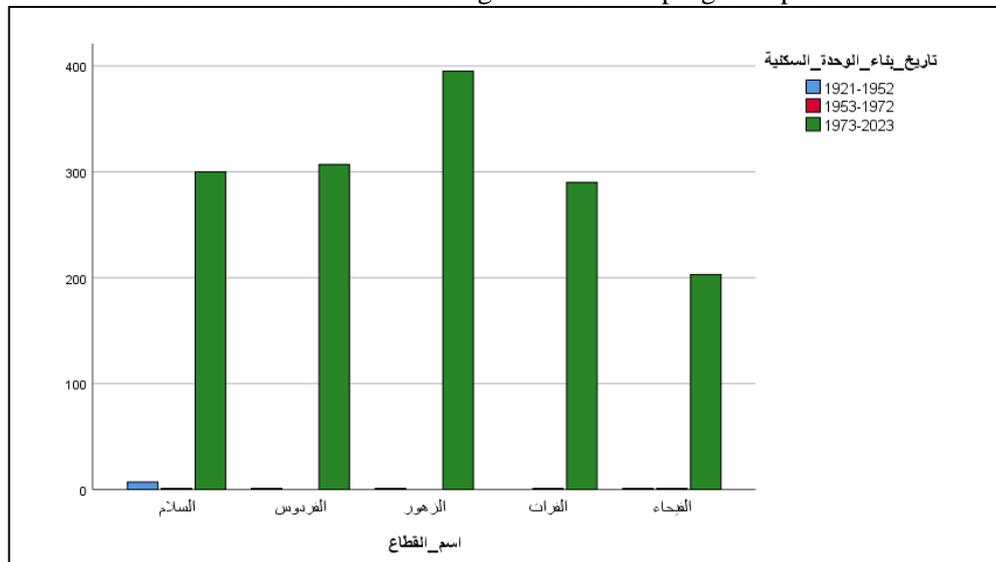


Figure (1) Construction date of the housing unit by districts

2- Area of residential plots

The area of residential plots varies between them in their periods of time, as we note that there is a variation in the area from one city to another, and that this variation was related to a set of factors, including the abundance of land allocated for housing, or some administrative and legal procedures that were under the responsibility of the municipality as it determines the area and ownership of plots of land or some factors related to the availability of the financial capacity of the size of the family or their social and cultural level, all of these factors had an impact on the difference in the area of plots in the study area [1].

Through Table No. (2), we note that the housing units that do not exceed (100 m²) formed a percentage of (3.3%), which is the lowest percentage of the total sample, as the Faihaa district ranked first in the total housing of this category by (8.8%).

As for the housing units in which the plots ranged from (101-200 m²), they constituted a percentage of (55.9%), which is the highest percentage, as the Al Zuhour district ranked

first in the total housing of this category by (58%), where the number of units reached (230) housing units.

As for the housing units whose land area ranged from (201-300 m²), they accounted for (32.9%) of the total study sample, as the Al Zuhour district ranked first in the total housing of this category by (33.6%).

As for housing units with an area of (301 m² or more), they accounted for (7.9%) of the total study sample. This category ranked third out of the total surveyed housing, as the peace district ranked first out of the area of this category and by (10.1%) of the total housing. Figure (2) illustrates this.

Table (2) The area of land plots for the houses of the study sample in the city of Hilla until 2023

DISTRICTS	Less than 100m ²		101-200 m ²		201-300 m ²		301 m ² and above		Sample size	
	Number	%	Number	%	Number	%	Number	%	Number	%
Al Salam District	3	1.0%	95	30.8%	179	58.1%	31	10.1%	308	20.4%
Al furdos	9	2.9%	126	40.9%	149	48.4%	24	7.8%	308	20.4%
Al Zuhour District	13	3.3%	133	33.6%	230	58.1%	20	5.1%	396	26.3%
Euphrates District	7	2.4%	93	32.0%	167	57.4%	24	8.2%	291	19.3%
Al-Fayhaa District	18	8.8%	49	23.9%	118	57.6%	20	9.8%	205	13.6%
Total	50	3.3%	496	32.9%	843	55.9%	119	7.9%	1508	100%

Source: The work of the researcher using the statistical program spss

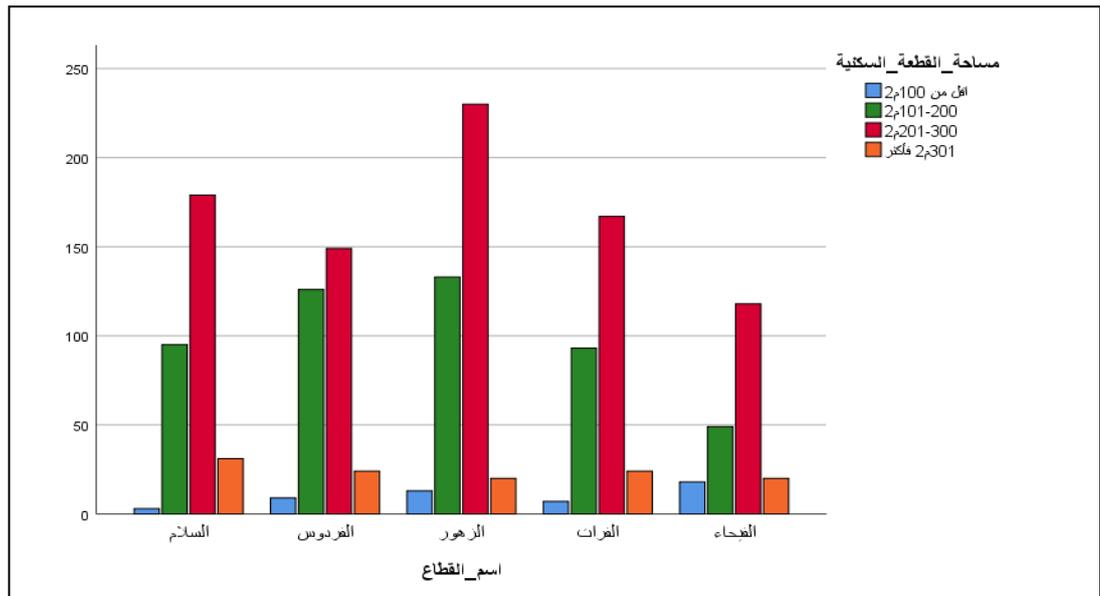


Figure (2) The area of the plots of land in the city of Hilla according to the plots

3- Building materials of the housing unit

Building materials represent one of the most important indicators of housing, because building materials show us the chronological age of the housing, its urban status and its location in relation to the city center. These materials also reflect the social and economic level of the city's residents. On the basis of the quality of construction, it is possible to know the stages of development that the city has gone through economically and culturally ^[1]. These materials include:

A- Building materials for the walls of the residential unit

Bricks, plaster, bricks, cement and blocks are among the most used materials in the construction of the walls of residential units and the most common and used because these materials are characterized by a high ability to overcome climatic conditions. Bricks and cement are considered the most used materials in the construction of housing walls as they are more strong and cohesive than other materials and more resistant to climatic conditions.

We note from Table No. (3) that the material of bricks and cement used in the construction of the walls of residential units in the city of Hilla constituted the highest percentage among other building materials, as it reached (97.3%) of the total study sample with a number of units of (1468) residential units, as the Al Zuhour district ranked first in the use of these materials to build walls by (26.8%).

As for the material of bricks and plaster, it accounted for (40%) of the total study sample, as the Faihaa district ranked first in the use of this material in the construction of housing units by (35.1%) and the number of housing units reached (13) housing units, while we note the lack of proportion of block material and cement, which explains that the population does not prefer these materials in the construction of the walls of their houses for lack of efficiency. Figure () illustrates this.

Table (3) Building materials of the walls of the houses of the city of Hilla until 2023

DISTRICTS	Bricks & Cement		Bricks & Plaster		Block & Cement		Sample size	
	Number	%	Number	%	Number	%	Number	%
Al Salam District	305	20.8%	3	8.1%	-	-	308	20.4%
Al furdos	299	20.4%	6	16.2%	-	-	305	20.4%
Al Zuhour District	393	26.8%	6	8.1%	-	-	399	26.3%
Euphrates District	279	19.0%	12	32.4%	-	-	291	19.3%
Al-Fayhaa District	192	131.1%	13	35.1%	-	-	205	13.6%
Total	1468	97.3%	40	2.7%	-	-	1508	100%

Source: The work of the researcher using the statistical program spss

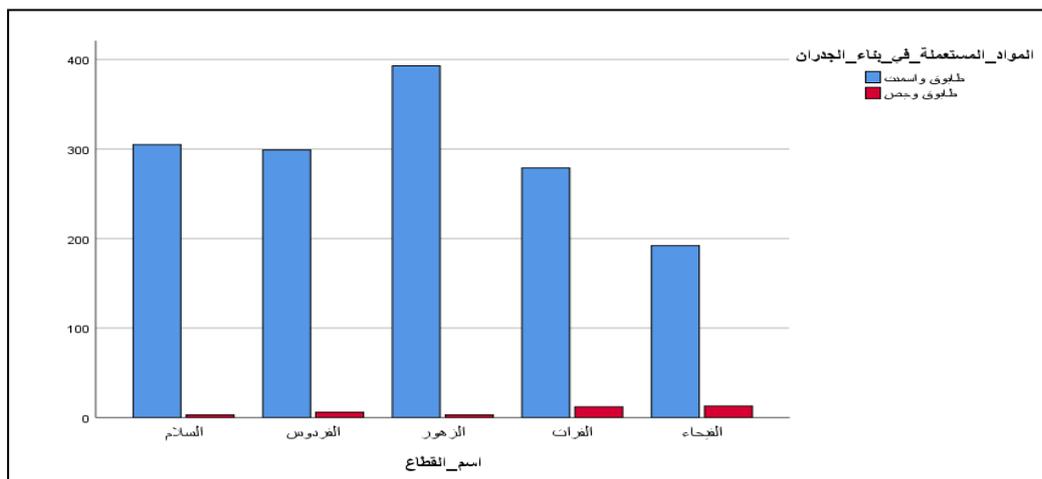


Figure No. (3) Materials used in the construction of housing walls by districts

B- The building material of the roofs of the residential unit

The roof of the space is one of the most important parts of the space and should be chosen with special care because it is the part that is most exposed to climatic factors compared to other parts of the space.

We note from Table No. (4) that the concrete ceilings used in the construction of ceilings in residential units in the city of Hilla constituted the highest percentage among other building materials, reaching (81%) of the total study sample with a number of units of (1221) residential units, as the Al Zuhour district ranked first in the use of these materials to build walls by (27.9%) of the total housing of this category.

As for the shellman and bricks, they accounted for (19%) of the total study sample, as the Al furdos ranked first in the use of this material in the construction of housing units by (34.5%) and the number of housing units amounted to (99) housing units out of the total housing of this category. Figure (4) illustrates this.

Table (4) Building materials for the roofs of the houses of the city of Hilla until 2023

DISTRICTS	Schellman & Brick		Concrete ceilings		Wood and clay		Sample size	
	Number	%	Number	%	Number	%	Number	%
Al Salam District	62	21.6%	246	20.1%	-	-	308	20.4%
Al furdos	99	34.5%	209	17.1%	-	-	308	20.4%
Al Zuhour District	55	19.2%	341	27.9%	-	-	396	26.3%
Euphrates District	29	10.1%	262	21.5%	-	-	291	19.3%
Al-Fayhaa District	42	14.6%	163	13.3%	-	-	205	13.6%
Total	287	19%	1221	81%	-	-	1508	100%

Source: The work of the researcher using the statistical program spss

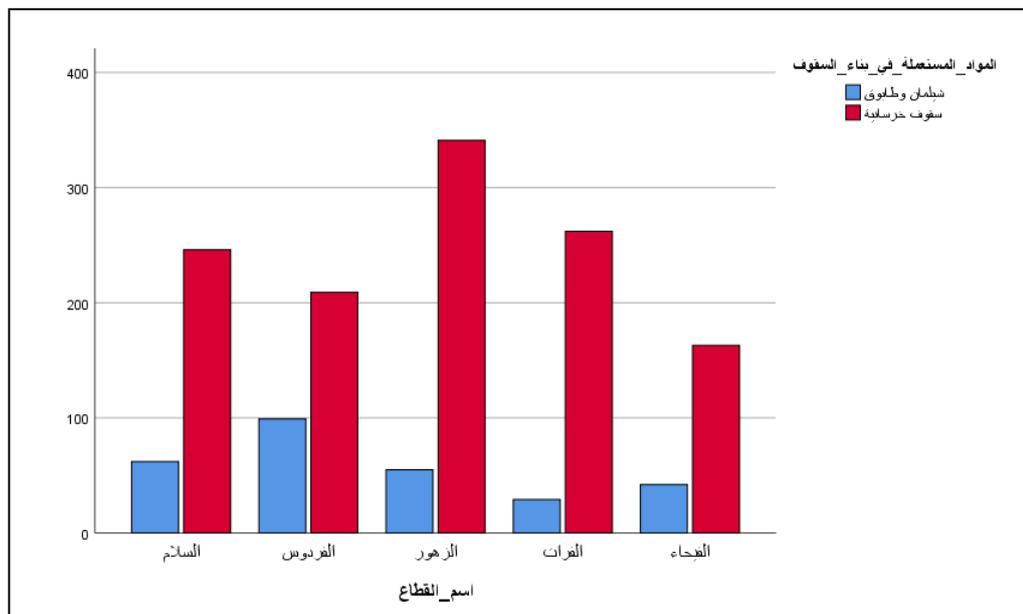


Figure No. (4) Materials used in the construction of roofs of housing by districts
4-Number of floors of the residential unit

There is a discrepancy in the number of floors of housing and that this discrepancy is due to the design of the building and the materials used in the construction of housing units, as well as the economic and social level of the family , and the desire of unit owners to exploit the area of the residential land to build as many rooms as possible to accommodate the increase in the number of future individuals as we find some dwellings with a floor and dwellings with two or more floors.

Table (5) shows that the residential units consisting of one floor amounted to (636) residential units, representing (13.8%) of the total sample size, as the Al Zuhour district ranked first in the number of floors for this category.

As for the two-storey housing units, they amounted to (837) housing units and a percentage of (55.5%) of the total sample size, where the Al Zuhour district ranked first in the number of floors of this category, and we note in this category that the majority of housing units have been built on two floors, which means that the population prefers this type of housing.

As for the three-storey housing units, they amounted to (35) housing units and a percentage of (2.3%) of the total sample size, where the peace district ranked first in the number of floors of this category, and it is noticeable that the number of houses containing three floors is low, and this is an indication of the unwillingness of the population to acquire housing of this type.

Figure (5) illustrates this

Table (5) Number of floors of residential units in the city of Hilla until 2023

DISTRICTS	One level.		Two floors		Three floors		Sample size	
	Number	%	Number	%	Number	%	Number	%
Al Salam District	126	19.8%	168	20.1%	14	43.8%	308	20.4%
Al furdos	147	23.1%	154	18.4%	7	21.9%	308	20.4%
Al Zuhour District	157	24.7%	232	27.7%	4	12.5%	393	26.3%
Euphrates District	118	18.6%	170	20.3%	6	9.4%	294	19.3%
Al-Fayhaa District	88	13.8%	113	13.5%	4	12.5%	205	13.6%
Total	636	42.2%	837	55.5%	35	2.3%	1508	100%

Source: The work of the researcher using the statistical program spss

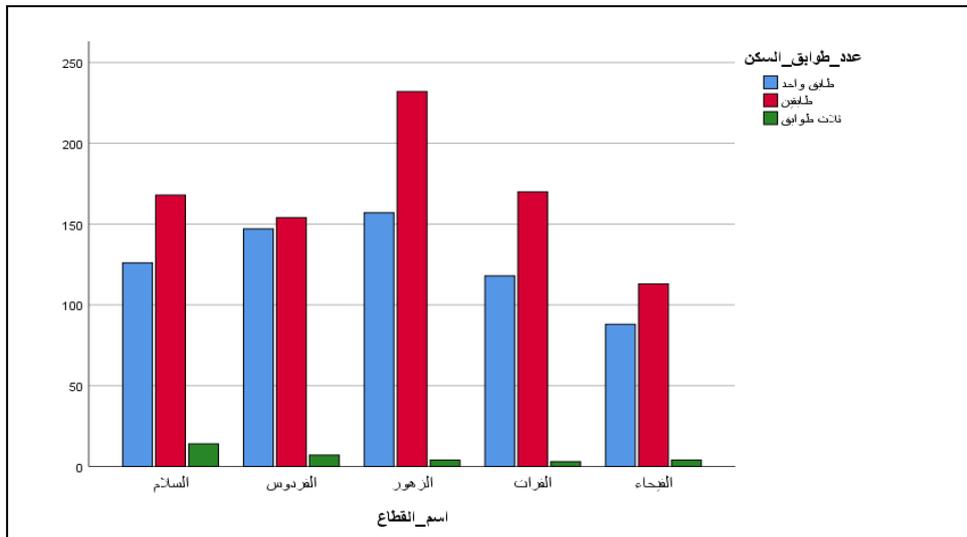


Figure No. (5) Number of floors of residential units by districts

5- Number of total rooms in the housing unit

The number of rooms is one of the most important indicators of the development of the social and economic level of the population , and the number of rooms in the housing unit varies from one area to another depending on the different stages that the city is going through, as some criteria confirmed that the number of rooms in the housing unit is not less than (5) rooms and that these rooms are commensurate with the numbers of family members in order to achieve their independence and privacy ^[1].

From Table No. (6), we note that housing units with one or two rooms do not exist in the city of Hilla because small spaces do not meet the requirements of families in the city due to the increase in the number of members of one family or because the housing unit contains more than one family.

As for the housing units that contain three rooms, they amounted to (53) housing units and a percentage of (3.5%) of the total housing units, as the Euphrates district ranked first in terms of the number of housing that contains three rooms.

As for the housing units that contain more than three rooms, they amounted to (1455) housing units and a percentage of (96.5%) of the total housing units, as the Al Zuhour district ranked first in terms of the number of housing units that contain more than three rooms, and we note the increase in the number of housing units that contain more than three rooms, and this is an indication that the residents of the city prefer this type of housing in line with the requirements of their families in providing means of comfort and well-being for members of one house. Figure (6) illustrates this

Table (6) Number of total rooms in residential units in the city of Hilla until 2023

DISTRICTS	One cell.		Two chambers		Oh, three rooms.		More than three rooms		Sample size	
	Num ber	%	Numb er	%	Numb er	%	Num ber	%	Numbe r	%
Al Salam District	-	-	-	-	8	15.1%	300	20.9%	308	20.4%
Al furdos	-	-	-	-	4	7.5%	304	20.9%	308	20.4%
Al Zuhour District	-	-	-	-	7	13.2%	389	26.7%	396	26.3%
Euphrates District	-	-	-	-	21	396	270	18.6%	291	19.3%
Al-Fayhaa District	-	-	-	-	13	24 May	192	13.2%	205	13.6%
Total	-	-	-	-	53	3.5%	1455	96.5%	1508	100%

Source: The work of the researcher using the statistical program spss

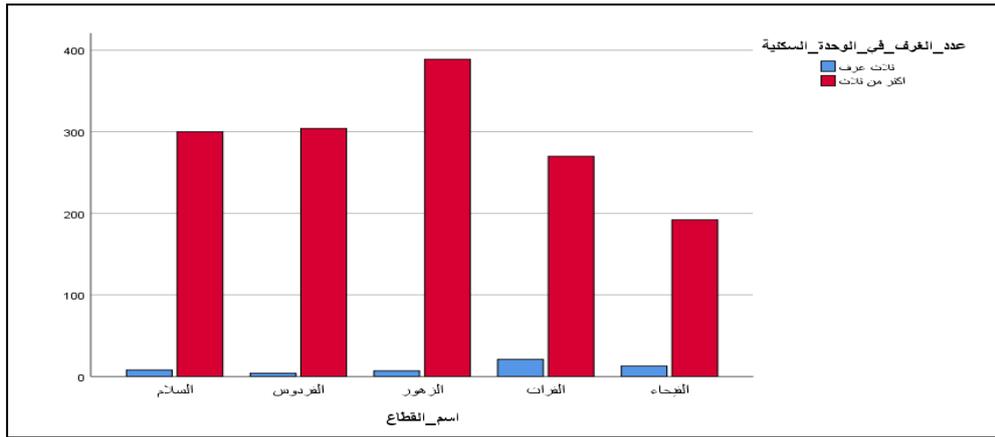


Figure No. (6) Number of total rooms in residential units by districts

6- Counting the bedrooms in the housing unit

The bedrooms in the dwelling are considered one of the most important indicators as they achieve privacy for the members of the dwelling , as the British standard specifies that every person aged (20 years) and above should have his own bedroom, and one bedroom for every two people aged (10-20 years) of the same sex ^[1].

From Table No. (7), it is clear that the housing units that contain one bedroom have reached (161) housing units and a percentage of (10.6%) of the total housing units, as the Al Zuhour and Euphrates districts ranked first in terms of the number of housing that contains one bedroom.

As for the residential units that contain two bedrooms, they amounted to (605) residential units and a percentage of (40.2%) of the total residential units, as the Al Zuhour district ranked first in terms of the number of houses that contain two bedrooms.

As for the housing units that contain three bedrooms, they amounted to (423) housing units, representing (28%) of the total housing units, as the Al Zuhour district ranked first in terms of the number of housing units that contain three bedrooms.

As for housing units containing more than three bedrooms, they amounted to (319) housing units, representing (21.2%) of the total housing units, as the Euphrates district ranked first in terms of the number of housing units containing more than three bedrooms. Figure (7) illustrates this.

Table (7) Number of bedrooms in residential units in the city of Hilla until 2023

DISTRICTS	One cell.		Two chambers		Oh, three rooms.		More than three rooms		Sample size	
	Number	%	Number	%	Number	%	Number	%	Number	%
Al Salam District	35	21.7%	118	19.5%	89	21.0%	66	20.7%	308	20.4%
Al furdos	21	13.0%	143	23.6%	80	18.9	64	20.1%	308	20.4%

Al Zuhour District	40	24.8%	165	27.3%	120	28.4%	71	22.3%	396	26.3%
Euphrates District	40	24.8%	96	15.9%	72	17.0%	83	26.0%	291	19.3%
Al-Fayhaa District	25	15.5%	83	13.7%	62	14.7%	35	11.0%	205	13.6%
Total	161	10.6	605	40.2%	423	28%	319	21.2%	1508	100%

Source: The work of the researcher using the statistical program spss

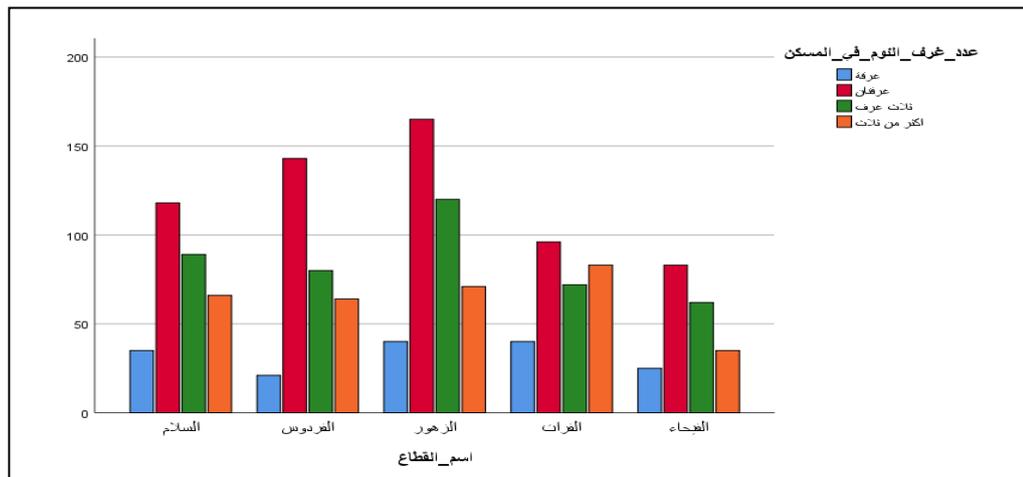


Figure No. (7) Number of bedrooms in residential units by districts

7- Residential Unit Connection

The connection of the housing unit is one of the most prominent indicators because it provides privacy and independence for family members and gives them the freedom to act within their home away from the noise of neighbors. This independence varies according to the customs and traditions of the community. Some residents prefer separate or connected housing from one side because it achieves them independence, but the majority of housing is connected from two or three sides.

Table No. (8) shows that the number of housing units connected from one side to the neighbors has reached (351) housing units, representing (23.3%) of the total housing units in the city of Hilla , as the Al Zuhour district came in first place in terms of the connection of the housing unit from one side to the neighbors.

As for the housing units connected from two sides with the neighbors, they reached (1048) housing units, representing (69.5%) of the total housing units in the city of Hilla , as the Al Zuhour district came first in terms of the connection of the housing unit from two sides to the neighbors.

As for the housing units connected from one side to three sides with the neighbors, they reached (109) housing units, representing (7.2%) of the total housing units in the city of Hilla , as the Firdous district came in first place in terms of the connection of the housing unit from three sides to the neighbors. Figure (8) illustrates this.

Table (8) Communication of residential units with neighbors in the city of Hilla until 2023

DISTRICTS	Single Entity		Two Sides		Triangle?		Sample size	
	Number	%	Number	%	Number	%	Number	%
Al Salam District	61	17.4%	241	0.23%	6	5.5%	308	20.4%
Al furdos	66	18.8	203	19.4%	39	35/8	308	20.4%
Al Zuhour District	97	27.6%	265	25.3%	34	31.2%	393	26.3%
Euphrates District	77	21.9%	188	17.9%	26	23.9%	294	19.3%
Al-Fayhaa District	50	14.2%	151	14.4%	4	+3.7%	205	13.6%
Total	351	23.3%	1048	69.5	109	7.2%	1508	100%

Source: The work of the researcher using the statistical program spss

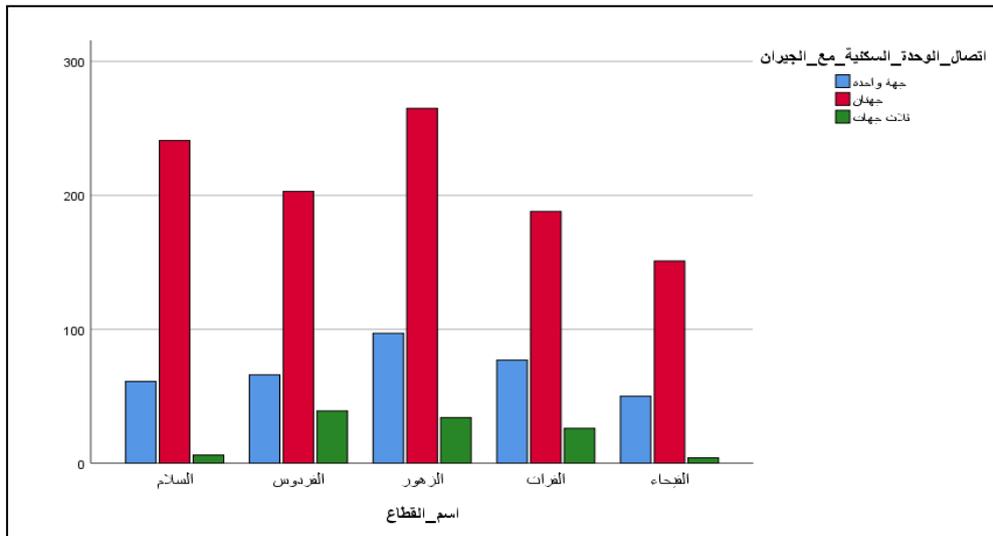


Figure No. (8) Connection of residential units with neighbors by districts

8- Residential unit design and style

The style of the housing unit means the forms and architectural arts in which housing is built. These forms and designs vary from region to region and from time to time. Each stage of the city's development has its own urban designs for housing. Through our study of the city of Hilla, its housing was divided into three types (eastern housing, western housing, and double-valium western housing) .

From Table No. (9), we note that the eastern-style housing units have reached (33) housing units at a rate of (2.2%), as the Euphrates and Fayha districts ranked first in terms of the eastern style of housing units

As for the Western-style housing units, they amounted to (744) housing units at a rate of (49.3%), as the Al Zuhour district ranked first in terms of Western-style housing units.

As for the Western-style housing units (Double Valium), it reached (731) housing units at a rate of (48.52%), as the Al Zuhour district ranked first in terms of Western-style (Double Valium) housing units. Figure (9) illustrates this.

Table (9) Design and model of housing units in the city of Hilla until 2023

DISTRICTS	east		Westward		Western Axis (Double Valium)		Sample size	
	Number	%	Number	%	Number	%	Number	%
Al Salam District	4	12.1%	142	19.1%	162	22.2%	308	20.4%
Al furdos	-	-	154	20.7%	154	20.7%	308	20.4%
Al Zuhour District	3	9.1	209	28.1%	184	25.2%	393	26.3%
Euphrates District	13	39.4%	145	19.5%	133	18.2%	294	19.3%
Al-Fayhaa District	13	39.4%	94	12.6%	98	13.4%	205	13.6%
Total	33	2.2%	744	49.3	731	48 – 52 %	1508	100%

Source: The work of the researcher using the statistical program spss

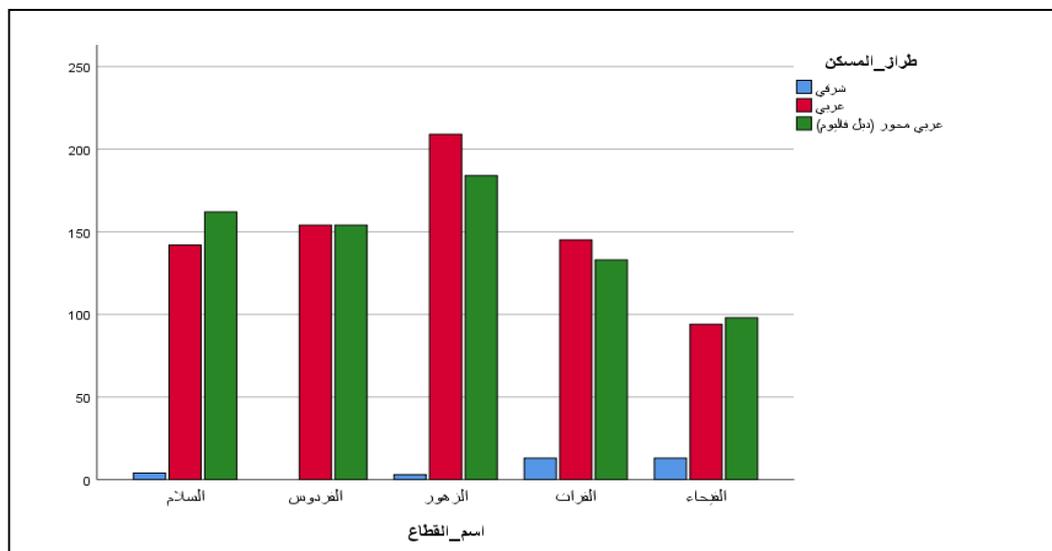


Figure No. (9) Design and model of residential units by districts

9- Modification of the housing unit

It means making some changes and modifications to the housing unit, whether these changes are internal or external , and the process of housing modification increases as a result of several factors, including the high economic level of the population or climatic factors that affect the structure of the housing, such as humidity, for example, or the poor

quality of the materials used in construction, which leave negative effects on the housing, which requires continuous modification and maintenance of the housing.

From Table No. (10), it is clear that the number of modified housing units has reached (1500) housing units at a rate of (99.5%) of the total housing units in the city of Hilla , as the districts of peace and Paradise ranked first in terms of the modification of housing units,while the number of non-modified housing units reached (8) units at a rate of (0.5%) of the total housing units in the city of Hilla , as the Al furdos ranked first in terms of non-modification of housing units. Figure (10) illustrates this.

Table (10) Modified and unmodified housing units in the city of Hilla until 2023

DISTRICTS	Modified housing units		Non-modified housing units		Sample size	
	Number	%	Number	%	Number	%
Al Salam District	308	100.0%	0	0.0%	308	20.4%
Al furdos	308	100.0%	5	1.6%	308	20.4%
Al Zuhour District	396	100.0%	0	0.0%	393	26.3%
Euphrates District	291	100.0%	0	0.0%	294	19.3%
Al-Fayhaa District	202	98.5%	3	1.5%	205	13.6%
Total	1500	99.5%	8	0.5%	1508	100%

Source: The work of the researcher using the statistical program spss

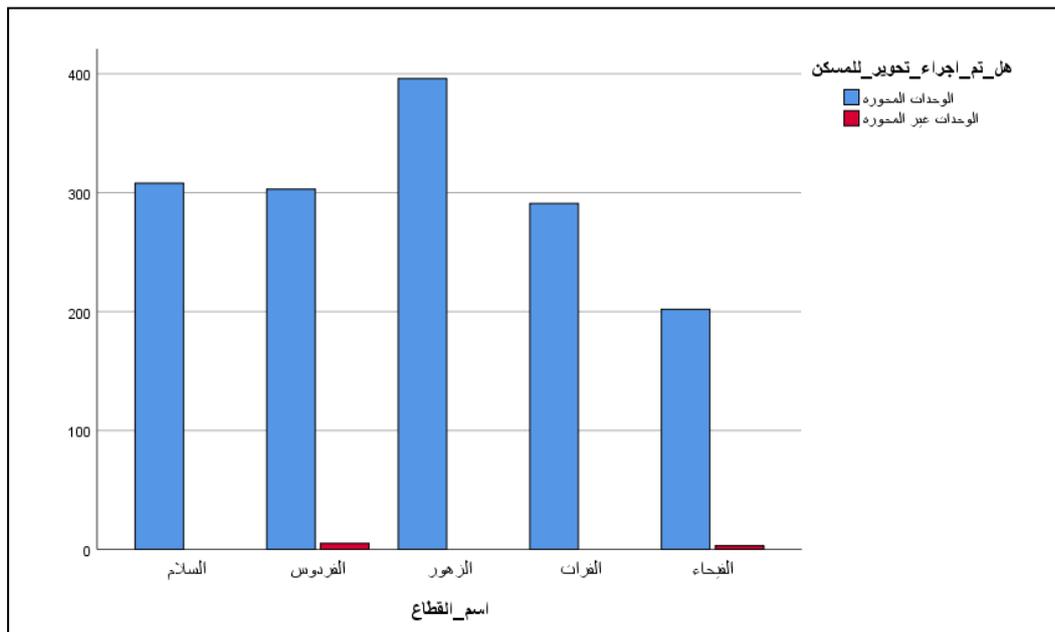


Figure No. (10) Modified and unmodified housing units by districts

Table No. (11) shows the difference in the process of modification. It is possible that it is in the rooms, kitchen, sanitary ware or in the walls. The number of housing units that were modified in the rooms was (290) housing units at a rate of (19.2%). As for the number of housing units that were modified in the kitchen, it was (319) housing units at a rate of (21.2%). The number of housing units that were modified in the sanitary ware reached (538) housing units at a rate of (35.7%). Finally, the number of housing units that were modified in the walls was (361) housing units at a rate of (32.9%). Figure (11) illustrates this.

Table (11) Modification sites in residential units in the city of Hilla until 2023

DISTRICTS	Rooms		Kitchen		Health		Walling		Sample size	
	Number	%	Number	%	Number	%	Number	%	Number	%
Al Salam District	66	22.8%	74	18.5%	108	20.1%	51	20.8%	308	20.4%
Al furdos	68	23.4%	83	20.8%	109	20.3%	97	19.2%	308	20.4%
Al Zuhour District	69	23.8 %	90	26.8%	139	25.8%	67	27.3%	396	26.3%
Euphrates District	47	16.2%	18	20.3%	112	20.8%	98	19.6%	291	19.3%
Al-Fayhaa District	40	13.8%	54	13.5%	70	13.0%	48	13.1%	205	13.6%
Total	290	19.2%	319	21.2%	538	35.7%	361	32.9%	1508	100%

Source: The work of the researcher using the statistical program spss

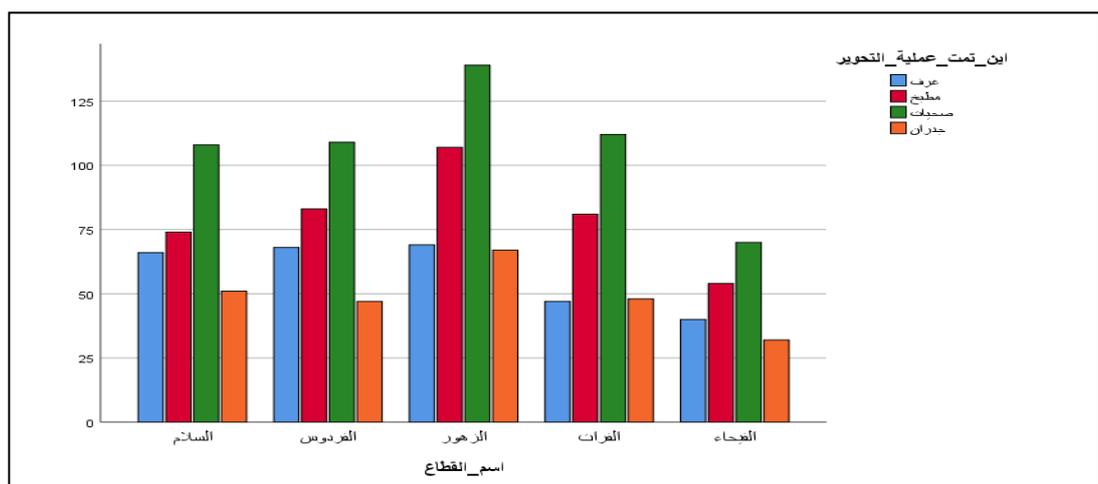


Figure No. (11) Modification sites in residential units by districts

3. Conclusions

1- Through the study, it was found that the housing units are in good physical condition, as the housing units built during the fourth phase constituted the highest percentage, but they are likely to be exposed to some problems in the future.

2- It was found that the area of housing plots with an area of 200 m² or more came first with (55.9%) of the total housing of the study sample. This indicator indicates that most of the housing plots are suitable for the family to live a decent life in a healthy environment.

3- Through the study, it was found that the materials used in the construction of the dwellings of the study area were cement and bricks if they occupied the first place and by (97%) of the total dwellings of the study sample, as well as the use of reinforced concrete in the construction of the roofs of the dwellings also occupied the first place and by (81%). These percentages indicate that the dwellings of the study area are in a good urban condition.

4-The study showed that the dwellings that contain the most three rooms amounted to (96%) of the total dwellings of the study sample, and this indicator indicates that they meet the standards in providing bedrooms suitable for the number of individuals.

5- It became clear through the study that housing containing two floors ranked first with (55.5%) of the total housing of the study sample, and this means that housing prefers this type of housing because it meets the special needs of them.

6-The study found that connected housing from two sides ranked first (69%) of the total study sample, and this indicator encourages the possibility of construction and children in the city.

7-The study showed that the houses owned by their owners accounted for (60%) of the total study sample, and this is a good indicator that indicates that they have similar designs in addition to the convergence of economic and social levels, as it appeared that most of the heads of households are employees if their percentage constitutes (39%) of the total study sample.

8-The study showed that housing containing one family amounted to (79.9%) of the total study sample, which means that the family prefers to live in a house independent of others, which is a good indicator.

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