



Journal Website:
<https://theusajournals.com/index.php/ajsshr>

Copyright: Original content from this work may be used under the terms of the creative commons attributes 4.0 licence.

THE IMPACT OF POPULATION CHARACTERISTICS ON THE SPATIAL DEVELOPMENT OF NAJAF GOVERNORATE

Submission Date: December 08, 2024, **Accepted Date:** December 13, 2024,

Published Date: December 18, 2024

Crossref doi: <https://doi.org/10.37547/ajsshr/Volume04Issue12-11>

Dhifaf Riyadh Salih

University of Kufa, College of Education for Girls, Iraq

Dr. Hussein Jaaz Nasser Al-Fatlawi

Prof., University of Kufa, College of Education for Girls, Iraq

Dr. Jawad Kadhim Obaid Al-Hasnawi

Prof., University of Kufa, College of Education for Girls, Iraq

ABSTRACT

Human potential is one of the most relevant topics to development issues, as it represents economic wealth and is an essential tool for achieving spatial development. Man is the means and goal of development and a practical element in determining development trends because population and development are two-way and interconnected. If population growth is explained by natural increase, migration, and mortality variables, these same variables explain the development process. Development is described as a complex and multidimensional process centered on a spatial container that contains it to show its effects in the surrounding environment but at varying degrees and levels embodied in human settlements. Therefore, spatial development topics have increasingly received the attention of scientific and human specializations due to their significant role in developing cities or regions and bringing about fundamental changes in light of the problems that have been exacerbated due to the high population increase. In Najaf Governorate, there are human potentials capable of creating spatial development, influenced by the role of demographic variables in the governorate, such as high annual population growth rates, geographical distribution, and high population density, as well as knowing the degree of their population concentration. To form a clear picture



of the population, one of the tools for the success of development projects is based on their capabilities and density in the place.

This research is designed to provide valuable insights into the relationship between population and spatial characteristics, using available official statistics and data. The role of these demographic variables in influencing the development process in Najaf Governorate from (2012 to 2022) is a key focus. The research relies on a descriptive-analytical approach to analyze the demographic variables of Najaf Governorate, serving as a fundamental scientific basis to present a clear picture and reveal the characteristics of the governorate's population and its impact on spatial development. The ultimate goal is to provide recommendations for effective spatial development based on demographic analysis.

The research's findings and proposals are of significant importance, as they provide valuable insights into the relationship between population and spatial development in Najaf Governorate. These findings and proposals have the potential to inform policy and practice in the region and beyond.

The disparity in population capabilities, resources, and functional characteristics of the districts of Najaf Governorate represents a natural state that can be exploited and invested in a way that leads to the development of the districts first and the governorate second, according to planning visions and based on each district's capabilities.

The study's most significant proposal was establishing a population database at the level of the governorate and its districts, whose data is updated periodically or annually, and redistributing the population of the governorate's district centers to achieve a balance in the distribution of population and services.

KEYWORDS

Population, spatial development, distribution, population growth.

INTRODUCTION

The population is the real wealth of societies and the primary and guiding force for the process of spatial development because they are the makers of development, its goal, and the main factor in its success. The population can be viewed from two sides:

as a consumer on the one hand and as a producer on the other. Their increase means an increase in demand for goods and services, an increase in the hands capable of working, and their influence on investment, consumption, and the labor market, thus pushing the



spatial development movement toward prosperity. The increase in their growth rates is indicated by the increase in the youth of society, the increase in the proportion of human power and labor force to the total population, and the diversity of experiences and contributions to development construction. According to the results of contemporary information and technological wealth, the study of quantitative and qualitative population changes has become essential in supporting and enhancing growth and development efforts in all countries, indicating the strength of the link between the demographic factor and spatial development. Achieving balanced spatial development in the study area and across all regions of the country requires consolidating and integrating the spatial, urban, and population dimensions into all strategies, plans, and population policies at the regional and local levels to determine spatial development priorities and ensure that they reach the maximum possible benefit in the shortest possible time and so that the fruits of development reach all members of society.

To achieve the research methodology, scientific necessity required dividing the research into three sections and concluding what the section reached, represented by findings and recommendations. The first section clarifies the concept of spatial development and tracking the development of the population of Najaf Governorate. In contrast, the second section includes the numerical and relative

distribution and general density. In contrast, the third section clarifies the percentage of population concentration in the governorate as a whole and the role of spatial development in all the districts of the study area.

First topic

1- Research problem

The research problem is a crucial one, revolving around the following question: -

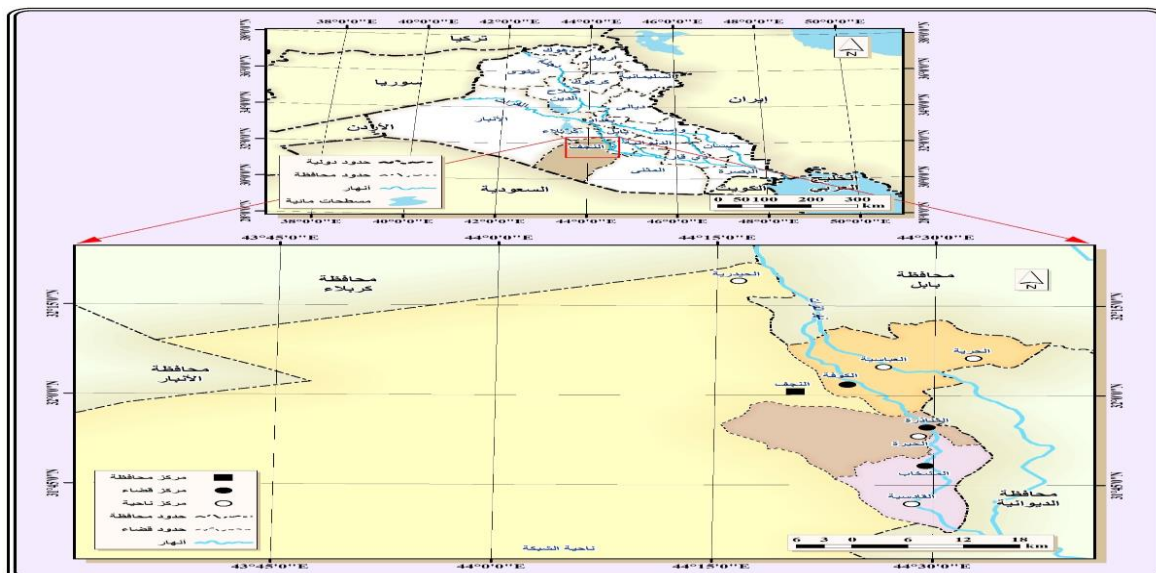
(To what extent do population characteristics affect spatial development in Najaf Governorate regarding population growth, distribution, and concentration?)

2- Research hypothesis

The spatial boundaries of the study area are represented by the area contained within the administrative boundaries of Najaf Governorate, which is located to the south of the capital Baghdad on the eastern edge of the alluvial flood area. It is administratively bordered to the north by Karbala Governorate, to the northwest by Anbar Governorate, to the east by Qadisiyah Governorate, to the northeast by Babil Governorate, to the southeast by Muthanna Governorate, and to the south and southwest by the Kingdom of Saudi Arabia. It is located between longitudes (42.0° - 44.45°) east, and latitudes (29.50° - 32.21°) north. It occupies an area of (29346 km²) of the area of Iraq, which is (435244 km²) on the map. The

temporal boundaries of the study are represented by the period (1997 - 2017).

Map (1) Study area of Iraq



Source: The researcher based on: Republic of Iraq, Ministry of Water Resources, General Survey Directorate, Administrative Map of Iraq, 2021, scale (1:1000000).

4- The concept of spatial development

Spatial development is defined as the process of moving from the current situation to a better situation in the economic, social, environmental, and urban aspects, aiming to achieve the spatial structure of the economy in a specific place and time, a level of development to enhance economic growth (1). It is also described as a complex process with multiple geographical dimensions, including a conscious strategy with specific goals and objectives in long-term

stages based on controlling the size and quality of available financial, human, and natural resources to reach the maximum possible investment in the shortest period, to achieve economic and social well-being in that place or region (2).

The phenomenon of spatial development has received the attention of many development plans in developing countries as a result of the misuse of investments and the mechanism of distributing them fairly from one country's regions, as spatial



development is the result of economic plans and investment programs, which sometimes lead to structural imbalances as a result of the sharp disparity in development levels between different regions of the country (3). In contemporary trends, spatial development has become the primary tool in confronting backwardness and moving towards advancement and progress after the emergence of the problem of sharp disparity in development levels, as it constantly seeks through its policies of coordination between parts of the region to create a settlement and balance in the economic and social fields to achieve the well-being of the population, by reducing unemployment levels and creating employment opportunities for the population, through the optimal use of available resources and raising the efficiency of spatial space in attracting investments and service and financial activities (4), and thus achieving a relative development balance between the regions on the one hand, and achieving a kind of balance between maximizing economic development rates at the national level, and achieving justice in distributing the fruits of this development between the regions and areas of the country on the other hand. Following a balanced spatial development policy is based on balancing the trends of quantitative and qualitative change in the economic and social reality in a place, as it seeks to facilitate the regions towards a state of balance based on what they possess of capabilities in a manner consistent with the national economy,

meaning that it means the locational and spatial aspects of economic development that embody the reality of the relative and absolute spatial dimension, when it works to integrate national goals and look at the economic structure in an integrated manner, and thus to analyze the relationships between the various sectors to achieve balanced development in all sectors (5), Plan (1), and the three goals are (6):

- 1- The economic goal: represented by the interrelationship between the production and service sectors and the extent of their contribution to supporting the gross domestic product, raising the levels of economic development and human resources development, establishing infrastructure, reducing structural defects in the economy, and achieving economic and social well-being.
- 2- Social objective: It is represented in the changes that occur as a result of achieving a balance between regions and cities in a way that provides convergence in the level of income, living, lifestyles, behavior, social relations, cultural levels, and positive repercussions on the quality of life resulting from increasing both income and production by reducing the unemployment rate and raising economic growth rates.
- 3- Organizational objective: It is represented in the institutional and administrative changes necessary to keep pace with society's different stages of development and interact with variables and developments efficiently and flexibly through



technical development, improving productivity, and raising the efficiency of the performance of the various agencies and institutions participating in development processes.

5- Population size and growth Population studies occupy a prominent position in geographical studies, as they are the source of all human issues, and because the field of population geography focuses on understanding the spatial variations of the various

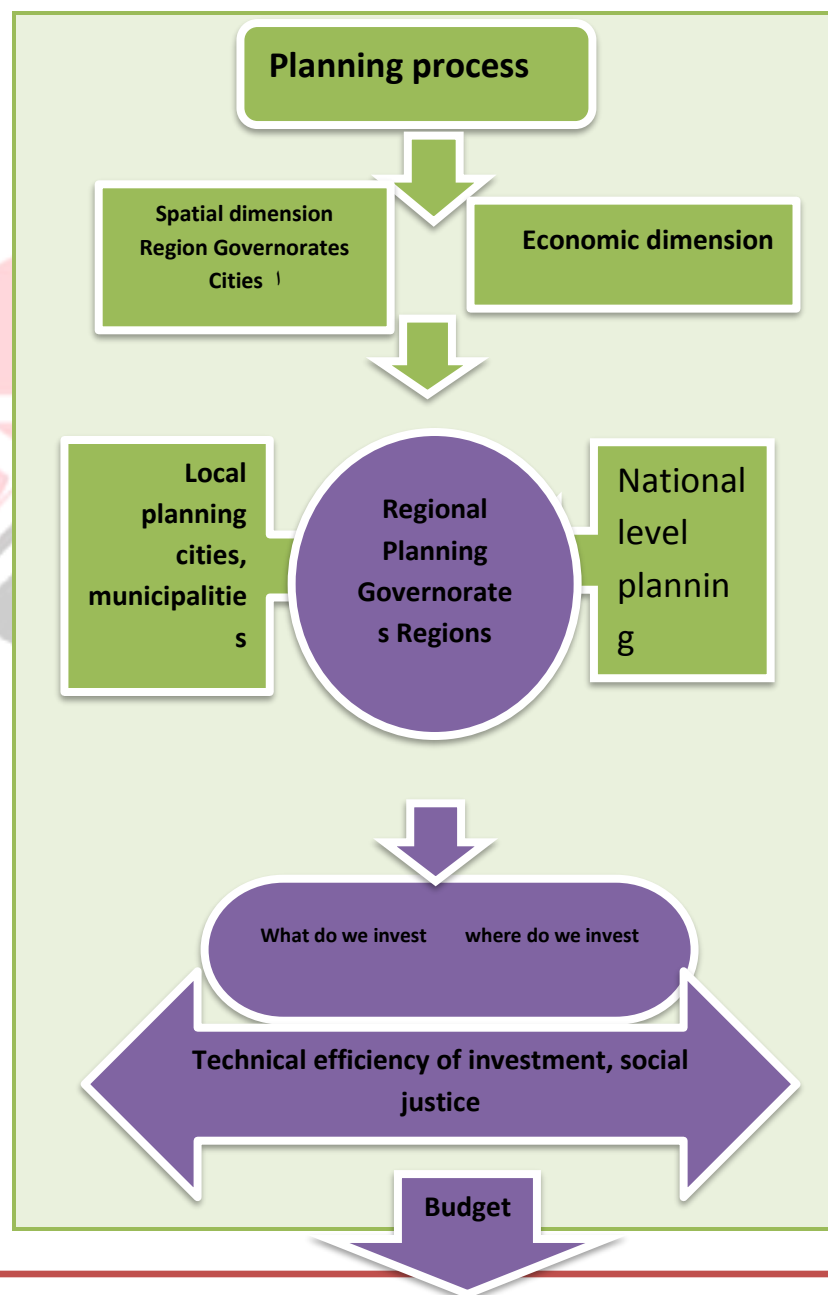
population elements, which are centered in their entirety on what is known as population growth, which is defined as the increase or decrease in population size during a specific period (7), as knowing the population size is essential in the workforce with the size of services, which spatial development projects can achieve, because the relationship between population and spatial development depends on the balance in this size and the size of the natural resources of the place (8).

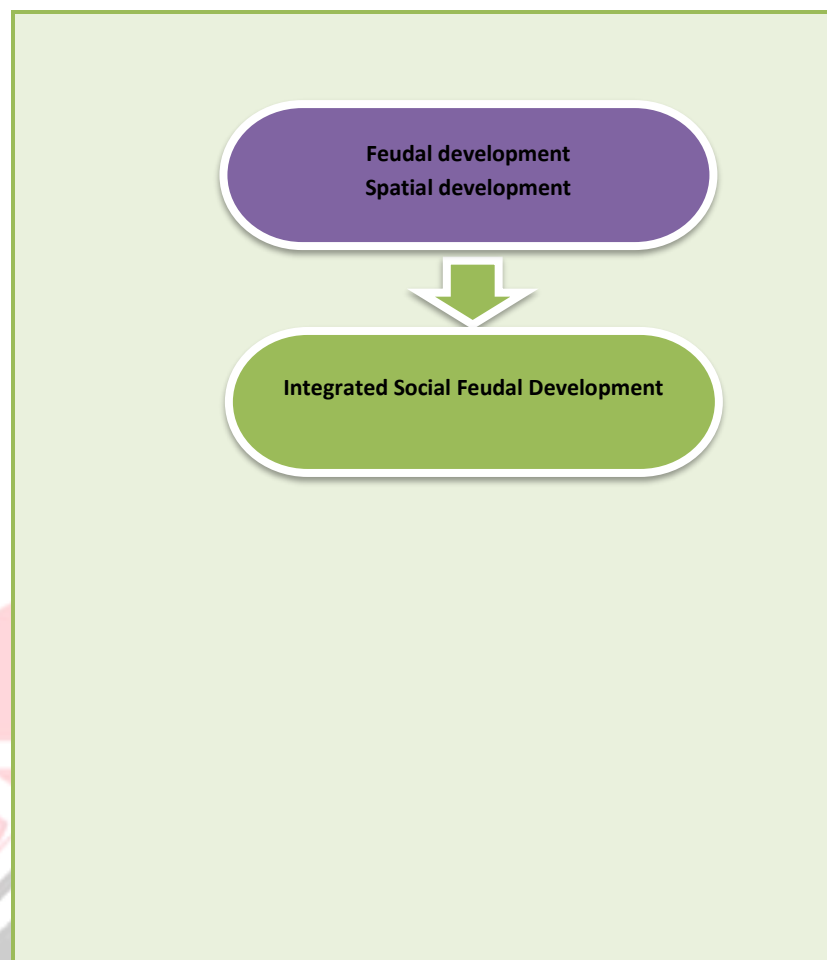


OSCAR
PUBLISHING SERVICES



Scheme (1)





Objectives of the spatial development process

Source: Mustafa Jalil Ibrahim, The Impact of Spatial Characteristics on Development Mechanisms,

College of Arts Journal, Issue 102, 2019, p. 710.

Table (1): Development of the Population Size of the District Centers of Najaf Governorate for the Period (2012-2022)

| Annual Growth Rate | Population 2012 | Population 2012 | District centers |
|--------------------|-----------------|-----------------|-----------------------|
| 2,20 | 859165 | 694201 | Najaf District Center |

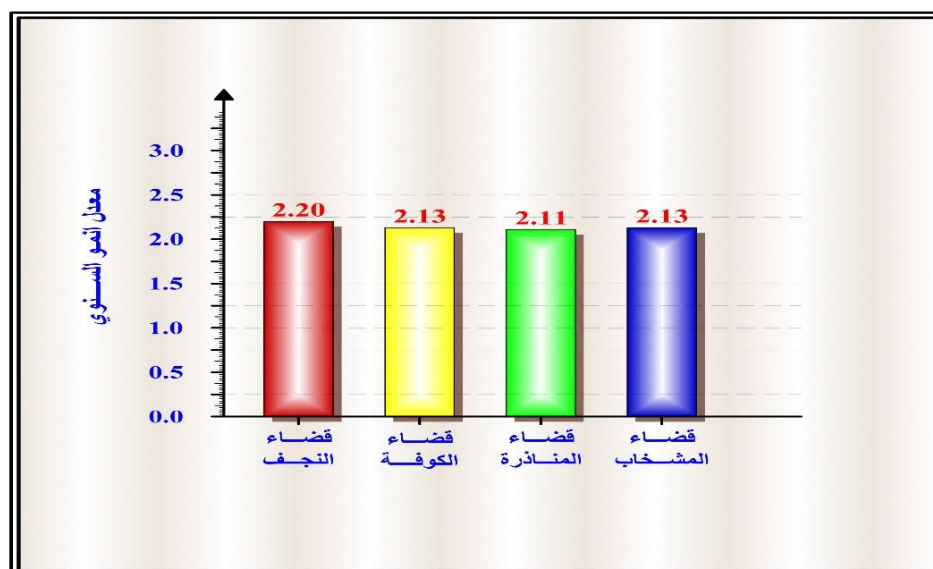
| | | | |
|------|---------|---------|-----------------------------|
| 2,13 | 268142 | 216982 | Kufa District Center |
| 2,11 | 103218 | 83704 | Al-Mundhir District Center |
| 2,13 | 103417 | 83870 | Al-Mashkhab District Center |
| 2,14 | 1333942 | 1078757 | Total |

Source: The researcher based on:

- Ministry of Planning, Central Statistical Organization, Annual Statistical Collection, Najaf Governorate for the year 2012, Table (2), p. 5.
- Ministry of Planning, Central Statistical Organization, Annual Statistical Collection, Najaf Governorate for the year 2022, Table (2), p. 5.

Figure (1)

Annual population growth rate of Najaf Governorate's district centers for the period (2012-2022)



Source: The researcher based on Table (1)

The population growth rate is usually calculated by knowing the change in population size between two different censuses, assuming a time difference of not less than (10) years. As a result of not conducting a

population census since 1997, reliance was placed on enumeration, numbering, and estimates, which are characterized by inaccuracy and ambiguity, which is necessary to know the population development in the



country or region. It is clear from the analysis of the data in Table (1) and Figure (1) that the population size of the study area is increasing at an increasing rate during the study period (2012-2022). Their size was estimated in 2012 at (1,078,757) people. The Najaf District Center had the highest population size of (694,201), with an annual growth rate of (2.20). In comparison, the population size of all the districts of Najaf Governorate in 2022 was (1,333,942), with an annual growth rate of (2.14). The Najaf District Center obtained The highest population size is (859,265) people, which indicates the high indicators of the natural increase in the population, represented by the increase in births and the decrease in deaths, in addition to the impact of the migration factor from the various governorates of the country, due to the impact of the development witnessed by the governorate in various fields (cultural, economic, health) in addition to the great urban expansion, and because all the activities and various development projects are carried out through them and for them at the same time, knowing their size, concentration and annual growth rate is necessary for appropriate planning to meet the various needs and services, and thus what can be done to establish development projects based on their efficiency and ability in the region. The second section

The geographical distribution of the population of the districts of Najaf Governorate

The distribution of the population means that it is distributed in a natural place through which people can settle and exploit it in the best way (9). It represents a purely geographical characteristic due to its strong spatial connection. The phenomenon of population distribution was also described as a continuous dynamic phenomenon, the causes and results of which differ in time and place, according to a system of characteristics or natural influences and socio-economic and historical variables, which interact with each other and overlap to form the spatial distribution image of the population (10). The development of the economic and social conditions in Najaf Governorate and the center of its districts had a prominent, influential role in increasing the population during the mentioned study period. The population will be distributed in the centers of the districts of Najaf Governorate in a numerical, relative, and dense distribution as follows:

1- Numerical distribution

The concept of numerical distribution is determined by the number of people who were counted and confined in a specific area and at a specific time, depending on the quantitative or volumetric basis in the classification, without considering what this volumetric quantity constitutes of the total percentage For the population of the region or province (11). This numerical quantity in the administrative units gives a general idea about the structure of the population



presence in the region and its spatial relationship in current and future expectations. From this standpoint, the numerical distribution of the population has gained special importance in population and geographical studies, as it represents the final and comprehensive picture in which all the natural and human geographical elements appear together and interact within cities or their administrative units. The data in Table (2) and Figure (2) show the variation in the population distribution in the centers of the districts of Najaf Governorate for the period (2012-2020). The population reached (1,078,757) people in 2012, while the number rose to (1,333,942) people with an absolute increase of (255,185) people. This population was distributed among the centers of its four districts. The center of Najaf District obtained the first place during the mentioned study period, with a population increase of (164,964) people, while the center of Al-Manathira District obtained the last place for the same mentioned period, with a population increase of (19,514) people. This great development in the population is attributed to the improvement of the

economic and health situation, in addition to the hidden migration movement from the districts to these centers and other governorates of the country due to the availability of job opportunities and services that are somewhat better than the districts and the rest of the governorates of the country, especially the southern ones. 2- Proportional distribution

The proportional distribution means the percentage of the total population contained in the administrative unit. It simplifies the numerical distribution by converting those numbers into percentages, constituting the total population percentages of the region to be studied. It is also one of the most used methods in measuring the spatial variation of the demographic quantity distribution, and revealing the images of this variation and its temporal and spatial differences clarifies the importance of the place and its development during a specific period by analyzing the various digital population data (12), so the proportional distribution is necessary to know the relative weight of the population size of each region (13).

Table (2): Numerical distribution of the population in the center of the districts of Najaf Governorate for the period (2012-2022)

| Absolute Change 2012-2022 | Estimates 2022 | Estimates 2012 | District Centers |
|---------------------------|----------------|----------------|----------------------------|
| 164964 | 859165 | 694201 | Najaf District Center |
| 51160 | 268142 | 216982 | Kufa District Center |
| 19514 | 103218 | 83704 | Al-Mundhir District Center |

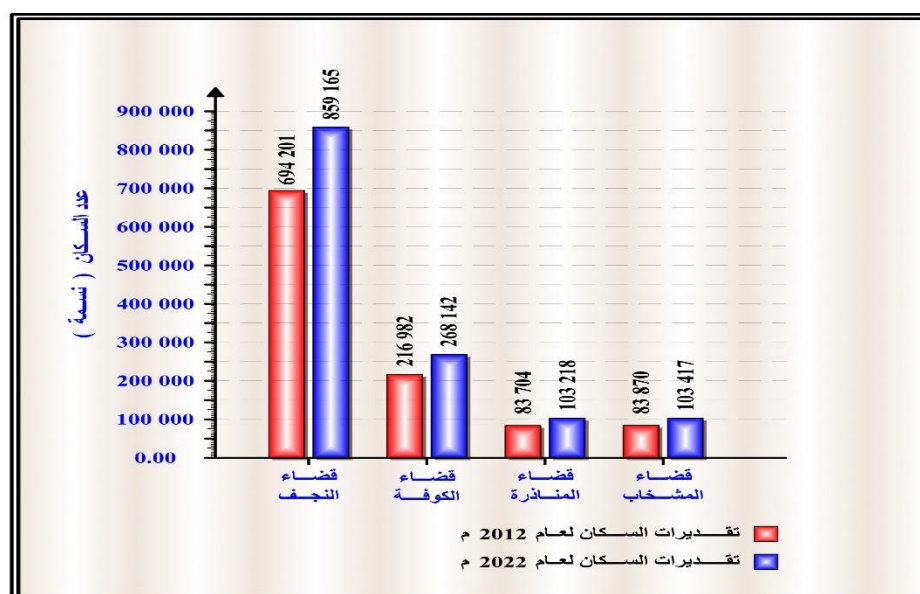


| | | | |
|--------|---------|---------|------------------------------------|
| 19547 | 103417 | 83870 | Al-Mashkhab District Center |
| 255185 | 1333942 | 1078757 | Total |

Source: The researcher based on:

Table (1)

Figure (2): Numeral distribution of the population in the district center of Najaf Governorate for the period (2012-2022)



Source: The researcher based on Table (2). Table (3) and Figure (3) show the variation in the geographical distribution of the population of the district centers of Najaf Governorate and, thus, the variation in their percentages. The Najaf District Center outperformed by a percentage of (64%) of the total population of the district centers of the governorate in 2012, i.e., it won first place. Its superiority continued until 2022, with (65%) of the total population of the district centers of

the governorate, which indicates that it acquired about a third of the population of the district centers of the governorate, and this justifies the superiority of the human characteristics represented by the religious and historical factor, which is represented by containing the shrine of Imam Ali (peace be upon him), the main reason for the existence of the city and the continuation of its development, in addition to the factors previously mentioned, which confirms the



importance of the center, which is represented by its large population, which made it the center of the governorate, and a factor of attraction for the population of other governorates. As for the Kufa District Center, it came in second place with a percentage of (19%) of the district centers of the governorate in 2012, and the percentage rose to (20%) of the total population of the governorate in 2022. The center of Al-Munathira and Al-Mashkhab districts came in last place with (8%) of the total population, which indicates the disparity in the relative distribution of the population of the centers of the governorate's districts. 3 - Density distribution

By population density distribution, we mean knowing the average population size in the area unit (km², square mile) to be able to draw a picture of the spatial distribution of the population in the urban or rural area,

in addition to analyzing the population situation and its relationship to the characteristics of the region and the results of this in developing the region and investing its economic resources (14). Since studying the numerical and relative distribution of the population through their absolute numbers or percentages cannot give a clear idea about the nature of their spread or concentration, it may not be a measure for comparison between administrative units. Relying on population density indicators necessarily allows such possibilities because the population is not distributed regularly due to its connection to several factors that may be economic, social, or natural (15). Suppose it receives the attention of population studies and city planners. In that case, they can arrange functions within the urban area to prepare for creating an urban environment characterized by the efficiency of its functions and services.

Table (3): Relative distribution of the population of the districts of Najaf Governorate for the period (2012-2020).

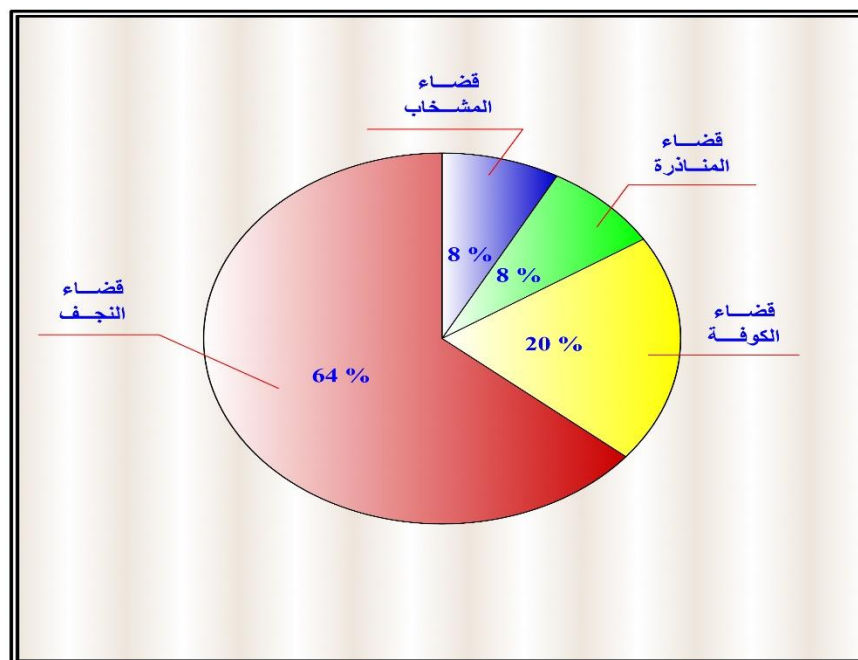
| Rate | 2022 estimates | Rate | 2012 estimates | District Centers |
|------|----------------|------|----------------|-----------------------------|
| 65 | 859165 | 64 | 694201 | Najaf District Center |
| 20 | 268142 | 19 | 216982 | Kufa District Center |
| 8 | 103218 | 8 | 83704 | Al-Mundhir District Center |
| 8 | 83870 | 8 | 83870 | Al-Mashkhab District Center |

| | | | | |
|-----|---------|-----|---------|-------|
| 100 | 1333942 | 100 | 1078757 | Total |
|-----|---------|-----|---------|-------|

Source: The researcher based on:
Data from Table (1)

Figure (3)

The relative distribution of the population of the districts' centers in Najaf Governorate for the period (2012-2022)



Source: The researcher based on Table (3). The data in Table (4) indicate that the distribution of the general population density within the administrative units of the governorate and its district centers varies during the mentioned study period. The Kufa district center surpassed the highest population density of (1682) people in 2012, followed by the Mishkhab district center with (684) people, while the lowest density was in the Al-Manathira district center with (258) people. As for the estimates for the year 2022, the trend of the administrative units continued in the same direction, as the Kufa district center acquired the highest density of

(2078) people, followed by the Mishkhab district center with (840) people, while the lowest density was in the Al-Manathira district center with (319) people. The reason for the superiority of the Kufa district center in the high population density during the study period is due to the small area of the district center, on the one hand, its location within an alluvial plain area, and its proximity to the Najaf district center and its containing some holy shrines represented by (Muslim Ibn Aqil, Mitham Al-Tammar, Imam Ali Mosque, The shrine of the Master of the Age (PBUH), Sayyid Ibrahim), in addition to the availability of services and



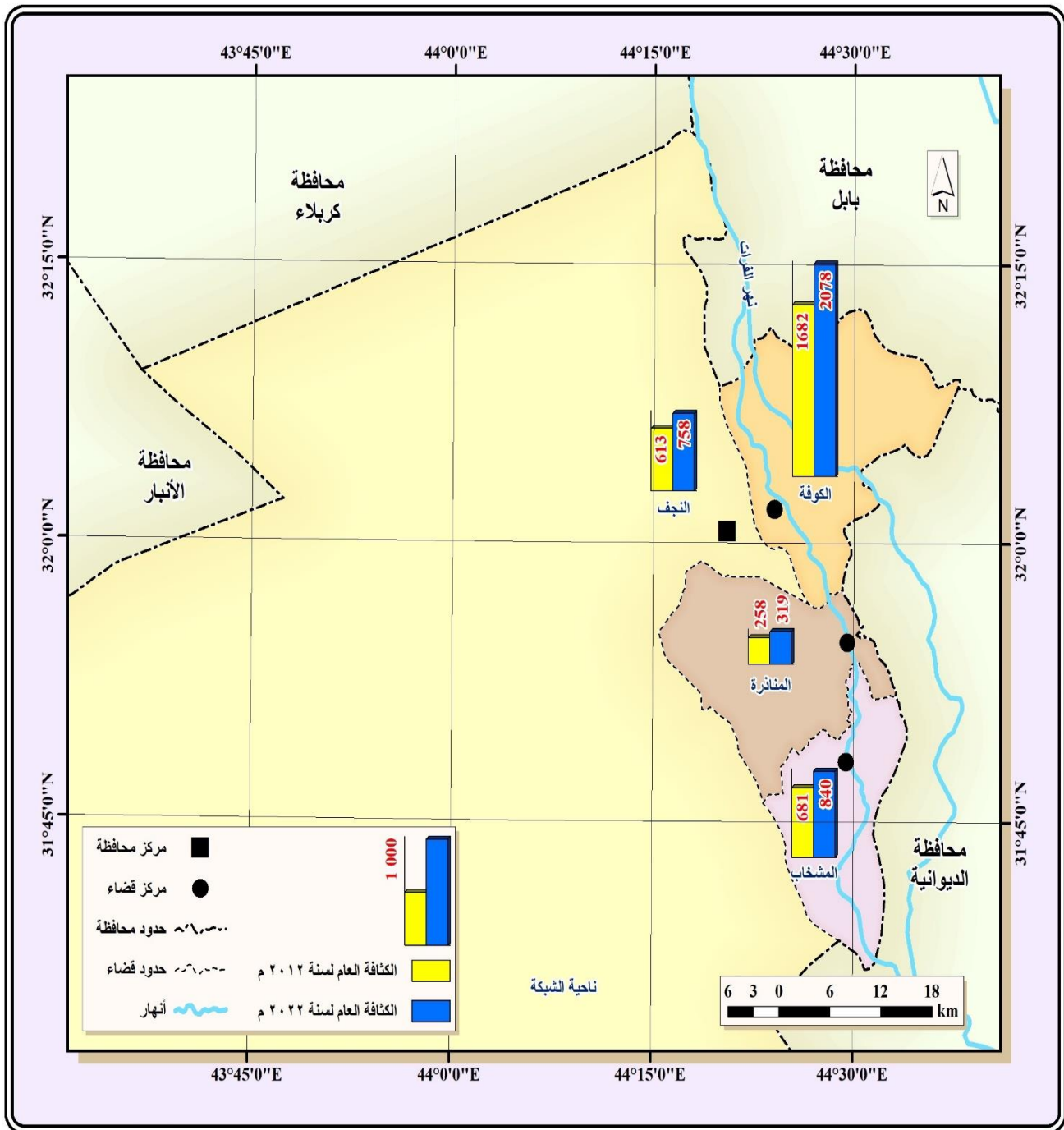
the diversity of activities that acted as an attraction factor for residents of the outskirts or other governorates of the country.

Table (4): The dense distribution of the centers of the districts of Najaf Governorate for the period (2012-2022).

| General Density Km2 | Area, Km2 | 2022 Estimates | General Density Km2 | Area, Km2 | 2012 Estimates | District Centers |
|---------------------|-----------|----------------|---------------------|-----------|----------------|-----------------------------|
| 758 | 1133 | 859165 | 613 | 1133 | 694201 | Najaf District Center |
| 2078 | 129 | 268142 | 1682 | 129 | 216982 | Kufa District Center |
| 319 | 324 | 10321 | 258 | 324 | 83704 | Al-Mundhir District Center |
| 840 | 123 | 103417 | 681 | 123 | 83870 | Al-Mashkhab District Center |

Source: The researcher based on:

- Table (1).
- Ministry of Planning, Central Statistical Organization, Annual Statistical Collection of Najaf Governorate for the year 2022, Table (1) p. 4.
- Map (3): Density distribution of the population of Najaf district centers for the period (2012-2022)



Source: Researcher, data from Table (4). The third topic

Population concentration in the centers of the districts of Najaf Governorate

Since the real importance of studying the population distribution is to reveal the relationship between the



population and the place where they live, as it is described as a process linked to the place that changes in time and space, therefore trying to identify the pattern of their concentration in the place is an important matter because it aims to reveal where they are concentrated or scattered and spread around a specific center (16), so it is necessary to know the size of the population in any area to be studied, to give a clear picture of the change in the size of the population, and the ability of the land to support them, especially since there is no static society and the population is not distributed regularly, as a result of the variation in natural and human conditions that differ in their effect from one place to another. (17)

The percentage of population concentration in the regions is measured according to the numerical standard, which is the degree of concentration, which is statistically equal to half the total absolute difference between the percentage of the area and the percentage of the number of people in each region. The result ranges between the percentage that approaches zero, the smallest, and the one that approaches (100), the largest, meaning that the larger the percentage, the more the population They tend towards high concentration, and vice versa, the lower the ratio, the more the population is spread and dispersed (18). The importance of studying population

concentration lies in what it provides to city planners and those concerned with developing development plans according to the spread and concentration of the population. When calculating the concentration ratio for the population of the centers of the districts of Najaf Governorate for the period (2012-2020) Table (5), it can be noted that the relative spread is the main characteristic in the population distribution or their concentration. The population was concentrated to a large extent in a judicial center (Kufa and Al-Mundhirah) at a rate of (5, -5) for the year 2012, which indicates the stability of the security and economic conditions, in addition to the characteristics and advantages enjoyed by the judiciary that were previously mentioned. As for the year 2020, the population concentration continued in the same direction with an increase in the concentration ratio over the previous year, 2012, as the concentration ratio reached (-6, 5) for each of the centers of the Kufa and Al-Mundhirah districts, respectively. By analyzing the population distribution data in the centers of the governorate's districts, we reach the fact that the population and the district centers need to provide comprehensive development plans for each district center to provide economic, social, and cultural services that meet the diverse needs of the population, in addition to providing other services.



Table (5): Population concentration percentage in the district centers of Najaf Governorate for the period (2012-2020).

| 2020 | | | 2012 | | | District Centers |
|-----------------------|----------|----------------|--------------------------|----------|----------------|-----------------------------|
| 1/2 difference *(P-S) | Area % p | Population % s | 1/2 difference)P - S* (| Area % p | Population % s | |
| 1 | 66 | 65 | 1 | 66 | 64 | Najaf District Center |
| 6- | 8 | 20 | 5-5- | 8 | 19 | Kufa District Center |
| 5-5 | 19 | 8 | 5-5 | 19 | 8 | Al-Mundhir District Center |
| 1- | 7 | 8 | 1- | 7 | 8 | Al-Mashkhab District Center |

Source: The researcher based on:

Data from Table (4)

The concentration ratio can be reached using the following equation:

$$\text{Concentration ratio} = \frac{2}{1} m (S - S)$$

S = percentage of the area of the region to the total area of the region

S = percentage of the population of the region to the total population of the region

M = the sum of the positive differences between these ratios, i.e., the sum of the values without considering the negative signs.

Source: Fathi Abu Ayanah, Population Geography, Foundations and Applications, Faculty of Education, Alexandria University, Dar Al-Ma'rifah Al-Jami'iyah, 1993, p. 186. (19)

2- The impact of the development dimension of the districts of Najaf Governorate

Spatial development has become necessary to reduce the developmental disparity and imbalance between the regions or governorates of the country on the one hand and between the regions of the region or



governorate itself on the other hand. It is an effective tool in achieving levels of prosperity for any region, i.e., it works to restore the regional balance of investments and spread the fruits of development among the various regions of the region in a fair manner (20). Since development is a deliberate, planned process that aims to change the structural structure of society in its various dimensions to provide a decent life for members of society, it is more general and comprehensive than growth because it means growth with change (21), relying on the size and quality of the economic, social, human and urban potential and resources available to reach the state that the degree of spatial development between the regions of the studied region should reach. However, development is a double-edged sword, as it has positive aspects and hides negative aspects. Its positive aspect is represented by the great progress and improvement in living standards in general.

In contrast, its negative aspect lies in what it includes in breaking the barrier of desires and increasing the degree of waste of material things. Progress Rapid growth and the accompanying great material development in satisfying needs have resulted in instability at a certain level, which leads to pressure on environmental resources and damage to the components of the natural or geographical environment. In general, the development process in the country was based on two basic dimensions: the

feudal and temporal dimensions, i.e., interest in the profitability of the project and its effects over a specific period, and lacked the third dimension, which is the spatial development of the country's governorates, which resulted in a large disparity in the levels of social and regional development in some of the country's governorates, which resulted in a force of attraction towards major urban centers, due to the availability of location economies and external savings, so investments were concentrated in them, and contributed to widening the gap in development levels between the different regions of the country, so income levels lagged behind the general average, in addition to the lack or deterioration of infrastructure and public services. All these problems made it necessary to pay attention to the regional dimension of the development process to redistribute the population, wealth, and investments in a way that creates balanced development between the different regions of the country and its administrative units. Because the governorate represents a dynamic unit whose characteristics and borders change over time, this aspect is important, so any planning process carried out in the country's governorates should take into account the dynamic nature of the spatial development process because the outcome of spatial development, as we have indicated, is to achieve prosperity for the area in which it is located. The availability of services, activities, and individual income within the scope of the prevailing legal and



administrative systems, as determined by economic, social, administrative, and political links. These links are bound by a certain spatial dimension while achieving functional specialization. Moreover, economic and social spatial development paths will only be straightened through spatial development.

As for spatial development and the possibility of achieving it in Najaf Governorate with its sectors and districts in general, it is known that the governorate is one of the important historical cities whose roots extend to pre-Islam for a long period. This historical dimension of the city has a role in making the governorate a center of stability and great attraction, in addition to its impact on its civilized appearance. In addition, many economic potentials and resources that can be developed and developed in the future are highlighted in the governorate and its district centers in general, most notably the agricultural sector due to the vast agricultural areas available in the governorate and water resources represented by the Euphrates River and the fertility of the lands that lie on its shoulders, in addition to the industrial sector, which is considered one of the broad sectors in the governorate, which has great importance not only in the governorate but in the country in general, represented by the Kufa Cement Factory and the Ready-Made Garments Factory and many others, in addition to the impact of the governorate's location on the activity of the commercial sector and the

emergence of its role in the development field, in partnership with the investment sector and private sector development, which are the cornerstone of the governorate's development. There is also a development advantage in each district of Najaf Governorate that is compatible with the nature of the geography. And the available potentials in it, and the role of spatial development emerges to confront the phenomenon of spatial disparity between the regions of the region or governorate, which in turn leads to obstructing the development process in its various dimensions, the importance of the role played by spatial development in reducing disparity lies in following effective and influential policies and methods in exploiting development potentials and natural resources, and from here it can be said that to achieve these goals, it is necessary to set development priorities without neglecting the needs according to the following concepts, which can be considered recommendations that the research comes out with:

- Working to develop the capabilities and potentials that distinguish each district center in the governorate within the development priorities scale, which leads to developing development programs in a specific region that integrate with other regions and thus achieve balanced development based on the available potential in each district center.
- The necessity of working to establish a population database at the level of governorates and their



districts, whose data is updated periodically or annually, in addition to redistributing the population of the governorate's district centers to achieve a balance in the distribution of population and services. - Emphasizing the development of districts that have been deprived for certain circumstances from exploiting their resources and economic potential to raise the level of their development performance and to provide basic jobs for the population in economic activities (agriculture, trade, and industry) due to their major role in attracting the population and raising their incomes and thus raising their standard of living, since most of the residents of the districts of Najaf Governorate are active groups, so it is necessary to exploit them and provide all the capabilities that lead to taking their place in the development process. Working on developing development plans that work to exploit resources in a planned manner according to strategic plans to meet the population's need for services and necessary needs; otherwise, the districts of the governorate will be unable to meet the various increasing requirements of the population and will be far from the development witnessed by the country.

CONCLUSIONS

1- The population of the district centers of Najaf Governorate has been growing at high rates during the period (2012-2020), as the general average for all district centers of the governorate reached (2.14) people, and this is due to the high rate of population

increase resulting from the dynamic and spatial population movements.

2- The population distribution in all district centers of the governorate is affected by several factors, foremost of which is the religious factor and the fact that some district centers contain holy shrines, represented by the shrine of Imam Ali (peace be upon him), Muslim Ibn Aqeel (peace be upon him) in the district center of Najaf and Kufa, in addition to other holy places in the centers, as well as the natural and human characteristics of the district centers.

4- More than half of the population of the governorate's district centers, which amounts to (84%) of the total population of the governorate's district centers, are concentrated in two judicial centers (Najaf District Center, Kufa District Center) in an area of (74%), which indicates the presence of a numerical and relative concentration of the population size in the judicial center.

3- The study showed the spatial variation in the distribution of the general population density among the governorate's district centers, as the highest population density was in the Kufa District Center during the study period (2012-2020) with (1682, 2078) people. The reason is due to the small area of the district and the availability of various activities and services, in addition to its proximity to the Najaf District Center. 4- By applying the population concentration



equation to all the centers of the conservative issue during the study period (2012-2020), it appeared that the population tends to be relatively spread and varies spatially, as the highest concentration was in the center of Kufa district for the year 2020 at (-6). The negative sign indicates the unfairness of the population distribution in the district as a whole.

5- The disparity in the capabilities and functional characteristics of the districts of Najaf Governorate represents a natural situation that can be exploited and invested in a way that leads to the development of the districts first and the governorate second, according to planning visions and based on the capabilities of each district.

REFERENCES

- 1- Bushra, Ramadan Yassin, Shukria Abdullah Karim, Sustainable Spatial Development, Al-Dair District, North of Basra Governorate as a Model, Uruk Journal, for Humanities, Volume 14, 2012, p. 157.
- 2- Al-Dulaimi, Muhammad Dalf Ahmad, Abdul Hamid Wali Abdul Al-Issawi, Alternatives to Spatial Development in Al-Rutba District, Anbar University Journal, for Humanities, Issue 2, Volume 2, 2015, p. 676.
- 3- Ibrahim, Mustafa Jalil, The Impact of Spatial Characteristics on Development Mechanisms, Journal of the College of Arts, Issue 102, 2019, p. 710.
- 4- Al-Taie, Zahraa Muhammad Jassim, Muhammad Jassim Shaaban, Applying Decision Theory to Choose an Alternative to Spatial Development in the Holy Karbala Governorate, Journal of the College of Education for Girls, Volume 34, 2023, p. 106.
- 5- Ibrahim, Mustafa Jalil, The impact of spatial characteristics on development mechanisms, the same source, p. 719.
- 6- Hassan, Farhan Muhammad, Muhannad Taher Joda, The role of investment programs in enhancing spatial development in Najaf Governorate, Al-Ghari Journal of Administrative and Economic Sciences, Volume 14, Issue 2, 2017, p. 238.
- 7- Aliwi, Haider Hussein, Population growth and urban development in Muthanna City from 2007 to 2021, Iraqi University Journal, Volume 61, Volume 6, p. 332.
- 8- Al-Dulaimi, Geographical analysis of the population and housing situation in Ramadi City for 2020, and future expectations, Iraqi University Journal, Issue 61, Volume 2, p. 342.
- 9- Saadoun, Ali Jarallah, Geographical analysis of the population distribution of the State of Kuwait according to 2020 estimates, Sustainable Studies Journal, Volume 4, Issue 1, 2022, p. 669.
- 10- Hussein, Sabria Ali, Spatial analysis of population growth in Babylon Governorate (1957-2007), Al-



- Qadisiyah Journal of Humanities, Volume 15, Issue 1, 2012, p. 5.
- 11- Salman, Zainab Hussein, Spatial analysis of population expansion in Baghdad Governorate, Nasq Journal, Volume 41, Issue 3, 2024, p. 6.
- 12- Al-Najm, Diaa Jaafar Abdul Zahra Mahmoud, Spatial analysis of demographic characteristics in the centers of the districts of Najaf Governorate for the years (2012-2020), Annals of the Forum Journal, Issue 59, 2024, p. 535.
- 13- Muqdad, Muhammad Raafat, Population Geography, Dar Al-Malayin for Printing and Publishing, Damascus - Syria, 2014, p. 58.
- 13- Ismail, Ahmed Ali, Foundations of Demography and its Geographical Applications, 5th Edition, Dar Al Fikr Al Arabi, Cairo University, 1984, p. 78.
- 14- Al-Jubouri, Dunya Hamid Obaid, Population Growth, Urban Expansion and Development of Services in the City of Kufa for the Period 1977-2021 and Its Future Prospects, Master's Thesis (Unpublished), College of Education for Girls, University of Kufa, 2023, p. 5.
- 15- Harija, Manahil Talib, Spatial Analysis of Population Concentration and Methods of Measuring It in Babylon Governorate for the Period (1987-2007), Journal of Humanities, Volume 33, Issue 2, 2015, p. 632.
- 16- Hamid, Muhannad Muhammad, Geographical analysis of population concentration in Al-Hamdaniya district for the period (2013-2020), Ser Man Raa Magazine, Volume 18, Issue 92, 2022, p. 963.
- 17- Buthaina Rahim Shawkat, Analysis of population concentration distribution in Anbar Governorate for the period 1997-2017, using statistical methods and applications of geographic information systems, Al-Farahidi Arts Magazine, Volume 11, Issue 3, 2019, p. 247.
- 18- Fathi Abu Ayana, Population Geography, Foundations of Applications, Faculty of Education, Alexandria University, Dar Al-Ma'rifah University, 1993, p. 186.
- 19- Al-Mayali, Kafaa Aneem Hantoush, Falah Jaber Jassim Al-Gharabi, The University and Human Resources Development in the Information and Knowledge Society (A Social Analytical Study), Al-Nasq Magazine, Volume 39, Issue 1, 2023, p. 22.
- 20- Mustafa Ibrahim Jalil Al-Zubaidi, Spatial Structure and Its Impact on Development Policies, Al-Ustadh Magazine, Issue 204, Volume 1, 2013, p. 397.