Master Plan and the Sustainable Standard are the Guides for Urban Growth in the City - Najaf Center as a Case Study.

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Abstract

The urban population is one of the main reasons for the increase in urban area, this will lead to a change in urban land use functions. Planning connects between population growth and urban growth and both will lead to desirable urban growth within the master plan, however, lack of planning leads to undesirable urban growth outside the scope of the master plan. The growing gap between urban growth and population growth will produce the undesirable change in urban functions, such as unsustainable and non-standard urban land use. The aim of this research is to create a positive and balanced positive effect between urban growth and population growth under the influence of the sustainable urban criterion and a functional distribution of the various urban land uses. The equation of simple population growth and the sustainable urban standard and the descriptive historical approach used to link urban growth with population growth, through the accurate forecast of the population is using the population growth equation for years to come may reach ten years. Urban population is distributed on the basis of the uses of urban land, which are balanced by the criteria of using local or regional urban land that respond to the social, economic and cultural situation of the population. The most important conclusion is that the year 2017 recorded a large gap between the inhabited and uninhabited land in favor of uninhabited land, that there are large areas have not been used and expand to future potential growth. However, this gap does not give us the green light, it means the urban planning is not sure responds to the requirements of population growth, especially there are the problem of housing, health, electricity, water, transport, noise and environmental pollution suffer from most developing countries and Iraq is no exception.

Keywords: Population growth, Urban growth, Land use criterion, Master plan, Urban saturation.

Introduction

Population growth is a key factor in the urban transformation of any city, It is also a major factor in urban expansion in the city, undoubtedly this will generate an increase in demand for land, construction and urbanization, therefor, this is what called urban growth or urbanization. So we see the interest or motivation of many scholars and researchers focused on the study of the uses of urban land and its proportion to the total area of the city. In order to identify the area and direction of change in urbanization which it expressed by urban growth in population and urbanization [1]. The city's population increases vary from city to city, and vary within the same city from one district to another and from one district to another or from one side to another.

This difference will generate a difference in the level of density of urbanization and change in the proportions of residential and services of land uses, including health, education, transportation and green areas. In a more precise sense, there is a balance between the population increases and the area they occupy, in the sense of studying the spatial distribution of the population, in order to determine the shape of the population distributed over the city area, which will help us to detect the change in urban land uses [2]. Many cities suffer many of the problems caused by population growth that exceeds the desired level, there is something called an imbalance between population growth and urban growth. The urban fabric or urban dress becomes less than the size of the growing population, which requires urban growth that harmonizes with population growth.

Problem Statement

As long as the human is still the goal of the completion and mastery of development planning, the latter is a complex process and that is requires many efforts. It also requires multiple stages, the first we need to build general development strategy that reflects the main objectives of society, moreover, they take into account the economic, social situation of society. At this stage are formulating the specific objectives, which turn into executive programs that must be followed up to ensure that they will be succeed. The human factor is the source of the plan and the source of its success and this is a characteristic of any development plan [3]. Population growth is the normal state of any society. However, the Malthusian capitalist understanding has much to exaggerate what is called population growth at an increasing rate by population explosion, which impairs or hinders development or disrupts its maturity. While the optimistic view is that the population growth at all levels, it is very necessary factor for the success of the development project, but this optimism needs to be reviewed and scrutinized. No one is debating the fact that population growth is a major factor in the urban transformation of any city.

But the important question, what is the type and direction of these urban transformations? Are they desirable? Or are they in the right direction spatially, quantitatively and qualitatively? The answer for all this, we need to properly plan for population growth that serves spatial, quantitative and qualitative development. Again we say that no one is discussing that human is an important resource for every development, but that this human needs an acceptable level of decent life, including housing, health, education, clean air, healthy environment and the list goes on . So the problem is not in population growth and its impact on urban growth, but the problem in the proper planning of population growth and its impact on spatial development, spatial, quantitative and qualitative. Urban growth means the birth of a new urban space regardless of function, while population growth means increase in people, therefor the urban growth and the population growth cannot be separated between them [4].

Research problem the growing gap between urban growth and population growth in favor of the latter generates the undesirable variation or change in urban functions represented by undesirable urban land uses, in fact did not appear in the master plan the result of population increase due to lack of planning in general and urban planning in particular.

Research Aim

Understanding the factors which will influence the direction and patterns of population growth can help us to calculate the future and more accurately to plan for the future, in any case, most experts agree that there is no shortage in resources and that means, good planning must be able to meet all needs in the future. They are expected that the number of people who could not got all their needs will increase and that number are increasing specially in developing countries. Developed countries are approaching the thresholds of saturation of the marginal propensity of consumption in a sustainable manner, depending on the sustainable planning of available resources. While in most developing countries they are suffering from population growth which need to provide people many needs like housin , service , education, health and clean environment, all these are growing as long as the population grows. UN studies say more than half of the population of developing countries will live in urban areas at the end of this century. This of course requires planning to develop proposals and solutions to the future of the phenomenon of urban development, whose outputs are required to find balance between urban growth and population growth [5].

This growth exceeds the capacity of society to provide housing and other services to humans, and in some countries it is difficult to find a convenient place to live, the life is difficult for the poor people and they are the majority, The city with its diverse urban environment is considered the best existential innovation of human, until it has become the best material and humane building, it has become a highly organized, moreover it is serving its residents and residents of neighboring cities [6]. Human is a resource in itself and the rest of the resources are available from water, air, fertile soil, plant and animal diversity, and a climate suitable for a better life. All this requires from the decision-maker to make from the population growth a compass for planning in general and urban planning especially, because they are inextricably linked , so any deliberate neglect will result the separation between them will generate unnecessary problems.

Research Hypothesis

Most of the literature insisted on the correlation between urban growth and demographic growth and moreover some   confirmed the existence of an intimate relationship between urban development and economic development. Industry has been continues to be the main reason for the increasing urban areas that serve the industry directly (areas allocated for industry) or areas that indirectly serve the industry areas allocated for housing, education, health and other services. The city is simply an attractive place for industrial activity, while the city attracts and generates the population due to the direct and indirect impact of the industry, which generated a change in the value of urban areas and precisely the change in urban land uses with the development of urbanization and its concomitant concentration in industrial activities and transportation within cities or at their edges, Many problems have arisen including slums, traffic jams, pollution, noise and lack of services [7]. Most notably, urban growth is undesirable under the influence of natural population increases or by migration towards city centers. Today, where the reality refers to the deterioration of the conditions of the Iraqi city in the light of the circumstances that Iraq is going through and the absence of the planning process of the city and also absence of land use organizing. The hypothesis of the research is the need to study urban growth under the influence of current and expected population growth in order to create an urban environment that is compatible with the economic, social and even cultural development of the city's population.

Demographic Growth:

Population growth at any time and place is governed by three basic variables, the first is the fertility rate in the city or country and the second is the mortality rate, while the third is the external migration and internal. Population growth can be horizontal or vertical, and perhaps both, regardless of whether growth is desirable or undesirable [8]. Therefore, the estimation of demographic growth or population depends on the availability of real and reliable figures for these variables, moreover, there are other sub-factors in fact part of the above-mentioned key factors, are including the economic, social, political, environmental and even legal factors. Demographic growth depends on local and external factors, which are expressed by the city's attractiveness to growth from abroad, As the city grows in four directions in, up, down, and out [9].

Theories in this regard are many, especially the theory of attraction and expulsion of the population and activities, this theory are stressed that the factors of expulsion in one place,   also considered the same factors are attracting in another. Expulsions include bad laws and legislations, high taxes and volatile climate, and severe economic fluctuations coupled with the lack of security stability, also the deterioration of health , education, all services and moreover, low of employment opportunities. In other words, the direction of movement from areas of high population density to areas of low population density.

Urban Growth

The process of urbanization is a global phenomenon and the most important manifestation is the urban growth which considers at the same time is cause and effect. One of the most important manifestations is an emergence of new urban areas and new population ,that means the growth of urban areas accompanied by growth in the population in the metropolis (city) its towns and its surrounding areas ,which include urban areas and rural, all that, it happens under the impact of economic, social and ecological processes in the environment of human and natural. Urban growth as a system is complex, so we need to explore its characteristics. When it comes to urban development, urban growth consists of physical expansion and functional changes [10].

The ideal way to understand the spatial development of the city is to think and plan for future urbanization under the influence of the present with its economic and social components. The urban growth of the city can be part of the concept of complex systems and urban systems require an understanding of the internal structure of the city, which emphasizes on space organization of the place, events and activities in the city [11]. Urban growth can be expressed in three aspects are starting from the deterioration in the main cities, which consider the historical origin of growth, as happened with the old city of Najaf, which was before the people bypassing the Wall of Najaf were four neighborhoods as in Figure (1). The second aspect of growth is the expansion of the edges of cities under the influence of economic growth and population increases, of course, this form of growth competes and integrates in the function with the center as in Figure (2). The third aspect of growth, the most common in urban growth,

is expressed in the semi-urbanization of the outskirts of cities, is consider the broadest form of urban growth. [12]

Figure (2) expansion outside the wall

Figure (1) the old city behind the wall

Urban Growth within the Master Plan

One of the things that are at the core of the interest of the studies ,researcher and urban planner, urban land use and distribution of uses, its percentage from the total city area comparison with the reality as an indicator for the approved standard for each use [13]. This can be achieved by comparing the land uses in the city's master plan with the reality, especially if the growth of uses within the proposed master plan or approved for the city. This is undoubtedly a positive indicator that can be built upon in identifying proposed expansion areas in the future and avoiding undesirable competition or overrun between urban land uses, in particular the subject of overtaking on land farming, or changing the class of use away from the decision in the master plan. One of the demographic realities associated with the spatial distribution of urban land uses is that the population is unequally distributed in a sense that the distribution varies from place to place and also varies from time to time [14]. This would create a change in urban land use due to the change in population distribution, and this change can be accepted as long as it remains within or within the city 's master plan.

Urban Growth Outside the Master Plan

As mentioned above, urban population growth undoubtedly will generates urban growth in urban land use, The absence of prior planning for these uses in light of the projected population growth will generate uncontrolled urban growth or urban growth outside the master plan. This requires directing the urban growth of cities according to the degree of physical saturation reached by these cities [15], without this kind of urban planning based on the calculation of the degree of urban saturation by knowing the urban standard of land use and compare it with the current reality and expected in the future. To avoid urban growth outside the master plan, it is necessary to control population increases in order to guide urban development before reaching city to urban saturation. If we assume that the urban environment has reached urban saturation and this is an indication that any urban growth outside this level will inevitably be growth outside the master plan as in Figure (3).
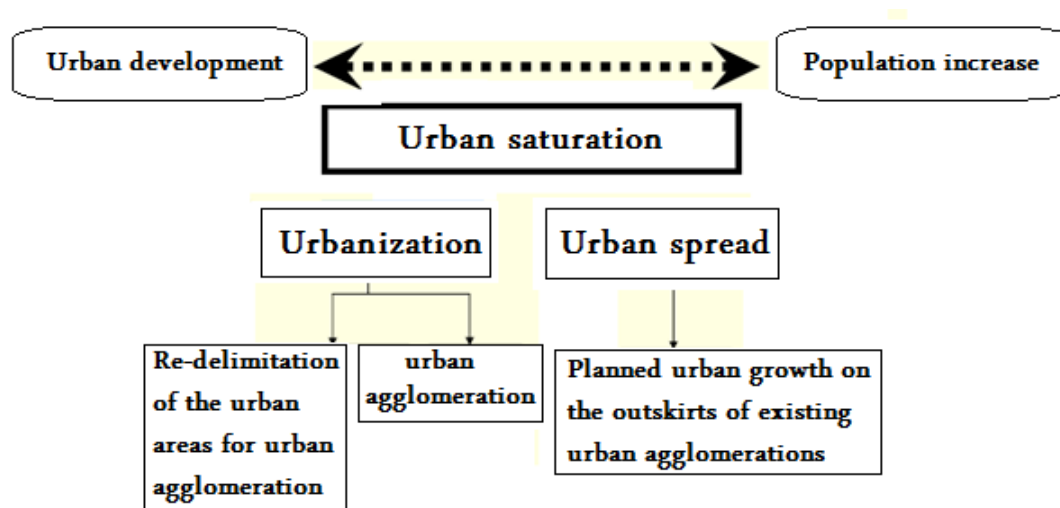
Figure (3) Population growth and urban saturation

The Expected Changes in Land Use of Najaf Center,2017-2027

Land Use Patterns of Najaf Center-2017

In order to make correct start ,therefore, we need correct data, moreover must be taken into account the pattern of use which is adopted by the Ministry of Planning and the Regional Planning Commission, to get Iraqi foundations and standards of urban planning. Therefore, the research confirmed the distribution approved by the Ministry of Planning, which came in table (1). Residential use per capita of the standard residential use was 50 m 2 followed by the standard commercial use of 2 m 2 per capita, followed by the standard industrial use of 8 square meters per capita while the use of standard transport by 25 square meters per capita while the use of land for services and entertainment standard 17 square meters per capita. While the use of standard green areas - 6.4 square meters per capita. These standards are considered as scales which help us to measure the balance and imbalance between urban growth and population growth, thus, we can say that this growth is acceptable within the master plan or unacceptable outside the master plan. Despite urbanization due to population growth, as well as population growth, there are other factors that contribute to urbanization, most notably the state policy and the economic factor for urban landowners[16].

Standards of planning are undoubtedly one of the important elements, so they have a key role in controlling and directing urban development, although standards can be growing standards respond to social, economic, political and even civilizational development , this does not prevent the standard from directed and controlled and judging with the urban environment and urban land use. Recognizing that there is a lack of knowledge about the role of the growing standard in achieving sustainable land use [17]. Table (1) shows that the total available area was 1058 km 2, but the paradox is evident in the large gap between the inhabited and the uninhabited in favor of the total use. The inhabited was 75 km2, 7.09% of the total area, while the uninhabited was 983 km2, 92.91% of the total area, this leads to the conclusion that 2017 recorded a large gap between the haunted and the uninhabited in favor of the uninhabited, that is, there are large areas that have not been used and accommodate for potential growth in the future, but this gap does not give the green light that urban planning responds to the requirements of population growth.

Table (1) Land Use Patterns in Najaf according to the 2017 standard

Pattern of Use	Per capita m2 by planning criterion (1)	Total population of Najaf 2017 (2)	Usage Area (km 2) according to schematic standard (3)	Usage of Total Area of Najaf km2 (4)
Housing	50	694201	35	3.3
Trading	2	694201	1	0.1
Industry	8	694201	6	0.6
Transportation	25	694201	17	1.6
Services and Entertainment	17	694201	12	1.1
Green Area	6.4	694201	4	0.4
Inhabited			75	7.09
Uninhabited			983	92.91
The total area			1058	100

1- Ministry of Planning, Regional Planning Commission, Foundations and Standards of Urban Planning

2. Estimated total population

3 - area came by multiplying per capita x total population

4 - The percentage came by dividing the use by the total area of the city x 100
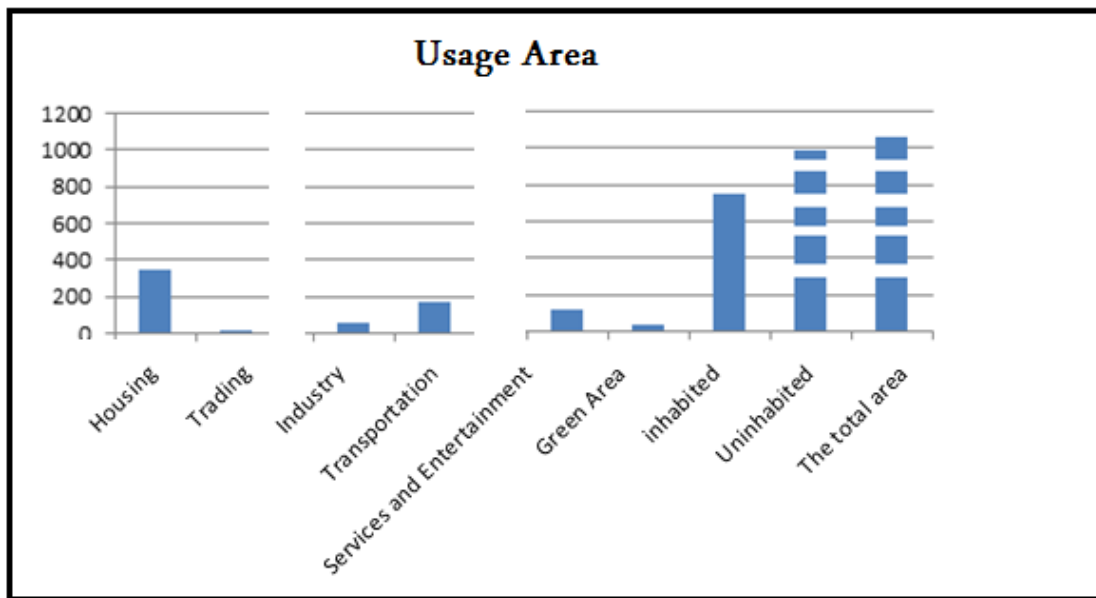
5 - Population in 2017 (694201) people

Figure (1-1) Uses of Urban Land Km2 in Najaf Ashraf 2017

The evidence is that the large gap between the area populated and the unpopulated is not a reliable indicator to judge the positive uses of urban land or is responsive to the actual need that is consistent with the standard which is adopted by the Ministry of Planning. However, this does not prevent us to go into the details of the areas and their proportions for each use to identify the most dominant use and growth at the expense of other uses. The urban saturation resulting from population growth and urban development goes in two directions, either towards external spread or internal concentration, this is evidenced by the dominance of residential use and the large horizontal expansion outside the wall of the old city and the absence of open spaces between Najaf district and Kufa district. Figure (1-1) shows that the first place was for residential use with an area of 35 km2 and 3.3% of the total area, while the use of transport came in second place with an area of 17 km2 and 1.6% of the total area, while the use of services and entertainment came in third place with an area of 12 km2 and 1.1% of the total area, the use of

industry, green areas and trade came in fourth, fifth and sixth respectively, with also 6 km2, 4 km2 and 1 km2 respectively.

If we want to sort the uses according to their relative importance and on the basis of the larger area of the populated, they will be sorted in descending، Housing, transportation, services and entertainment, industry, green areas, trade, where the area of the populated was 70 km2 and 7.09 percent of the total area and is undoubtedly a very low percentage and this in itself is a positive indicator for the scheme that is considering future expansion under the effect of increasing the population, and to complete the picture, it is clear from Table (1) and Figure (1.1) that the world is 983 km2 and 92.91 percent of the total area of the judiciary، If we say that the proportion of the If we want to sort the uses according to their relative importance and on the basis of the larger area of the populated, they will be sorted in descending order. Housing, Transportation, Services and Entertainment, Industry, Green Areas, Trade, where the area of the populated was 70 km2 and 7.09 percent of the total area and is undoubtedly a very low percentage and this in itself is a positive indicator for the scheme that is considering future expansion under the effect of increasing the population, and to complete the picture, it is clear from Table (1) and Figure (1.1) that the unpopulated is 983 km2 and 92.91 percent of the total area of the Najaf center, If we say that the proportion of the populated is very low this is reinforced by the unpopulated very high ،this means that the population and society alike will have ample time to maneuver and long-term strategic planning to take advantage of the unpopulated area before reaching the potential urban saturation under the influence of both population growth and urban growth.

Table (2) Land Use Patterns in Najaf according to the 2022 standard

Pattern of Use	Per capita m2 by planning criterion (1)	Total population of Najaf 2022 (2)	Usage Area (km 2) according to schematic standard (3)	Usage of Total Area of Najaf km2 (4)
Housing	50	804769	40	4
Trading	2	804769	1.61	0.15
Industry	8	804769	7	0.7
Transportation	25	804769	20	2
Services and Entertainment	17	804769	14	1.32
Green Area	6.4	804769	5	0.5
Inhabited			88	8.32
Uninhabited			970	91.68
The total area			1058	100

1- Ministry of Planning, Regional Planning Commission, Foundations and Standards of Urban Planning
2. Estimated total population
3 - area came by multiplying per capita x total population
4 - The percentage came by dividing the use by the total area of the city x 100
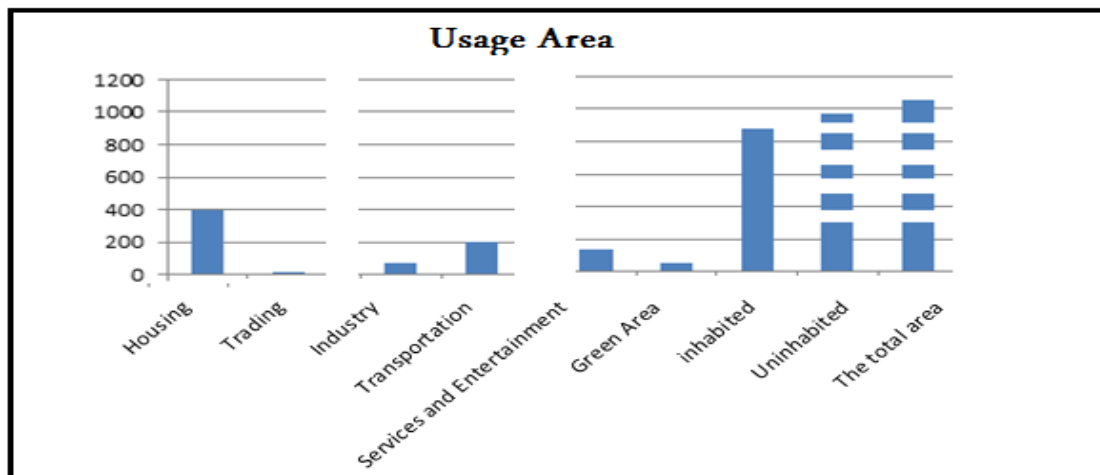5 - Population in 2022 (**804769**) people

Figure (1-2) Uses of Urban Land Km2 in Najaf Ashraf 2022

Land Use Patterns of Najaf Center-2022

Table (2) and Figure (1-2) show us the details of the expected increases in land use in the Najaf center, it shows that the first place was for residential use with an area of 40 km2 and 4% of the total area. While the use of transport came in second place with an area of 20 km 2 and 2 percent of the total area٬also the use of services and entertainment came in third place with an area of 14 km2 and 1.32% of the total area, while٬ the use of industry, green areas and trade came in the fourth, fifth and sixth respectively with also 7 km 2, 5 km 2 and 1.61 km 2 respectively. If we want to arrange the uses according to the relative importance of each and on the basis of the largest area of the inhabitant are classified descending, housing, transport, services and entertainment, industry, green areas, trade, so that the area of the globe was 88 km2 and the proportion of 8.32 of the total area. This is undoubtedly a very low percentage and this in itself is a positive indicator for the planner that is considering future expansion under the influence of population growth. In order to complete the picture, it is clear from Table (2) and Figure (1-2) that the non-inhabitant is 970 km 2, or 91.68 of the total area of Najaf center.

The period between 2017 and 2022 will generate an expected increase in population resulting in an increase in the urban area and this increase in the urban area will be outside the master plan for 2017, if we consider that the standard urban area that we have expressed for the year 2017 was 75 km2. Thus, more than this standard area expected by the end of 2022 will be an urban increase outside the master plan for 2017, which is 13 km 2. In a sense, the difference between them 88-75 = 13 km 2 Urban growth in the expected habitat by 13 km 2 will be outside the master plan for 2017 if we do not plan or expected it. This is what will focus on this paper because it is five years to come enough to recalculate, planning and expectation of what will be the urban area under the influence of population increases and if we consider that this projected total increase within the master plan, this requires from us as planners to calculate these expected increases in population and in the area. In this way we have predicted or calculated the balance between the expected population growth and the expected urban growth to avoid urban saturation.

At the end of 2022, we expect the populated to be very low, this is reinforced by the very high unpopulated area, meaning that the population and society alike will have ample time to maneuver and plan long-term strategic to take advantage of the uninhabited area before it reaches the potential urban saturation under the influence of both population growth and urban growth to an undesirable state. This leads to the conclusion that the year 2022 recorded a large expected gap between the populated and the unpopulated in favor of the uninhabited. That is, there are large areas that have not been used and accommodate for potential growth in the future, but this gap does not give the green light, that the urban planning responds to the requirements of population growth.

Table (3) Land Use Patterns in Najaf according to the 2027 standard

Pattern of Use	Per capita m2 by planning criterion (1)	Total population of Najaf 2027 (2)	Usage Area (km 2) according to schematic standard (3)	Usage of Total Area of Najaf km2 (4)
Housing	50	932948	47	4.44
Trading	2	932948	1.87	0.18
Industry	8	932948	7.46	0.71
Transportation	25	932948	23.32	2.20
Services and Entertainment	17	932948	15.86	1.5
Green Area	6.4	932948	5.97	0.56
Inhabited			101.48	9.59
Uninhabited			956.52	90.41
The total area			1058	100

1- Ministry of Planning, Regional Planning Commission, Foundations and Standards of Urban Planning

2. Estimated total population

3 - area came by multiplying per capita x total population

4 - The percentage came by dividing the use by the total area of the city x 100

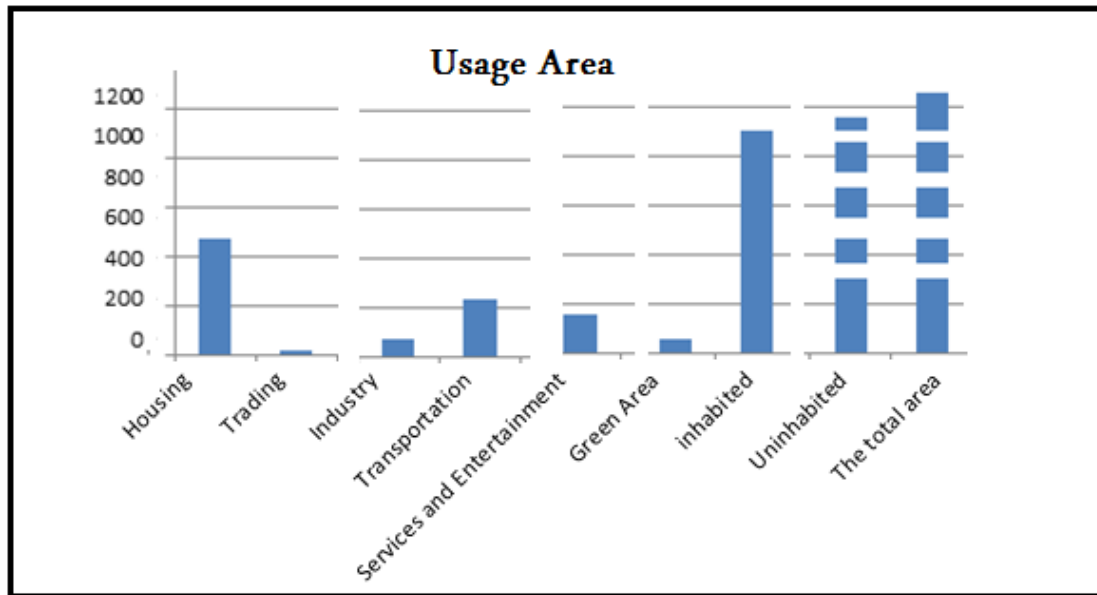5 - Population in 2027 (**932948**) people

Figure (1-3) Uses of Urban Land Km2 in Najaf Ashraf 2027

Land Use Patterns of Najaf Center-2027

Table (3) and Figure (1-3) shed light on the details of the expected increases in land use in the Najaf district center. The first place was for residential use with an area of 47 km2 with 4.44% of the total area, while the use of transport came in second place with an area of 23.32 km2 and 2.2% of the total area، also the use of services and entertainment came in third place with an area of 15.86 km 2 and 1.5% of the total area. The use of industry, green areas and trade came in fourth, fifth and sixth respectively, with areas respectively 7.46 km 2, 5.97 km 2, 1.87 km 2 ،If we want to arrange the uses according to the relative importance of each and on the basis of the largest area of the inhabited.

It will be sorted in descending direction, it means go down from the largest to the smallest, housing, transport, services and entertainment, industry, green areas, trade, so that the area of the inhabited area was 101.48 km2 and 9.59% of the total area. This is undoubtedly a very low percentage and this in itself is a positive indicator for the planner which it is considering future expansion under the influence of population growth. In order to complete the picture, it is clear from Table (3) and Figure (1-3) that the uninhabited is 956.52 km 2, or 90.41 of the total area of the center of Najaf.

The period between 2017 and 2027 will generate an expected increase in population resulting in an increase in the urban area. This increase in the built-up area will be outside the master plan for 2017 , if we consider that the standard built-up area, it is named by the inhabited area for 2017 was 75 km2. Thus, more than this standard area expected at the end of 2027 will be an urban increase outside the master plan for 2017, which is 26 km2. In a sense, the difference between them is 101-75 = 26 km2. Urban growth in the expected habitat of 26 km2 will be outside the master plan for 2017, if we do not plan or expected it.

This paper will focus on future because it is ten years will come enough to recalculate, plan and predict, what will happen in the urban area under the influence of population increases, If we considered that this total increase expected within the master plan. As planners, this requires from us to calculate these expected increases in population in the future normative area. In this way we have predicted or calculated the balance between the expected population growth and the expected urban growth to avoid urban saturation.

The expectation at the end of 2027 inhabited will be very low, this is reinforced by the very high uninhabited, that is, the population and society alike will have ample time to maneuver and plan long-term strategic, in order to take advantage of the uninhabited area before reaching the potential urban saturation under the influence of both population growth and urban growth to an undesirable state. This

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leads to the main conclusion, that the year 2027 will record a large gap expected between the inhabited and uninhabited in favor of the uninhabited, that is, there are large areas that have not been used and accommodate for potential growth in the future. However, this gap does not give the green light that urban planning responds to the requirements of population growth.

Table (4) Expected Change in Land Use in Najaf Center - 2017-2027

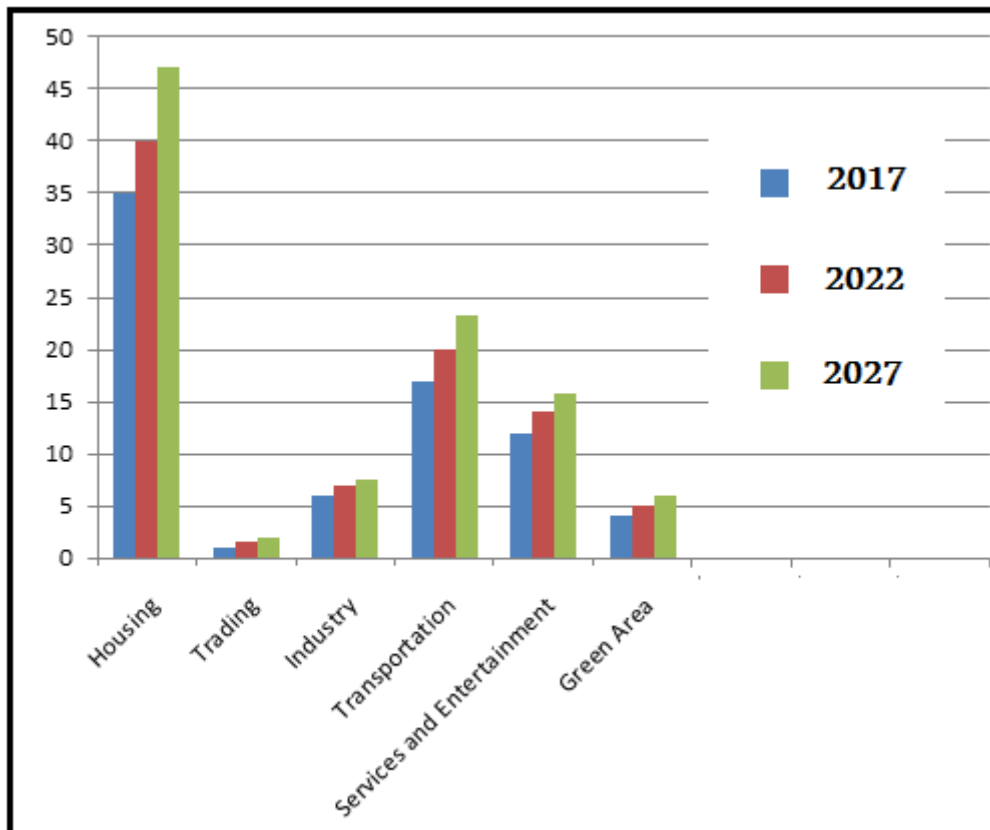| Pattern of Use	Usage area is km2 according to the standard 2017	Usage Percentage from the total area of Najaf 2017	Usage area is km2 according to the standard 2022	Usage Percentage from the total area of Najaf 2022	Usage area is km2 according to the standard 2027	Usage Percentage from the total area of Najaf 2027
Housing	35	3.3	40	4	47	4.44
Trading	1	0.1	1.61	0.15	1.87	0.18
Industry	6	0.6	7	0.7	7.46	0.71
Transportation	17	1.6	20	2	23.32	2.20
Services and Entertainment	12	1.1	14	1.32	15.86	1.5
Green Area	4	0.4	5	0.5	5.97	0.56
Inhabited	75	7.09	88	8.32	101.48	9.59
Uninhabited	983	92.91	970	91.68	956.52	90.41
The total area	1058	100	1058	100	1058	100

Figure (1-4) The expected change in land use in Najaf, 2017-2027
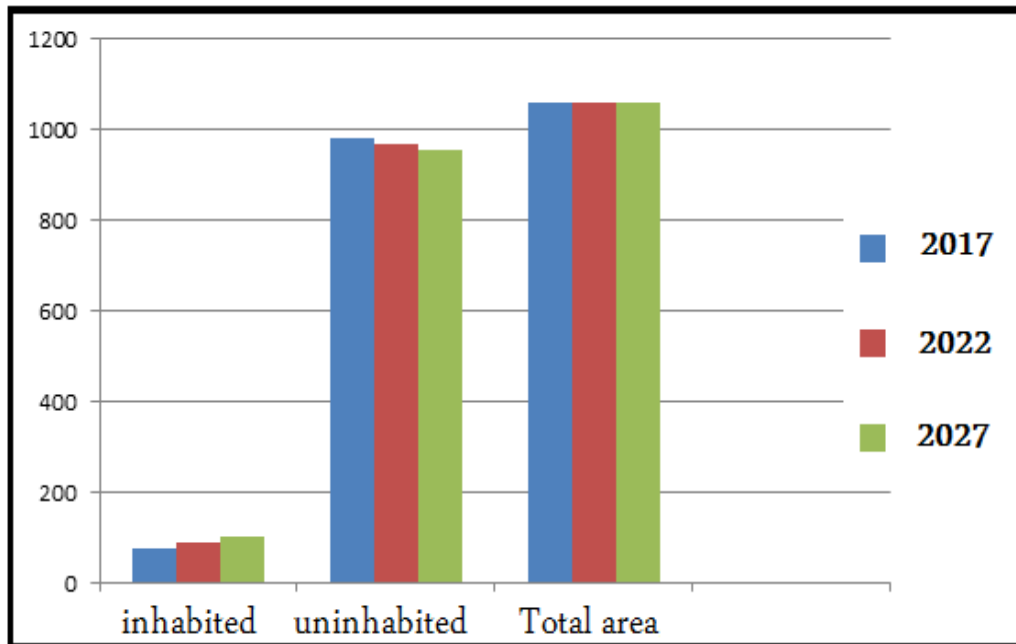
Figure (1-5) expected change in the inhabited and uninhabited in Najaf -2017-2027

Vision and Solutions Under the Impact of Standard 2017-2027

It is not easy to analyze the use of any kind of land use alone, especially urban areas such as industrial, commercial or residential use separately from other usages. Except in the case of the study and examination of the uses in its entirety, because the most intense competition between the various types of uses functionally to occupy the place in the city rent or property. There are many different ways and divisions to classify land in terms of its global use، one of these methods classifies land uses as croplands, pasture land, forest land, mineral land, recreation land, residential land, industrial and commercial land, service land, transport land, abandoned arid land. Residential use imposes itself (Table 4 and Figures 1-4 and 1.5). Affordable housing is the basis of the cities success,   so, is considered the social bond between any government and its people . Urbanization that proceeds without planning and management guided by the criterion can overburden the city due to housing shortages, increasing income inequality, pollution, disease, growing crime and social unrest [18].

No one is arguing that urban land uses are under the influence of population growth, and if there is discussion it will focus on the extent to which this impact will be met by the criterion and then to anticipate and plan solutions, Table 4 and Figures 1-4 and 1.5. confirms our discussion, analysis and expectation in this regard. Residential use was ranked first and respectively in the years 2017 - 35 km2 by 3.3%, 2022 - 40 km2 and by 4%, while the expected 2027 was 47 km2 by 4.44%. The vision and solution to this projected increase in housing needs to be within the master plan for 2022 and 2027 if the concerned authorities act responsibly and with guidance and planning based on the growing sustainable standard. On the contrary, this projection will be outside the master plan for the year 2022 and 2027 and this is the credibility of Dr. Dahlan, "If we let the problem get bigger, it becomes a crisis".

The solution would be to prescribe medication to a dead person. While the second place was for transport use, respectively in the years 2017 - 17 km2 by 1.6%, 2022 - 20 km2 and by 2%, while the expected 2027 was 23.32 km2 by 2.2%. The vision and solution to this projected increase in the urban area of ??transport requires that it be included in the master plan for 2022 and 2027 if the concerned authorities act responsibly and with guidance and planning based on the growing sustainable standard. Conversely, this forecast will be outside the master plan for the year 2022 and 2027. It ranked third for services and entertainment, respectively in the years 2017 - 12 km2 by 1.1%, 2022 - 14 km2 and by 1.32%, while the forecast for 2027 was 15.86 km2 by 1.5%. The vision and solution to this expected increase in the growth of the urban area for services and entertainment requires that it be within the 2022 and 2027 master plan if the concerned authorities act responsibly and with guidance and planning based on the growing sustainable standard. On the contrary, this projection will be outside the master plan for 2022 and 2027.

Other urban land uses Industry, green areas and trade ranked fourth, fifth and sixth respectively Industry ranked 4, green areas ranked 5 and trade ranked 6, and ranked fourth for industrial use and respectively in the years 2017 - 6 km2 by 0.6%, 2022 - 7 km2 and 0.7% While the forecast for 2027 was 7.46 km 2, or 0.71%. The vision and solution to this projected increase in the urban area of industrial use requires that it be part of the 2022 and 2027 master plan if the concerned authorities act responsibly and with guidance and planning based on the growing sustainable standard. Conversely, this projection will be outside the master plan for 2022 and 2027. The fifth place for the use of green areas, respectively, in the years 2017 - 4 km2 by 0.4%, 2022 - 5 km2 and 0.5%, while the expected 2027 was 5.97 km2, 0.56%.

The vision and solution to this expected increase in the growth of urban areas for the use of green areas requires that it be included in the master plan for 2022 and 2027 if the concerned authorities act responsibly and with guidance and planning based on the growing sustainable standard. Conversely, this forecast will be outside the master plan for 2022 and 2027. While it was ranked sixth for commercial use, respectively in the years 2017 - 1 km2 by 0.1%, 2022 - 1.61 km2 and by 0.15%, while the forecast for 2027 was 1.87 km2 by 0.18%. The vision and solution to this expected increase in the growth of the urban area for commercial use requires that it be within the 2022 and 2027 master plan if the concerned authorities act responsibly and with guidance and planning based on the growing sustainable standard.

On the contrary, this projection will be outside the master plan for 2022 and 2027. In order not to exaggerate in expected optimism at 2027 of the increasing use of urban land, this projected increase is very small when compared to the decrease of uninhabited, the projected in favor of the uninhabited area 956.52 km 2 by 90.41 of the uninhabited urban area, while the inhabited area is a small island with an area of 101.48 km2 and 9.59 percent of the total area. However, planning and forecasting is depended on careful calculation and expected of the population growth and urban growth, that It needs to be balanced between urban growth and population growth. It is functionally consistent with the sustainable urban standard to maintain a sustainable standard of living in guaranteed, social, economic and cultural.

Conclusions

1 - During the study period from 2017 to 2027 urban growth in residential use ranked first in reality and forecast, therefore, that the relative weight was half or slightly less than half, not to mention that other uses are in the service of housing (human), and this gives an indicator that growth outside the master plan, always the start from housing.

2- Slow growth of urban growth and a significant reduction in the proportion of inhabited to non-inhabited areas in favor of the latter, what is considered a shaded indicator does not reflect that urban growth is in the right direction as long as there are urban problems in the urban environment, most notably urban growth outside the master plan, and Najaf city is not considered exception from Iraqi cities.

3 - Year 2017 recorded a large gap between the inhabited and uninhabited in favor of the uninhabited, moreover, there are large areas that have not been used and accommodate for potential growth in the future, but this gap does not give the green light that urban planning responds to the requirements of population growth.

4. The rate of inhabited is very low, this is reinforced by the very high uninhabited, this means, that is the population and society alike will have plenty of time to maneuver and plan long-term strategic, to take advantage of the uninhabited area before reaching the potential urban saturation under the influence of both population growth and urban growth.

5 -Year 2022 recorded a large gap between the inhabited and uninhabited in favor of the uninhabited, that is, there are large areas that have not been used and accommodate for potential growth in the future and the plan should take into account in the development of new plans to avoid the growth outside the master plan for all uses, firstly housing.

6 -Year 2027 recorded a large gap between the inhabited and uninhabited in favor of the uninhabited, that is, there are large areas have not been used and accommodate for potential growth in the future. The plan should take into account in the development of plans a new basis to avoid growth outside the master plan for all uses and the firstly housing.

7. At the end of 2027, the inhabited area is very low, this is reinforced by the very high uninhabited. This means that the population and society alike will have time to maneuver and long-term strategic planning to take advantage of the uninhabited area before reaching the potential urban saturation under the influence of both population growth and urban growth before reach to an undesirable state.

8 - In spite of Uninhabited is decreasing but still very large area, while the inhabited like island is a small area of the total area. However, planning and forecasting based on careful calculation of expected growth of the population, that needs balance between urban growth and population growth, with an urban area functionally consistent with the sustainable urban standard to maintain sustainable standard of living within an acceptable level , social, economic and cultural.

9- Planning for both population and urban development under the guidance of sustainable urban functional criterion is the only guarantee for the balance between population growth and urban growth, on the one hand , and on the other hand the only guarantor of urban growth within the master plan and guide and directed to the decision-maker to maintain a sustainable standard of living within acceptable level a social, economic and cultural .

10- The balance between population growth and urban growth does not mean equality or traditional planning, but means effective strategic planning for a better quality of life sustainable in form, content and standard. This is the meaning of sustainable planning, which is one of the meanings of the balance between population growth and urban growth, any growth always stays within the master plan of city to avoid problems in the future relatively.

Conflicts of Interest

The author declares that they have no conflicts of interest.

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المخطط الأساس والمعيار المستدام هما الموجهان والأدلاء على النمو الحضري في المدينة النجف الأشرف المركز حالة دراسية

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الخلاصة

المخطط الأساس للمدينة هو الضابط والموجه لاستعمالات الأرض الحضرية في المدينة وهو بدوره لا يخرج عن المعيار المستدام لكل استخدام حضري، لذلك فهما متلازمان كوجهين لعملة واحدة، يوجهان وينظمان النمو السكاني والعمراني، والتخطيط الذي يربط بين الاثنين النمو السكاني والنمو العمراني يُنتج نمو عمراني مرغوب دخل حدود المخطط الأساس، إلا أن غياب التخطيط يقود إلى نمو عمراني غير مرغوب وخارج نطاق المخطط الأساس. كما أن الفجوة المتزايدة بين النمو العمراني والنمو السكاني سوف تُنتج التغير غير المرغوب في الوظائف العمرانية متمثلة في استخدامات ارض حضرية غير مستدامة وغير معيارية. والهدف من هذا البحث خلق حالة من التأثير الإيجابي المتبادل والمتوازن بين النمو الحضري ونمو السكان تحت تأثير المعيار الحضري المستدام وتوزيع وظيفي لاستعمالات الارض الحضرية المتنوعة. معادلة نمو السكان البسيطة والمعيار الحضري المستدام والمنهج التاريخي الوصفي المتبع للربط بين النمو العمراني والنمو السكاني وذلك من خلال التوقع الدقيق للسكان باستخدام معادلة نمو السكان لسنوات قادمة قد تصل لعشر سنوت مقبلة بحيث يتوزع السكان عمرانيا على أساس استخدامات الأرض الحضرية الموزونة بمعايير استخدام الارض الحضرية المحلية او الإقليمية التي تتجاوب مع الوضع الاجتماعي والاقتصادي والثقافي للسكان. الاستنتاج الأهم أن سنة 2017 سجلت فجوة كبيرة بين المعمور وغير المعمور لصالح غير المعمور أي ان هناك مساحات كبيرة لم يتم استخدامها وتتسع لنمو محتمل في المستقبل، إلا أن هذه الفجوة لا تعطي الضوء الأخضر ان التخطيط العمراني يستجيب لمتطلبات النمو السكاني خصوصا ان مشكلة السكن والصحة والكهرباء والماء والنقل والضوضاء والتلوث البيئي تعاني منها أغلب الدول النامية وحدود منطقة الدراسة ضمنها.

الكلمات الدالة: – المخطط الأساس، النمو العمراني، الفجوة العمرانية، التشبع العمراني، المعيار المستدام