



## *Sustainable Planning in Egypt between two different Approaches*

**Houssam Bahgat**

### **Abstract**

Egypt has an extensive uninhabited area on the eastern and the western desert. The populated areas are about 8% of the whole area of Egypt. The study focuses on developing economic, social, touristic, and industrial growth through enhancing planning, urban development, and government's policies. Across the last fifty years there was an awkward planning policies and urban development plans for new cities in Egypt. Still, a more professional posture is required to enhance the planning policies of the unbuilt environment. Egypt across the last fifty years used two different planning approaches in its way for solving the problem of population growth and the concentration of the population around the Nile valley.

This paper aims to explore Egypt's policy of planning the new cities and how Egypt can develop new regulations and policies to enhance and utilize the potential of unused land in Egypt. This is in addition to identifying the most appropriate planning approach that is compatible with Egypt's conditions. In order for this paper to reach its objectives, it will conduct a comparative analysis between the two urban planning approaches pursued by the state to identify the advantages and disadvantages of each, and to recommend the most efficient and sustainable approach.

**Keywords:** Sustainable urban development, Sustainable planning, Regulations and policies, Planning approaches

**ENGINEERING JOURNAL** Volume 2 Issue 2

Received Date January 2023

Accepted Date March 2023

Published Date March 2023

DOI: [10.21608/MSAENG.2023.291863](https://doi.org/10.21608/MSAENG.2023.291863)

## 1. Introduction

Over the past fifty years, Egypt has drawn up an urban plan to establish a number of new cities in various planning approaches as a tool to solve the problems resulting from overcrowding in the existing megacities, in order to attract surpluses and compensate for what is lacking in terms of housing, services and providing job opportunities. The motives and reasons for the establishment of new cities varied between urban, social, economic and environmental reasons. In 1976, as part of Anwar Al-Sadat's "open door policy", the government began building fourteen new cities to draw people away from Cairo to redirect urban growth toward the desert and away from the limited arable land. This plan encouraged foreign investment to contribute to urban development plans that were largely prohibited in the previous era when the Egypt adopted socialist policies after 1952.

In light of this trend, Egypt resorted to expanding the establishment of cities and urban expansions through two different planning approaches, first, is the establishment of a number of new cities and satellite cities around large cities, especially the city of Cairo, second, is the establishment of urban expansions on the peripheral of large cities to accommodate population growth and improve the quality of life. Egypt also resorted to the establishment of a new administrative capital city as one of the solutions to move the center of the capital to a more organized and planned area to mitigate the population congestion in the heart of the old capital. The plan focused on providing the human need for housing and improving the quality of life.

Since the government was unable to finance the housing needs of these cities, Egypt encouraged investors to implement and develop the urban and developmental plan for these cities. Therefore, some cities prospered, while others did not have as much prosperity. Through this paper, we will try to reach a comparative study between the two directions that the state pursued to identify the advantages and disadvantages of each of them and to reach a more appropriate development model and the ability to achieve the urban development aspirations in Egypt.

## 2. Methodology

This paper is an attempt to monitor and study the two main approaches adopted by the state in developing its urban plan to establish a number of new cities in various planning types as a tool to solve the problems resulting from overcrowding in the existing major cities, in order to attract the population surplus and compensate for what is lacking in terms of housing, services and providing job opportunities. Which resulted in two urban approaches with specific features, first, is the establishment of independent and dependent cities that are relatively geographically far from the mother city, and the second approach is the establishment of urban extensions and agglomerations on the outskirts of the major cities. This paper will focus on Greater Cairo as a case study, which is evident through its study of the various urban and planning features in order to find out the advantages and disadvantages in the planning and urban methods of the two urban approaches in dealing with Greater Cairo, and the extent to which they agree with the development plans adopted by the state.

This paper also aims to conduct a comparative study between the two different planning approaches adopted by the state in directing urbanization to accommodate the rapid population growth and promote economic growth in Egypt, in order to identify the most sustainable and appropriate approach to the urban, social and economic conditions of Egypt. The study also focuses on comparing the difference between advantages and disadvantages in the economic, social and development effects resulting from the two planning approaches through a comparative analytical approach aimed at evaluating the current experience and trying to upgrade it.

### **3. New city and urban agglomeration types**

It is difficult to develop a common definition of the new city, due to the different objectives for which it was established, but in general, it is possible to define the new city as “new urban communities that have a small area in a distinguished location that has a strong economic base, viable and stable”[6]. The main difference between new cities and new urban agglomerations is that the aim of establishing new and satellite cities is to redistribute the population at the regional or national level, while the establishment of urban expansions and new urban agglomerations aims to redirect urban growth within the already existing megacities.

#### **3.1. New cities**

New cities are defined as: “New urban areas that contain a small, distinct community and have a strong economic base that provides them with the elements of continuity and independence. The city is not only a mere population gathering, but rather a cohesion of a group of functions and services, in addition to the existence of an economic, administrative and social base that enables it to be independent from the mother city, and among its main objectives is to provide different housing patterns and suitable job opportunities. The definition of Sorkin and Zimmerman is considered one of the most accurate attempts to define the meaning and concept of the city because they presented a more comprehensive definition of the city through the basic elements or criteria from which the city is generally formed [12], which are as follows:

- Population density: where the population density in the city is higher than in the countryside.
- Environment: It provides people with the appropriate conditions to adapt to it and to its geographical, topographical and climatic conditions.
- Occupation: Where most of the population works in industry and commerce, unlike villages that often work in agriculture.
- Diversity and class gradation: the population varies and gradates, unlike the case in the village.
- Social Mobility: There is a heterogeneity to a large extent in the cities than in the countryside.
- Pattern of interaction: The city is characterized by the pattern of multiple, secondary and contractual relationships.

#### **3.2. Satellite cities**

A satellite city is one of the urban planning approaches and one of its most important features is that it is a small city located near large city [7]. The main purpose of a satellite city is to provide a balance between resources and population. Satellite cities are small metropolitan cities located near large cities but are not part of the big city, and they have a separate local administration and are characterized as separate cities, and the design of the satellite city is used to help the large city expand in an efficient way. Satellite cities are associated with larger cities but are completely independent of the neighboring large city, and sometimes the neighboring large city is called the parent city. The population of satellite cities is much less than that of the neighboring big cities, and the satellite cities provide the workforce for the big cities, because property rates and the cost of living are often lower in satellite cities compared to the parent city, so many people find it easier to live in a satellite city and work in a larger metropolitan area in the neighboring big city. The satellite city is not a suburb of the big city, but rather it is a completely separate city with its own residential and commercial areas, and it has its own local administration. There are often good transport services between satellite cities and the nearby large parent city, such as trains, buses and public transportation. Inhabitants often move from satellite cities daily to the nearby big city for work, education, and other economic, recreational, and social activities [4].

Satellite cities are defined as those cities whose economic and urban growth is linked to an urban center that already exists outside it and leads development there. This type of cities seeks to provide a moderate percentage of job opportunities, such as offices, shops, and some industries that do not pollute the environment. And since the basic employment opportunities for the Inhabitants of these cities are outside, the vast majority of their residents are live in them at night, as the population density reaches its lowest possible during the day. When this type of new city is established, a pattern of daily trips to and from the existing city (the mother city) arises. Therefore, multiple and appropriate transportation lines must be found to connect the new city with the mother city. The planning of this model focuses on aspects of urbanism and design more than economic and social considerations and services. Thus, as seen by Gibson, the satellite cities are often spatially separated and organically independent from the parent city, but they are economically linked to it [6].

### **3.3 . Urban expansions of large cities**

Urban expansions are large urban areas on the outskirts of the home city with a concentration of commercial and entertainment establishments. These stretches have many shopping and entertainment districts further away from the larger downtown area. The peripheral cities are connected by road to the big city with the rural areas between the peripheral cities and the major metropolitan cities nearby. These cities may have their own separate local administration as dependent cities or they may be under the jurisdiction and administration of the nearby large city. This concept was used by city planners in USA, instead of new cities, so they defined the new urban community as a new scheme for the development of a large area, and it is an extension of an existing urban center, or a new development area, whether it belongs to the government or the private sector, and investors usually implement these Communities powered by the government.

## **4. Evaluation of the Egyptian experience in establishing new cities**

Interest in the idea of new urban communities began in Egypt in the late seventies of the last century, when the state adopted the establishment of a number of new cities with the aim of reducing the high population density, and alleviating the burden on existing regions and cities, by going out to the desert, and establishing urban communities that absorb part of the overpopulation in different cities within the framework of national planning.

The New Urban Communities Authority (NUCA) was established pursuant to Law No. 59 of 1979, to be the body responsible for establishing and managing new cities, selecting their locations, and preparing general and detailed plans for them, in accordance with Law No. 143 of 1981 that determined the means of managing them [13]. In 1985, a map for development and replanning of Egypt until 2017 was prepared, and new urban communities were identified in 24 new cities, to accommodate about 12 million people, which is half of the expected annual increase until 2017. This paper will focus on studying the city of Cairo and its surrounding cities and urban expansions, which were established to accommodate the large population density, and to provide cities and planned areas that work to reduce the slums that began to appear in the city of Cairo in a large way since the seventies of the twentieth century. In the following, we will review the urban strategies and plans adopted by the state to solve this major problem.

#### **4.1. State Strategies and Urban Plans**

The state resorted, through its urban plans, to solve the problems resulting from the overcrowding of the population in the existing major cities, especially the city of Cairo, to construct a number of new cities near Greater Cairo, in order to attract the surplus of population and provide what it lacks in terms of housing units and services, in addition to providing job opportunities. New cities and urban agglomerations in Egypt are divided into three types in terms of locations and functions: satellite cities, independent cities, and urban expansions of existing large cities (WB.2008). Through monitoring and analysis, this paper concluded that Egypt adopted two urban approaches with a specific feature, which we will review as follows:

4.1.1. The first approach: is the establishment of independent and satellite cities that are relatively far from Cairo

The motives and reasons for the establishment of new cities and urban agglomerations varied between urban, social, economic and environmental reasons. The satellite cities are located around and near Cairo, and aim to absorb the population density in Cairo, and to benefit from basic services and appropriate infrastructure in attracting inhabitants and activities, creating job opportunities, and improving the economic factors that are linked to the mother city. Examples of these satellite cities are the cities of May 15th, October 6th, Badr, El-Obour and Al-Shorouk, which were developed without any economic base, and these cities depend entirely on Cairo [1].

Egypt also resorted to establishing a number of independent cities, and these cities are characterized by the existence of a relative economic base that enables them to be independent from the mother city, and the aim of establishing them was complete independence from Cairo in the long term, and the establishment of poles for economic growth that includes

independent economic entities. Through this, these cities become qualified for the establishment of a social and economic gathering that achieves maximum independence and self-sufficiency away from the mother city, and it is geographically located far enough from Cairo to support its independent location. The most important of these cities are the cities of the Tenth of Ramadan and Al-Sadat [3].

4.1.2. The second approach: is the establishment of urban expansions and settlements on the outskirts of Cairo

Egypt resorted to the establishment of many population centers on the eastern peripheral of the city of Cairo to accommodate the steady population increase and provides a higher level of housing and services. The state also resorted to establishing a city that represents a new administrative capital as one of the solutions to move the center of the capital to a more organized and planned area to empty the old heart of the capital and to deconcentrate the population and divert them away from the congested centers. The city is designed to accommodate 7 million inhabitants on a total area of 700 Km<sup>2</sup> [14].

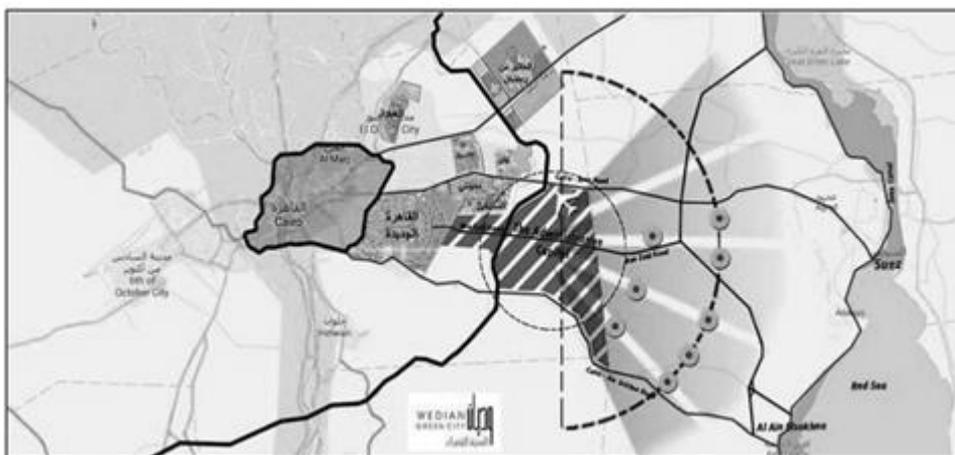


Figure .1. Location of the settlements and New administrative capital in relation to Cairo city, New cities and Satellite cities. Source: (Yehya M. Serag. 2017)

## 5. Discussion and evaluation of the two urban approaches

### 5.1. The most important advantages of the first approach (new cities)

#### 5.1.1. Urban expansion and stopping the creep towards agricultural areas

Despite the continued random growth processes on the borders of the urban space of Egyptian cities, the total area implemented in the new cities, which amounts to about 750 thousand feddans, could have been deducted from the currently cultivated areas in the Valley and the Delta in case that these cities were not established [9].

#### 5.1.2. Industrial expansion and creation of new job opportunities

The new cities provided the opportunity for establishing industrial facilities due to the availability of large areas required for establishing these factories and their future extensions, and the ease of transporting their products to internal and external markets. Private sector investments poured into these cities tremendously, and contributed to adding a new national product to Egypt's industrial map. The new cities have 21 industrial zones with a total area of about 37,113 feddans. The number of factories produced in the new cities reached 5,449 as of December 31, 2011, with a capital of 158 billion pounds and an annual production value of 287 billion pounds (Industrial Development Authority 2011). These factories provided 511,000 job opportunities until the previous date. The number of factories under construction is 2,967, which will provide about 97,000 jobs when established. From 1980 to 2010, the total investments spent in the new cities amounted to about 60 billion pounds, in addition to private sector investments in various urban fields, which amounted to 300 billion pounds [9].

### 5.1.3. Housing provision

The population of new cities reached about 5 million in 2011, and it is expected to reach 17 million when the growth of these cities is complete. During the period 1980-2011, about 1.2 million housing units were implemented, of which about 350 thousand units were implemented by the New Urban Communities Authority, and about 850 thousand units were implemented by the private sector and other parties in various levels of housing (economic - medium - luxury). The government has also implemented a social housing program and implemented about 100,000 housing units for low-income people in the new cities. 155,000 residential plots have been allocated, of which 96,000 plots are for economic and average housing, at a rate of 62%, and 59,000 plots are for above-average housing, at a rate of 38% [9].

## 5.2. The most important disadvantages of the first approach (new cities)

### 5.2.1. The continuing housing crisis in Cairo

Although one of the most important goals of establishing new cities is to relieve population pressure on the old capital, housing problems have become more complicated, the new cities have not been able to limit the increase in population density, after it was 1,100 people per square kilometer in 1976; This population density reached 1450 people per square kilometer in 1990, meaning that the population density increased by an average of 25 people per year, during this period. The new cities were also unable to absorb the migration stream heading towards Cairo, although the sites of the new urban communities are mostly located near Cairo [8].

### 5.2.2. Slow population growth

The independent cities and the satellite cities alike did not achieve their desired goals, as the population growth in them lagged behind the targeted numbers. In the first phase, which is estimated at ten years, the percentage of residents did not exceed 19.6% of the targeted numbers. For example, the number of residents in the city of the Tenth of Ramadan reached and the sixth of October, May 15, and the new Burj Al Arab, about 162 thousand people, while the target was 825 thousand people [9].

### 5.2.3. Not having enough attractions

The slow pace of human settlement in new cities due to the insufficient factors of population attraction, which lie in the diversity of the main activities, the administrative centers of ministries and authorities, educational, medical and recreational centers, and the insufficiency or high cost of means of transportation, in a way that is not commensurate with the income of the inhabitants or target to attract them. In addition to the high financial cost of housing units, which is not compatible with the income of the families that are supposed to be attracted [8]. Which contributed to launching the sale of lands - at the beginning - without controls in some cities and at low prices without well-studied policies for sale or allocation, which led to the sale of entire neighborhoods to individuals whose purpose was speculation.

### 5.2.4. Non-compliance with the original plan

Significant changes occurred in the original plans of the new cities, and multiple activities and uses appeared outside the plans in favor of groups of influential decision-making powers, which led to a change in the direction of the proposed growth of some cities. The expansion in an unplanned direction in the areas that should have been left as separating distances between the cities led to the adhesion of the satellite cities to Cairo and to the encroachment of the independent new cities on the regional roads, which led to an increase in the burden on the capital and the obstruction of the movement of the regional roads.

### 5.2.5. Random selection of new city locations

The randomness of choosing new cities lies in the lack of clarity in the urban environmental determinants, possibilities, and opportunities of the site and its characteristics in general, such as the site's topography, soil characteristics, and floods plains. This includes choosing places that are not suitable at all for the establishment of new cities. Most of the sites do not have advantages that help in their development and stimulate population migration to them, whether because they are far from urban development sites or main markets, or because they were chosen in a desert area without an economic foundation that acts as an attraction or provides job opportunities that contribute to reducing the unemployment rate.

## **5.3. The most important advantages of the second approach (urban expansions of existing cities)**

### 5.3.1. Elimination of random urban growth on the outskirts of Cairo:

Through this planning approach, Egypt was able to eliminate the random urban growth on the boundaries of the urban space of Cairo, and these plans were also able to direct urban growth to areas that can be used without deducting from the cultivated areas in the valley and the delta, which were the only way for random urban expansion in the case of Non-establishment of these cities [9].

### 5.3.2. Providing the necessary housing for citizens

This planning model was able to provide a large number of housing units of different levels to meet the needs of all users, in addition to providing plots of land that are owned with

full infrastructure, as the government relied, through this model, on providing these lands to contribute to creating more flexible models and housing units that meet the needs of users. Through this model, the government also placed the burden of construction on the shoulders of citizens and real estate developers to reduce the burden on the state.

### 5.3.3. The speed and ease of urban development phases

Due to the fact that these urban expansions are close to Cairo, which helped to benefit from public facilities and services that already exist, which greatly reduced the economic burden on the state, and which helped in the speed and ease of the development and construction phases of these expansions. This is in addition to the ease of extending public facilities and transportation, and the ease of access to labor and building materials in an easy and fast manner. All these factors contributed to the speed and ease of development of these urban expansions.

### 5.3.4. Increasing real estate investment opportunities

These vast expansions and spaces on the peripheral of the city were the ideal choice for people looking to invest in the real estate sector, as these expansions are located near the labor market and the social and economic infrastructure. There are also a wide range of benefits of investing in these expansions such as affordable housing, good infrastructure, and it also provides a high-quality living experience for the citizens.

### 5.3.5. Providing quality of life

These urban expansions provide a pollution-free lifestyle, due to their presence on the peripheral of Cairo, away from the sources of disturbance and pollution. The transportation infrastructure has also been developed using clean energies that provide the population with means of transportation and also relieve the traffic burden on Cairo as it improves the quality of life and provides environmentally friendly communities [14]. The quality of life was also provided through the green areas that occupy a large proportion of the urban plan, in addition to the relatively moderate building density.

## **5.4 The most important disadvantages of the second approach (urban expansions of existing cities)**

### 5.4.1. Great urban expansion and increasing population density of Cairo

Through these expansions, Egypt sought to create new urban communities and social ties in the old capital according to more humane standards. However, these urban expansions led to a large population increase in Cairo, which ultimately led to social, economic and urban problems. This raises the question about the correctness of the policy adopted to develop these urban expansions, in terms of their sizes and the targeted population numbers [11], which were characterized by unrealistic ambition.

#### 5.4.2. Increasing the financial burden on the state

In its strategy, Egypt tended to construct new urban expansions, especially the new administrative capital, towards the establishment of a large city, which constitutes a burden on the government to provide sources of funding for infrastructure, services and housing projects, which need a short time in order to complete its settlement elements and achieve its goals. In addition to the need for large investments that are not available in light of the economic conditions that Egypt is going through now.

#### 5.4.3. Absence of a comprehensive planning

These expansions were not established according to a comprehensive development plan that deals with their relationship with the new cities that were established parallel and close to them, just as the traffic axes between these cities and old capital were not well studied. The government adopted the expansion of these communities without analyzing studies of their social, economic, environmental and administrative dimensions [2]. The best example of the absence of a comprehensive planning is that the Cairo Plan 2017 reaches its northern outskirts to the borders of the 10th of Ramadan City, thus becoming another suburb of Cairo whose population exceeds twenty million. This planning model was also repeated in the New Administrative Capital, where it extended to the outskirts of the population centers in New Cairo.

#### 5.4.4. Increased traffic loads as a result of the proximity of urban expansions to Cairo

The proximity of the location of the new administrative capital to Cairo will eventually lead to their merging in the long run, and may even lead to the expansion to the borders of the city of Suez, which will complicate matters more. It will also lead to a new pattern of daily commuting from the old urban block to the new administrative capital on a daily trip from home to work, which increases traffic congestion and closes the main traffic axes.

#### 5.4.5. The negative effects of urban expansions on national security

Large urban expansions, especially those located on the peripheral of Cairo, increase problems and risks in case of exposure to environmental disasters as a result of epidemics or any military threat by conventional or nuclear weapons. This is due to the centralization and large expansions that will increase the potential damage to institutions and facilities, causing administrative and organizational paralysis on the large urban agglomerations, as the population of Cairo exceeds twenty million, in addition to another seven million expected after adding the new administrative capital [14].

#### 5.4.6. The negative effects of urban expansions on public facilities in Cairo

The selection of the location of the urban expansions negatively affected the infrastructure facilities and networks of the old city, as well as negatively affected the existing urban communities such as New Cairo and Al-Shorouk City, where these cities, for example, face water supply problems that cause frequent water supply cuts. And due to the high level of the location of these expansions, especially the location of the new administrative capital, which led to the need for water pumping stations and large pipelines to ensure the proper flow

of potable water, especially because these sites are 90 kilometers away from the water sources, which increases the actual cost of these facilities [14].

### 6. A comparative analysis between the two approaches

In order for the research to reach its objectives, it will conduct a comparative analysis between the two approaches that we have studied previously to determine the advantages and disadvantages of each.

Table 1: A comparative analysis between the two approaches

<b>Factors of comparison</b>	<b>New cities</b>	<b>Urban expansions</b>
<b>Geographical location</b>	Randomness of choosing the geographical location of the majority of new cities and the lack of a good study of the environmental and urban determinants, and characteristics of the site such as the topography, soil characteristics, and flood plains.	These urban expansions were not built according to comprehensive planning that takes into account the geographical location of the new cities that were selected near Cairo. The proximity of the new cities' location to Cairo will eventually lead to their merge in the long-term.
<b>Incentives for population migration</b>	Most of the satellite city sites do not have advantages that help in their development and stimulate population migration to them, whether because they are far from urban development sites or main markets, or because they were chosen in a desert area without an economic base.	Due to the proximity of these urban expansions to Cairo, which helped ease the migration of inhabitants from the heart of the city to the new urban expansions because they provide a higher level of housing and many distinguished services that encourage citizens to quickly move to these expansions, looking for Quality of life.
<b>Funding</b>	These cities are characterized by the existence of an economic base along with housing units and services that enable them to be completely independent from Cairo in the long term. These cities were funded by the state in addition to investors in the industrial sectors that established poles for economic growth.	The state, in its strategy, tended to construct urban extensions, especially the new administrative capital, towards establishing a large city, which constituted a burden on the state in providing funding sources for infrastructure projects, services, and housing. This is in addition to the absence of any economic pillar on which this city is based.

<p><b>The size of the city</b></p>	<p>Small and medium-sized cities, whose population ranges from 100,000 to 250,000 people, are the most suitable in terms of financing and the fastest in settlement. They are also easier to establish, develop and manage than large cities. Also, determining the size of the city depends on its purpose, its economic components, and its relationship to the region in which it is located.</p>	<p>The urban expansions are not independent or even satellite cities, but rather large urban areas on the outskirts of the mother city, with a concentration of commercial and entertainment establishments. These extensions have many shopping areas and recreational areas far from the large downtown area, and over time these expansions merge with the mother city and become one of its suburbs, which increases the size of the city.</p>
<p><b>Local administration</b></p>	<p>The management of new cities faces many problems. There is a deficiency in the administrative work methods of the agencies of these cities, which represent central executive authorities from the New Urban Communities Authority, and thus the planning, budget and organization decisions are outside the authority of the city's agencies.</p>	<p>Due to the proximity of these urban expansions to Cairo, which over time made these extensions join them as one of the suburbs of the capital, which led to the central administrative connection with the administrative apparatus of Cairo Governorate and the Greater Cairo Region, which includes a number of cities located administratively in different governorates.</p>
<p><b>Means of transportation and energy consumption</b></p>	<p>Residents are forced to go to their work outside the city, where most of the bodies, ministries and business centers are concentrated in Cairo, therefore the rates of energy consumption of transportation are increasing with the increase in the rates of movement between the mother city and the satellite city and cause a burden on traffic, especially in the rush hours.</p>	<p>The planning based on urban expansions caused a pattern of daily movement from the old urban agglomerations from home to work, which increases traffic congestion and closes the main traffic axes. And due to the presence of these expansions on the outskirts of the city, which increases the length and time of the trip, increases the traffic congestion and consuming a greater amount of energy.</p>
<p><b>Economic development</b></p>	<p>New cities provided an opportunity for the establishment of industrial zones due to the availability of large areas required for establishing of factories and</p>	<p>Urban expansions do not have any economic base. Its aimed only to provide a multi-level of housing units, especially luxury and sub-luxury housing. This planning approach has been</p>

	<p>their future extensions, and the ease of transporting their products to internal and external markets. Private sector also contributed to add a new national product to Egypt's industrial map.</p>	<p>followed in the belief that it is the most appropriate method from the human and economic aspects, based on the fact that the current space provides human and service support for the new cities in their early stages.</p>
<p><b>Real estate investment</b></p>	<p>The new cities did not sufficiently attract the attention of real estate investors, as these cities need a long time to complete the components of their settlements and achieve their goals, in addition to the difficulty of creating urban communities and social ties quickly, as most of these cities are located in desert lands without any economic base.</p>	<p>Urban expansions have received the attention of real estate investors and developers due to the sufficient availability of the factors of population attraction, which lie in the diversity of the main activities and facilities such as commercial centers, authorities, educational, medical and recreational centers, and the availability of good means of transportation.</p>
<p><b>Population growth</b></p>	<p>The slow pace of human settlement in the new cities is generally due to the lack of factors of attraction, which lies in the absence of any natural and economic resources, the lack of appropriate means of transportation, its insufficiency and its high cost. All of these lead to a slow pace of population growth.</p>	<p>Urban expansions were able to achieve relatively faster population growth than the new cities due to their proximity to the mother city and their reliance on services and infrastructure for it. It also succeeded in stimulating population migration to it by providing services and activities that helped to do so.</p>
<p><b>National Security</b></p>	<p>new cities stimulate decentralization and create a pattern of small cities with a population density that enables them to have administrative and economic separation and establish an infrastructure that enables them to develop and be self-sufficient. This is in addition to limiting the possibility of these cities being exposed to any environmental disasters or epidemics. Or a possible military attack.</p>	<p>Large urban expansions, especially those located on the peripheral of Cairo, increase centralization, which may lead to many problems and risks in the event of exposure to environmental disasters as a result of epidemics or any military threat by conventional or nuclear weapons. This will also lead to an increase in the chances of potential damage to institutions, facilities and establishments, which may cause administrative and organizational paralysis.</p>

## 7. Findings

After reviewing the two Egyptian approaches in establishing new and satellite cities around the old capital of Egypt “Cairo”, few conclusions could be deducted:

- Establishment of satellite cities, small or medium in size, to avoid financial problems, and to achieve speed Settlement, as small cities are easier to establish, develop and manage than large cities, while determining the size of the city new construction in accordance with its nature, function, purpose of its establishment, location, economic base, and relationship according to the region in which it is located, and the job opportunities that it is planned to provide, taking into account the expected growth of the city.
- The design of independent cities could achieve the greatest possible degree of independence and self-sufficiency through the creation of economic activities that generate income, maintain its economic balance, achieve a comparative advantage, and increase its ability to attract residents, such as establishing a large university, industrial zone, touristic activity, or others.
- The selection of sites for new cities must be based on detailed studies that identify candidate sites and compare them based on certain criteria, such as: topography, soil nature, surface water, climate, population, economy, security, transportation networks, etc. . , bearing in mind that the new city must be far from Cairo with a sufficient distance.
- It is preferable to establish new and Satellite cities around Cairo, to mitigate the population congestion in the heart of the old capital, and to provide the human need for housing and improving the quality of life.

## 8. Reference

- [1] Aafify. A, (1999). “The Philosophy of New Towns and their Evolution–An analytical study for theory and practice”, Seminar: New Towns in the Arab World and their role in sustainable development. Ibn Zohr University, Agadir, Morocco.
- [2] A. Barrada. “The Egyptian New Cities Program -A critical review”, Faculty of Regional & Urban Planning – Cairo university, Egypt.
- [3] Abbas, A.M., (2007). “The Development of Cities and Regions Random”, Azhar Ninth International Engineering Conference.

- [4] Abdel Moneim, M. N. (2008). "Development of new urban communities, "The Egyptian State and International Experiences" (Unpublished doctoral dissertation). Faculty of Engineering, Cairo University, Egypt.
- [5] Essam Al-Din, M. A. (2003). "Evaluation of the Egyptian Experiment in Establishing the New Towns in the Desert Areas." Journal of Engineering Sciences (JES) 31 (1). Assiut University.
- [6] Gibson, J. E. (1977). "Designing the New City: A Systemic Approach". New York: John Wiley and Sons Inc. Institute for Sustainable Communities. [http://www. Iscvt.org](http://www.Iscvt.org)
- [7] Lamyah Ahmed Abdel-Qader. (2005). "An Analytical Study of the Problems of Development in the New Cities in Egypt", Master Thesis (Cairo University: Faculty of Engineering), Egypt.
- [8] Nagwa Ibrahim.( 2007). "Decentralization Program and Localities", Issues. Center for Public Administration Studies and Consultations, Cairo University, Egypt.
- [9] New Urban Community Authority (NUCA) website: <<http://www.urbancomm.gov.eg/october.asp>> [available September, 2018].
- [10] Siong, Ho Chin. (2006). "Lessons Learned from Planning of Putrajaya City. Administrative Center of Malaysia". Workshop at Shibaura Institute. Japan.
- [11] Stewart, Dona J. (1996). "Cities in the Desert: The Egyptian New-town Program". Annals of the Association of American Geographers 86 (3).
- [12] Sorokin and Zimmerman, (1929). Principles of Rural-Urban Sociology. Taylor, Carl C. Social Forces; Chapel Hill, N.C.Vol.8, Iss.1.
- [13] World Bank (WB), 2008. Egypt: Urban Sector Update, vol. 1. World Bank, Middle East and North Africa Region, Cairo. <https://www.proquest.com/openview/273c3c84c8b06f112e6b9db2b31e4462/1?pqorigsite=gscholar&cbl=181636> [Accessed:24 January 2023]
- [14] Yehya M. Serag. 2017. The new administrative capital of Egypt a critical review from the regional perspective. Technische Universität Berlin Campus El Gouna, Egypt.