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## **Sustainable urban planning within the framework of evaluating the basic design of the new city of Anah**

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**Abstract**--The new city of Anah has served as a shining example of a civilized metropolis since its founding. Whereas in this study, the reality of sustainable urban planning was examined and evaluated following the basic design of the new Anah city. In order to demonstrate the degree to which planning standards are applied in the creation of the new Anah city and whether the city was built according to a future vision or arbitrarily. It was discovered that the new city of Anah was entirely planned and implemented under a future development vision. The nature of the target population group for housing in the city was taken into account through the criteria of comfort, ease of access, and spatial distribution of community and baseline services. Also, the mechanism of granting and acquiring housing units comfortably for the residents.

**Keywords**--urban planning, sustainable development, new information, standards, basic design

**Introduction**

In the Anbar Governorate, there is a distribution of residential complexes that are part of the public sector and that were built in the years prior to the 1990s. These complexes are both vertical and horizontal. When carrying out development projects, such as in the new city of Anah, housing for needy families and some for housing families as recompense for them. These facilities are dispersed across the

governorate's numerous districts. The reality of (New Anah City) will be examined as a model for the study and compared with the urban planning standards approved by the Iraqi Ministry of Construction, Housing, Municipalities, and Public Works in order to provide adequate housing and due to the large number of housing complexes belonging to the public sector (government) in Anbar Governorate. In order to show how effective and sufficient it is at giving its citizens a safe and pleasant urban environment, as well as if it was created with future growth in mind.

### **Research problem**

The research problem was determined as follows: Was the new city of Anah designed according to a future planning vision, and the future population increase was taken into account, or was it built to meet the current need without a future vision, and was the nature and habits of the target population taken into account when designing the city?

### **Research hypothesis**

The new city of Anah was designed according to a comprehensive future development vision, and the nature of the target group was taken into account, who lived in an environment dominated by green areas. Therefore, the green areas in the new city of Anah had the largest share over the rest of the uses as they were designed along the lines of the developed garden cities. Sophisticated planning standards have been adopted that are in harmony with the future increase of the population. Therefore, it showed high efficiency and adequacy in all services within the city.

### **Research objectives**

- A review of the reasons for establishing the new city of Anah, and the reasons for choosing the current location of the city.
- Determining the efficiency and adequacy of the spatial and qualitative distribution of community and basic services in the new city of Anah.
- Knowing whether the city was designed according to a future planning and development vision or in an absurd manner.
- Did the planning authorities take into account the nature and habits of the city's residents when designing the city, since most of the residents are farmers?

### **Research limits**

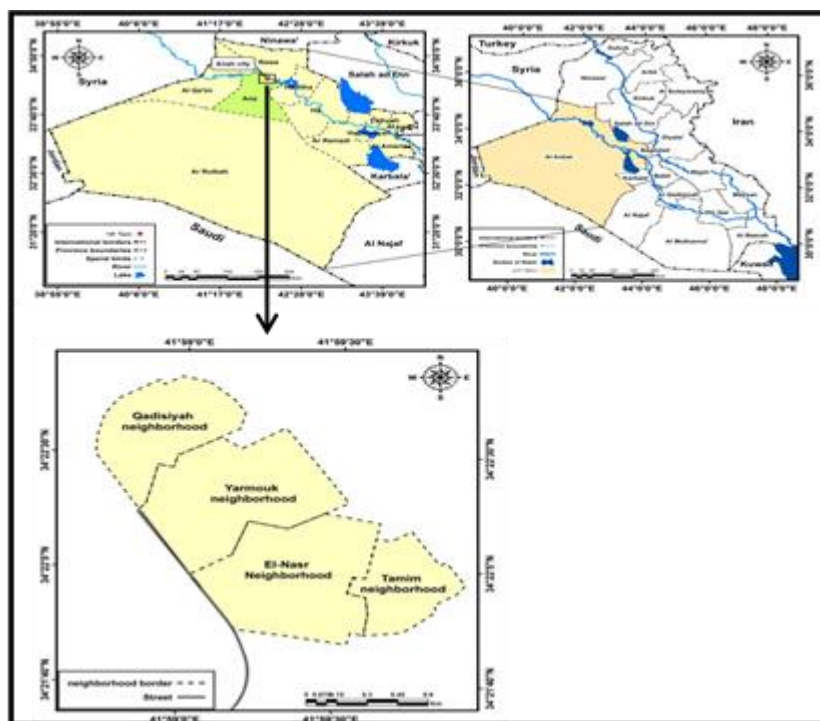
The spatial boundaries of the research, represented in the study of the new city of Anah, which is located in the northwestern part of Anbar Governorate in Wadi Al-Rehana, and represents the center of Anah district, which is bordered by Rawa district to the north, and Al-Qaim district to the west and east, and Hit district to the south. Al-Rutba, map (1). The city is located astronomically on latitude (22.34°) north, and longitude (59.41°) east . As for the temporal limits of the study, it was represented in studying and evaluating the reality of the basic

design of the new city of Anah, which was prepared in 1986 and during the period of the current study of the city in 2022.

### Research Methodology

The spatial (regional) approach was adopted based on the study and analysis of the functional structure of the new city of Anah in detail. This approach was reinforced by adopting several methods of study, including field work and review of the relevant official departments. As well as adopting a set of urban planning criteria in evaluating the reality of this experience.

- **The stage of office work:** This stage consisted of examining the sources in order to select some basic concepts related to the study and to elicit some information that complements the study and fills the shortage in some data.
- **Field work stage:** This stage consisted of a field study and a visit to the new city of Anah in order to obtain data and document documentation with pictures for some uses on the ground.
- **Data analysis stage /** This stage consisted in analyzing the obtained data and comparing it with the planning standards and indicating the extent of conformity and adherence to the standards.



Map 1. of the geographical location of the study area

Source: Republic of Iraq, Ministry of Water Resources, Directorate of Public Survey, Map of Iraq and Anbar, 2021, scale (1: 1,000,000), and Arc map program outputs

Bara 'a Kamel Abdul Razzaq Al-Alli, Changing urban land uses for the city of Ana for the period from (1986-2006), a master's thesis (unpublished), University of Baghdad - College of Arts, 2008, p. 48.

### **Research Structure**

Within the framework of the research methodology and its objectives, the research structure included a discussion and analysis of the following main themes:

- The emergence of the new city of Anah.
- Assessment of sustainable urban planning according to the basic design of the new city of Anah.
- Mechanism of owning residential homes for the residents of the new city of Anah.

As well as conclusions and recommendations.

### **General concepts**

- Sustainable urban planning, it is an integrated work to solve the economic, social, environmental and urban problems through integrated and interrelated studies of the available natural resources, to comply with the needs of urban development and to achieve the future needs of the population.
- Urban management. It includes all the efforts made by the competent administrative authorities in the city administration, which work according to pre-established legal plans and legislation, through which it seeks to regulate the uses of the land and develop the level of community services in quantity and quality, as well as identifying urban problems and the factors responsible for them and addressing them or working to prevent their occurrence, especially in the later stages. For the growth of the city and the increase in the population, with the least time, costs and efforts to provide a healthy urban environment suitable for the stability and well-being of the population.
- Urban development. It is a strategy or a set of strategies followed by decision-making centers to develop, direct and control the growth and expansion of urban environments so that urban activities and services have the best geographical distribution and the population has the greatest benefits from these urban activities. An urban strategy usually includes a visualization and a vision of what could happen. These perceptions are based on predictions based on clear scientific criteria whose basic frameworks are represented by theoretical models and structures. It is a comprehensive process in which the components and elements of the urban environment and the links that integrate these elements and components into one unit ultimately constitute what is called the urban environment system.
- Urban development. It is meant to improve the environment and provide the basic needs for housing, work, community services, communication elements and infrastructure networks, within the framework of the determinants of place and the controls of social values, culture and specific

resources without clashing with the natural environment or wasting its resources. Urban development can be considered a main tool for rationalizing development efforts.

### The emergence of the new city of Anah

The new city of Anah was established by the French Societe Auxiliaries D'entre Prises (\*), due to the Iraqi government's construction of a Haditha dam on the Euphrates River near the city of Haditha, so the new city of Anah was established because the old city would be flooded when He filled a modern dam lake, and the establishment of the city was started in 1979 and the city was completed in 1986 and it was scheduled that there would be a second phase of construction with (600) housing units, but it did not see the light due to the Iran-Iraq war so it was canceled , see map (2) The new Anah city is 14 km away from the old site. The selection of the new Anah city site was subject to a set of criteria and studies, and a high-level committee of experts, engineers and planners was formed under the chairmanship of Dr. Muhammad Mahdi Saleh Al-Rawi, head of the presidential office during the previous government ((in order to select The best location for the establishment of the new city, so five sites were proposed as an alternative to the old site, and each site has specifications and features that distinguish it from other sites.



Map 2. of the implemented and proposed part of the new city of Anah for the year 1986

Source: Baraa Kamel Abdul Razzaq Al-Ani, Changing urban land uses for the city of Anah for the period from (1986-2006), Master's thesis (G,M) University of Baghdad - College of Arts, 2008, pg. 48.

The proposed sites were as follows:

- The first alternative: is to transfer a city from Anah to Wadi Jbab and Rawa to Wadi Al-Hassar. The reason for this alternative is that it will move the two cities to the right side of the river and neglect the left side of the river, as well as the lack of ability for that land to supply the two cities with agricultural products.
- The second alternative: moving the city to the industrial area in Al-Obaidi, but this location will distance the city far from the old site, which led to the rejection of this alternative by the people.
- The third alternative: moving the city to Wadi Jbab: It differs from the first alternative, as it will keep the city of Rawa in its place.
- The fourth alternative: moving the city to Wadi al-Hasab: This site has many advantages that distinguish it from other sites. This site was chosen by the executing company as an alternative to the old city of Anah, but this decision was rejected by the committee concerned with selecting the site .
- The Fifth Alternative: Moving the city to Wadi Al-Rehana: It is the location that was chosen after the popular referendum on 1/6/1979 despite the company's choice of the fourth alternative.
- We can show the characteristics of urban planning for the new city of Anah by clarifying the nature of the planning of each use in it and the process of home ownership as follows:

### **Evaluation of sustainable urban planning according to the basic design of the new city of Anah**

The new city of Anah is considered one of the garden cities that was designed similar to modern European cities, so the planners took into account the engineering details from all sides, and took into account the nature of the city's residents, most of whom were agriculturalists. The city was designed to take into account this category, and the green areas had sovereignty over the rest of the uses, whether within the city or inside the housing unit, see picture (1). The new city of Anah also contained all the community and basic services that would provide a decent life for its residents. The basic design of the new city of Anah included four residential neighborhoods (Al-Qadisiyah - Al-Yarmouk - Al-Nasr - Al-Tameem). The land uses within the city were distributed differently according to the importance and need of each use as shown in Map (3), Table (1) and Figure (1), and the total cost of the new city of Anah amounted to about (100) million dollars . By analyzing the cadastral data for each use, we find that it has been distributed according to precise planning principles and standards and in accordance with a holistic view of the requirements of any urban space that provides all services and the element of comfort for its residents and in a manner that meets the requirements of sustainable urban planning. Through this, the experience of sustainable urban planning will be evaluated for the basic design of the city in accordance with the applicable planning standards and for each use, with reference to its current reality, as follows.



Picture 1. shows the green spaces of the new city of Anah  
 Source: The International Network of the Internet, posted on Facebook on  
 25/5/2018, <https://www.facebook.com.posts.2045900412343193>



Map 3. of the geographical distribution of urban land uses for the new city of  
 Anah for the year 1986

Source: Republic of Iraq, Ministry of Construction, Housing, Municipalities and  
 Public Works, Anah Municipality Directorate, Urban Planning Division, basic  
 design of the new Anah city for the year 1986, unpublished data.

Table 1  
The area of urban land uses in the new city of Anah for the year 1986 in  
comparison with the local urban planning standards

Usage	Area (m <sup>2</sup> )	The ratio %	The local standard of actual need in relation to the population	difference m <sup>2</sup>
residential	574,000	35.2%	451,050 m <sup>2</sup>	(+, -)(
commercial	8,000	0.5%	5413 m <sup>2</sup>	122,950+
Streets and walkways	187,943	11.5%	180,420 m <sup>2</sup>	2,587 +
green and abandoned	640,856	39.3%	126,294 m <sup>2</sup>	7,523 +
educational	86,500	5.3%	47,270 m <sup>2</sup>	514,562 +
healthy	30,000	1.9%	1,443 m <sup>2</sup>	39,230 +
religious	11,000	0.7%	2,706 m <sup>2</sup>	28,557 +
Entertainment Services	32,000	2%	11,428 m <sup>2</sup>	8,294 +
Other services	58,500	3.6%	5,199 m <sup>2</sup>	20,572 +
the total	1,628,799	100%	831,223 m <sup>2</sup>	53,301 +

Source: - Republic of Iraq, Ministry of Construction, Housing, Municipalities and Public Works, Anah Municipal Directorate, Town Planning Division, unpublished data

- Local standards were adopted for each person's need for services, because the new city of Anah has a design feature that made it unique from other Iraqi cities, and the need for services was estimated in proportion to the city's population of (9021 people) in 1986.
- Difference: It means the amount of difference between reality and the actual need for services = reality - actual need = (+) evidence that reality is more than actual need (excess), and (-) evidence that reality is less than actual need (deficit).
- Republic of Iraq, Ministry of Construction, Housing, Municipalities and Public Works, Department of Housing, Standards for Urban and Rural Housing in Iraq, 2018, Part IV, pp. 22-24.
- Republic of Iraq, Ministry of Planning, Regional Planning Commission, Department of Housing and Human Settlements, Principles and Standards for Public Service Buildings, Baghdad, 1977.
- Yassin Hamid Bida al-Muhammadi, Qasim Ahmad Raml al-Dulaimi, Salah Othman Abd al-Ani, Planning for Sustainable Spatial Development, 1st Edition, Dar Al-Wadah for Publishing and Distribution, Amman - Jordan, 2021, p. 344.



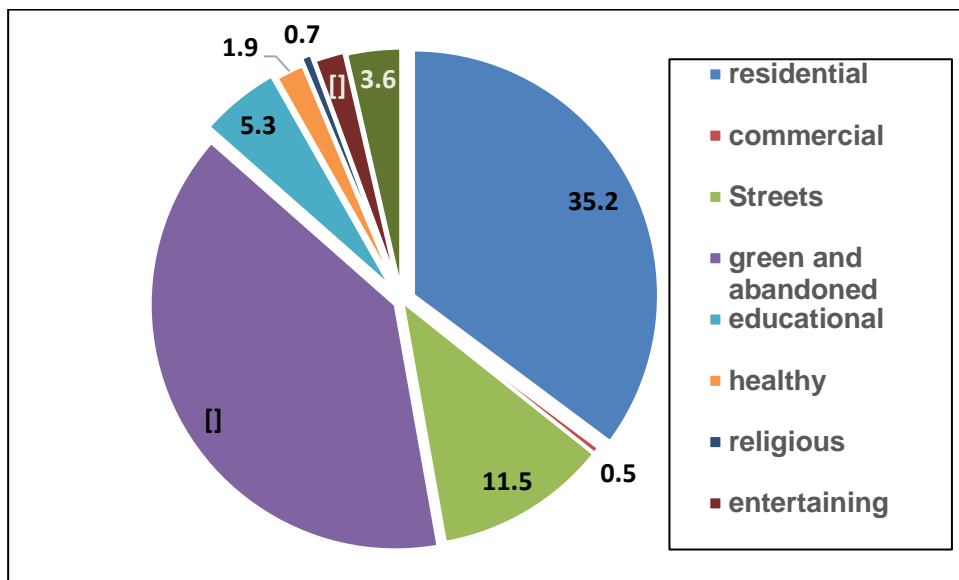


Figure 1. Percentages of urban land use in the new city of Anah  
Source: Table (2)

### First: Residential use

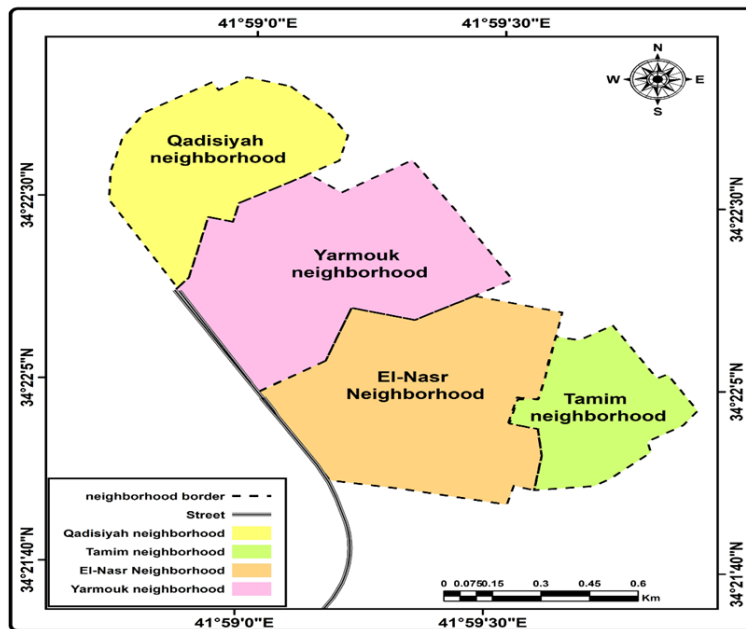
Residential use is one of the most important uses within cities, where no matter how large or small the city is, it is not without residential use. Commercial, industrial and service areas, and similarly, the residential use in the new city of Anah occupied the largest space after the green and abandoned areas, where the data of Table (1) indicate that the area of residential use amounted to about (574,000) m<sup>2</sup>, with a rate of (35.2%) of the total area The city, and through the data of Table (1), it is clear that there is an excess of the area allocated for residential use, as the Iraqi standard determined the per capita share of residential use at (50 m<sup>2</sup>) per person, and thus the actual need for residential use is (451,050 m<sup>2</sup>) according to the local standard As for the reality, there is a surplus of residential use of (122,950 m<sup>2</sup>) compared to the population of (9021) people, and the residential use consists of (1514) housing units, distributed over the city's neighborhoods, see Table (2) and Map (4) ), and constructed The role of prefabricated building (concrete), and this also gave it privacy in terms of design and construction specifications, as most of the residential houses maintained their system because it is difficult to modify them, and the housing units vary in terms of area and number of rooms according to each model, see Table (3).

Table 2  
The number of housing units for each neighborhood of the new city of Anah in 1986

Neighborhood	number of turns	The ratio %
victory	518	34.2%
Qadisiyah	392	25.9%
Yarmouk	372	24.6%

nationalization	232	15.3%
the total	1514	100%

Source: - Republic of Iraq, Ministry of Planning, Central Statistical Organization, Anbar Statistics Directorate, Statistics Division, unpublished data.



Source: Bara'a Kamel Abdul Razzaq Al-Ani, Changing urban land uses for the city of Anah for the period from (1986-2006), Master's thesis (G,M) University of Baghdad - College of Arts, 2008, p. 55

Table 3  
Details of the housing units for the city of Anah for the year 1986

Sample	The number of rooms	Land area m <sup>2</sup>	Building area m <sup>2</sup>	Garden area m <sup>2</sup>	The price is a dinar
10	3	363 m <sup>2</sup>	176 m <sup>2</sup>	187 m <sup>2</sup>	37,339
20	4	403 m <sup>2</sup>	197 m <sup>2</sup>	206 m <sup>2</sup>	41,387
30	3	362 m <sup>2</sup>	187 m <sup>2</sup>	175 m <sup>2</sup>	39,396
40	4	400 m <sup>2</sup>	208 m <sup>2</sup>	192 m <sup>2</sup>	43,572
50	3	330 m <sup>2</sup>	147 m <sup>2</sup>	183 m <sup>2</sup>	31,875
60	2	298 m <sup>2</sup>	129 m <sup>2</sup>	169 m <sup>2</sup>	28,289
70	2	298 m <sup>2</sup>	139 m <sup>2</sup>	159 m <sup>2</sup>	30,351

Source: Bara'a Kamel Abdul Razzaq Al-Ani, Changing urban land uses for Anah for the period from (1986-2006), Master's thesis (G,M) University of Baghdad - College of Arts, 2008, p. 57

By analyzing the data of Table (3), it turns out that most of the housing units models have green space and open spaces more than the construction area, and this indicates that the new city of Anah is one of the garden cities, as well as

through the data of Table (3) it is clear that there is a discrepancy in the prices of housing units where The table shows that Model (40) contains 4 bedrooms is the highest model in terms of value, as its value amounted to (43,572) dinars, and Model (60) or the so-called (Shakhta) model contains two bedrooms, which is the least valuable among other models. Its value was estimated at (28,289) dinars.

### **Second: commercial use**

Commercial use is one of the most important uses within the urban land uses for any city because it brings a material return to the city as well as works to provide the daily requirements of the city's residents. %) of the total area of the city, and through the data of Map (3), the distribution of commercial use is clear by four markets in each market neighborhood, image (2), where the area of each market is (2,000) m<sup>2</sup>. The planning standards indicate that there is a surplus in commercial use. The local standard specified the commercial use (0.60-0.80 m<sup>2</sup>) for each served person at a rate of (75%) of the total population. Table (1) indicated that the actual need for commercial use is estimated at (5413). m<sup>2</sup>), and the reality indicates the presence of (8000 m<sup>2</sup>), i.e. a surplus of (2,587 m<sup>2</sup>). This indicates to us the existence of a comprehensive planning view in the distribution of commercial use in line with the size of the population and their needs.



Picture 2. The commercial market in the Yarmouk neighborhood in the new city of Anah

Source: Taken on 04/18/2022.

### **Third: Land uses for transportation purposes**

The use of transport is the vital artery of any city, as no city exists without transport roads of any kind, because roads work to link urban uses and the new city of Anah has a set of high-quality paved roads. The use of transport includes the main and secondary roads, corridors and sidewalks, see picture (3) and (4), in addition to the presence of gas stations as well as garages, and the area of the use of transport is about (187,943) m<sup>2</sup>, or 11.5% of the total area of the city It was used for transportation purposes, as in the rest of the other uses, where it

indicates the presence of a surplus in space, where the Iraqi standard specified the person's need at (20 m<sup>2</sup>) per person, and when comparing the need of one person with the number of the population, it becomes clear that the actual need for transportation methods is estimated With (180,420 m<sup>2</sup>), i.e. an estimated surplus of (7523 m<sup>2</sup>), and these quantitative data clearly indicate to us the extent of the accuracy of urban planning in creating an urban environment with integrated services, both quantitatively and qualitatively.



Picture 3. a secondary road inside the new city of Anah  
Source: Taken on February 18, 2022

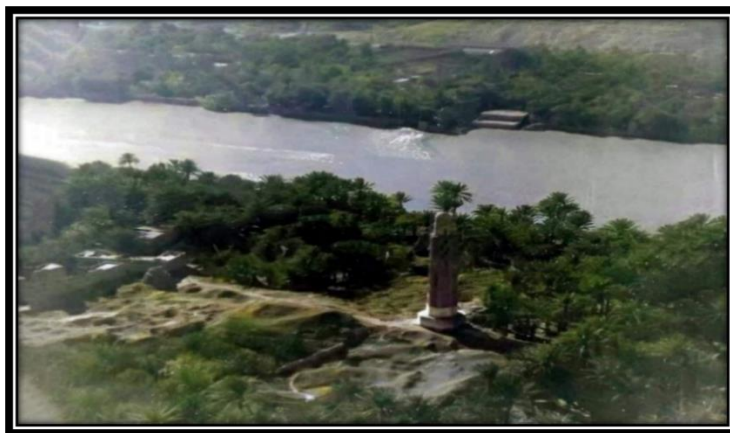


Picture 4. a main road inside the new city of Anah  
Source: Taken on February 18, 2022

#### **Fourth: Uses of green and abandoned land**

The green areas are the lung from which the city's residents breathe, as most planners and architects tend to give great importance to the green area in their designs. The term "garden cities" appeared due to the rule of green spaces over the rest of the uses. Table (1) and Map (3) that the green and abandoned areas

rank first over the rest of the uses, with an area of about (640,856) m<sup>2</sup>, or 39.3% of the city's total area. This number exceeds the local standard in terms of per capita share, as the per capita share was determined according to the standard at (12-16 m<sup>2</sup>) per person, and according to this criterion, the city's actual need of green areas is estimated at (126,294 m<sup>2</sup>), and this indicates the presence of A very large surplus of this use is estimated at (514,562 m<sup>2</sup>). These quantitative indicators also indicate to us taking into account sustainable urban planning to find a healthy and suitable urban environment for its residents and be close to the old environment for the residents of Anah, which is represented by the ancient city of Anah, which is characterized by a dense vegetation cover, see image (5), so this aspect was taken care of by the planning authorities in allocating Wide and suitable green areas at the level of public parks and landscaping streets as well as green areas within each housing unit, see picture (6) and (7), a feature that is not available even in the residential complexes that have been established at the present time, and it constitutes the special outlet for each family, This is except for the recreational areas that we will show later.



Picture 5. the ancient city of Anah

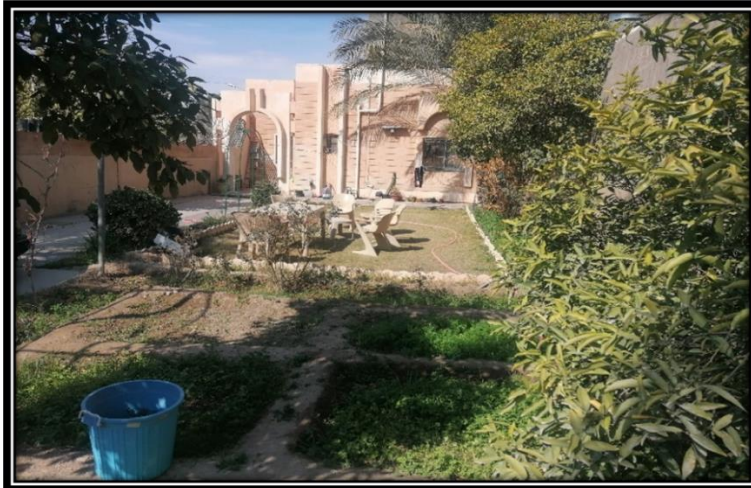
Source: Posted on Facebook browser, dated 12/4/2022

[https://m.facebook.com/story.php?story\\_fbid=3210026115942321&id=100008048920691](https://m.facebook.com/story.php?story_fbid=3210026115942321&id=100008048920691)



Picture 6. green areas within the new city of Anah

Source: Taken on February 18, 2022



Picture 7. The green areas within the residential units in the new city of Anah  
Source: Taken on February 18, 2022

#### **Fifth: Educational land uses**

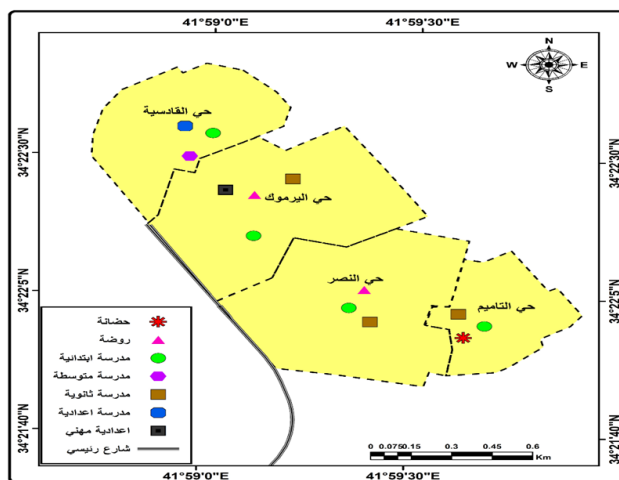
The use for education purposes is one of the necessities that any city needs, because it works on developing and developing knowledge among the city's residents. Therefore, the trend towards these services began until they set standards for them in terms of designs and work mechanism, and the planners attached importance to this use when designing the new city of Anah, where the city contained On (13) educational buildings, consisting of primary, middle and middle schools and nurseries distributed over the city's neighborhoods, see Table (4) and Map (5), and the area of educational use was about (86,500) m<sup>2</sup>, or (5.3%) of the total The area of the city, and through the application of local standards for educational services to the city compared to the number of residents, there was a large surplus in this use, as the actual need for educational services was estimated at (47,270 m<sup>2</sup>), i.e. a surplus of (39,230 m<sup>2</sup>). It is clear through the indicators of the spatial distribution that their distribution in terms of quantity and type is taken into account in a manner consistent with the distribution of the population in the city of Anah, see Table (5) and Figure (2), as well as taking into account the ease of access, especially since its distribution was within the main streets of the city.

Table 4  
Distribution of educational buildings in the neighborhoods of the new city of Anah for the year 1986

Type	El-Nasr Neighborhood	Yarmouk neighborhood	Qadisiyah neighborhood	Tameem neighborhood
Incubation	_____	_____	_____	1
Kindergarten	1	1	_____	_____

Elementary school	1	1	1	1
Middle school	_____	_____	1	_____
Middle school	_____	_____	1	_____
Highschool	1	1	_____	1
Vocational Prep	_____	1	_____	_____

Source: Baraa Kamel Abdul Razzaq Al-Ani, Changing urban land uses for the city of Anah for the period from (1986-2006), Master's thesis (G,M) University of Baghdad - College of Arts, 2008, p. 71.



Map 5. of land uses for education purposes

Source: Bara'a Kamel Abdul Razzaq Al-Ani, Changing urban land uses for Anah for the period from 1986-2006, Master's thesis (G,M) University of Baghdad - College of Arts, 2008, p. 70

Table 5

The population distribution of the new city of Anah for the year 1986

Neighborhood	Population (people)	The ratio %
victory	2808	31.1%
Qadisiyah	2435	27%
Yarmouk	2368	26.3%
nationalization	1410	15.6%
the total	9021	100%

Source: - Republic of Iraq, Ministry of Planning, Central Statistics Authority, General Census and Population Studies Authority, 1987 census results

Relying on, Falah Hassan Aswad Al-Fahdawi, Analyzing the Change in the Population of Anah City (Using Modern Maps), Master Thesis (G.M), University of Anbar - College of Arts, 2009, p. 54.

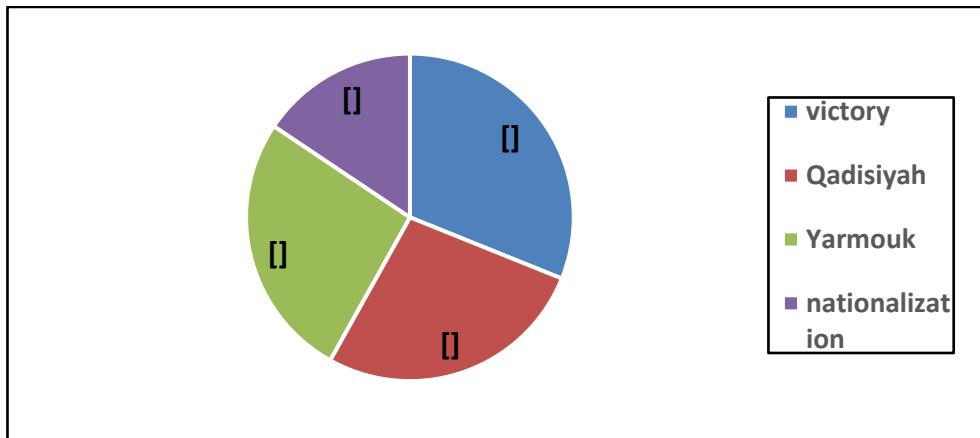


Figure 2. Relative distribution of the population of the new city of Anah for the year 1986

Source: Table (5).

### Sixth: healthy land uses

Sanitary use is one of the important uses for any city, no matter how big or small, where health use is one of the complementary uses to other urban uses and cannot be dispensed with. 1.9%) of the total area of the city, and anah hospital is located in the Yarmouk neighborhood, as shown on map (3). And the professionalism of planning and the future outlook of the planners created a positive surplus in health use compared to the population in 1986, when the population in that year was (9021 people), and the Iraqi standard indicates that for every (50,000) people / hospital, so it is an indicator Positive compared to the approved standards, and the hospital contains (100) beds, ie (90) people / bed, while the Iraqi standard was set at (200) people / bed, and this is also a positive indicator of the efficiency of health use in the city.

### Seventh: Religious land uses

Religious use represents a spiritual symbolism for the population that cannot be dispensed with in all cities. This use differs from one city to another and the type of use varies according to the religion to which the city's residents owe. (3) It amounted to about (11,000) m<sup>2</sup>, or 0.7% of the land area of the city, represented by the presence of a mosque with an area of (3,000 m<sup>2</sup>), located in the Yarmouk neighborhood, see picture (8), and a cemetery with an area of (8) , 000 m<sup>2</sup>). Likewise, the religious use is the same as the case with the rest of the uses, where it was found to be sufficient in distribution with the size of the population at that time, despite that the planning authorities actually established one mosque, but at the same time left spaces designated for mosques on the grounds that there are other responsible bodies About the establishment of mosques, such as the Sunni endowment at the present time and through donors, and thus, the planning authorities took into account the appropriateness of religious uses (mosques - mosques) with the needs of the city's residents at that time.





Picture 8. Great Mosque of Anah  
Source: field study, taken on February 17, 2022

#### **Eighth: Recreational land uses**

Recreational uses of land are important uses in cities, where residents resort to entertain themselves, get rid of work pressures and give the body a rest. The city also contains a public library, and the total area of recreational land uses reached about (32,000) m<sup>2</sup>, or 2% of the city's total area. As for the actual need for recreational services, according to local standards, it is estimated at (11,428 m<sup>2</sup>). ) compared to the size of the population at that time, with a surplus of (20,572 m<sup>2</sup>). Thus, the presence of these services gives a clear indication of the genius of design and ingenuity of implementation of the new city of Anah.

#### **Ninth: Other uses of the land**

It represents all the uses that were not mentioned above. These uses occupy an area of (58,500) m<sup>2</sup>, or 3.6% of the total area of the city. These uses are represented in the presence of a water department, an electricity department and other technical departments, as well as a network Integrated for the drainage of heavy water and rain water, as well as the city contains an industrial area located outside the basic design of the city and contains a group of industrial workshops.

#### **The method of owning residential homes for the residents of the new city of Anah**

The new city of Anah was built for the purpose of compensating the people whose homes were submerged in the old Anah as a result of the construction of the Haditha dam. Therefore, a committee was formed under the chairmanship of the Mayor of the Anah District and the Municipal Director of Anah in order to inventory and register the affected families and evaluate the old houses in order

to compensate them. Therefore, the committee concluded a group of The procedures are:

- The family that used to rent a house in the old city of Anah and did not own a house, 25% of the value of the house is reduced and the rest is paid in installments for 25 years.
- As for the family who owned a house in the old city, the price of the house is evaluated and it is deducted from the price of the new house, and due to the limited value of the old house, 25% of the value of the house is deducted, and the rest is paid in installments over 25 years.
- As for those who owned a house and did not live in it, the value of the house is deducted from the new house, and it is paid in installments for 20 years and is not reduced.
- After the distribution of the residential houses, there appeared to be a surplus of the houses, so an auction was announced to sell the houses, provided that the payment mechanism would be half the price in advance and the other half in installments over three years, provided that the installments do not exceed five payments.

Through the adoption of these mechanisms based on a prior study by the relevant authorities, it becomes clear to what extent the higher authorities take into account the situation of the population, while providing clear facilities in the field of discounting and the payment period, which ranged between (20-25 years).

### **Conclusions**

- It became clear through the research that the design of the new city of Anah relied on high standards of accuracy in design and implementation.
- The planners took into account the nature of the old environment for the inhabitants of the old city of Anah, so the green areas had sovereignty over the rest of the uses.
- There is a high efficiency in distributing community and basic services to the city's neighborhoods.
- The nature of the construction of the residential houses in the way of prefabricated construction (concrete) helped the city maintain its morphology without modification except slightly.
- It was concluded that the higher authorities took great care of the city's residents when paying the housing fees, and great facilities were provided to them, after which they were exempted from debts.

### **Recommendations**

- The competent authorities must maintain the viability and development of the city and work to rehabilitate the public service facilities in the city.
- 2 - Rehabilitation of the green areas inside the city, which is considered the lung from which the city breathes, as it has been neglected, as it became clear through the field study.
- Working on developing and renewing community services, as they were subjected to some sabotage as a result of successive military events.

- The competent authorities should prevent the residents from encroaching on the green areas by imposing strict penalties.
- The government public sector should benefit from this experience in the field of constructing new cities in accordance with the applicable planning standards and in a manner that ensures the availability of a comfortable and healthy residential environment, taking into account the ease of obtaining housing by different groups of society, unlike what is currently happening in the experience of the private sector in the field of housing.

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