

GREATER CAIRO URBAN GROWTH (managing & controlling).

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ABSTRACT

Cairo is the capital of Egypt. It is one of the largest ten cities all over-world. It has a special character due to its location along the Nile. It has a long history since the beginning of Arab entry to Egypt at 642 (AC). After that the construction of Fatimid Cairo had been started at 969. The most developing of Cairo area was done during sultan Mohamed Ally's period who invited the planners to put their ideas into Cairo urban area and develop it to be along the Nile sides through beautiful Bridges to connect west area with east one.

Accordingly Cairo area was enlarged. At 1952, "in terms of Naser revolution" a new concept of Cairo development was started through encouraging industries and trading services. Therefore Cairo became a pole of migrations from all Egypt regions since it has a lot changes for career opportunities.

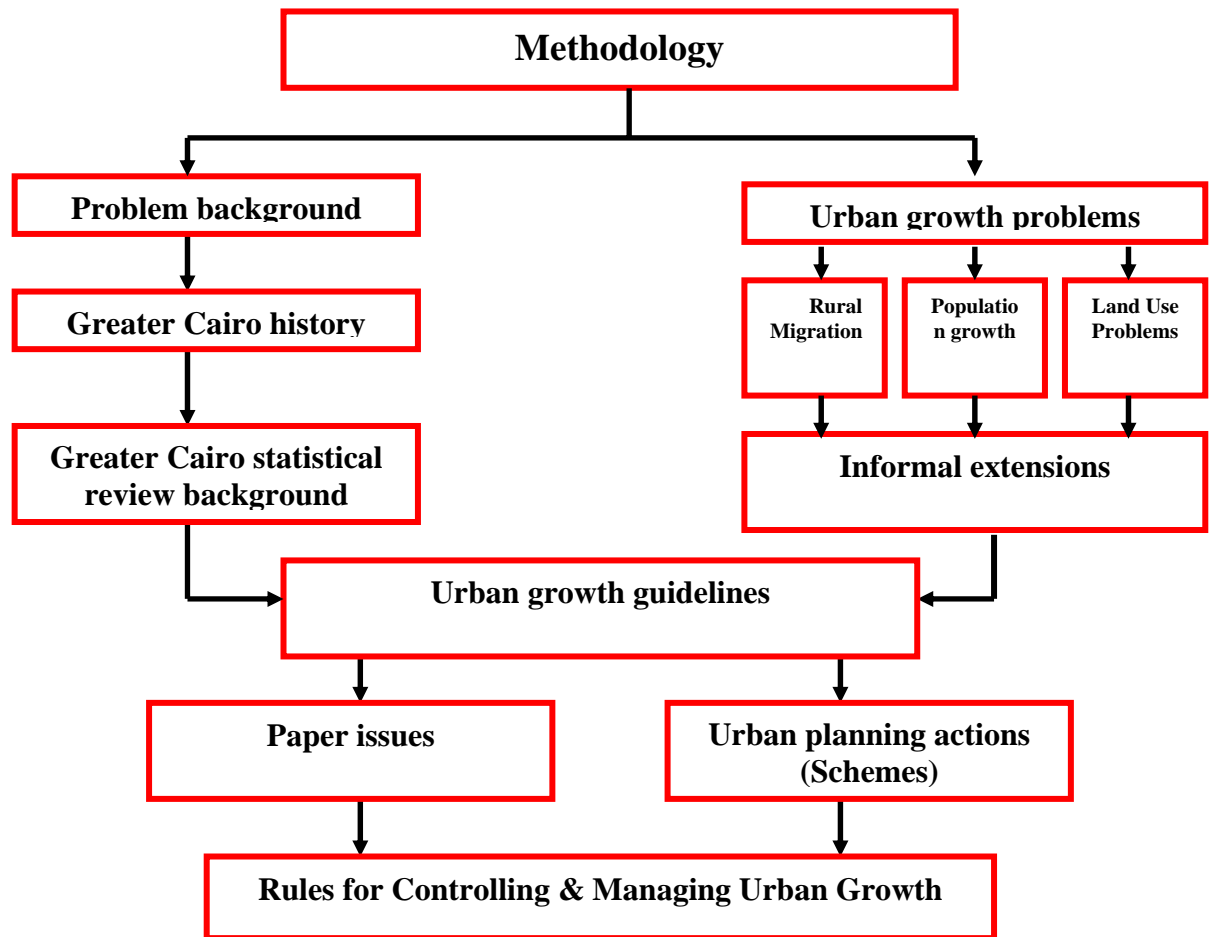
Therefore, high increase of population had been done for Greater Cairo region. (Cairo, Giza, Qualubia) . This informal increase had a lot of bad effects. Egypt had been tried to solve all population problems and infrastructure through planning schemes for Greater Cairo region. Relatively it is essential to discuss these problems in order to manage and control the urban growth of Greater Cairo region.

Problem: -

In terms of Greater Cairo history, a lot of problems were appeared. They are mainly related to the random extensions and informal housing. High population density, over crowded streets, high rise buildings and informal areas are other problems. All these reasons are sufficient to encourage environmental damage and failure of Cairo infrastructure The absence of good following for urban laws (which guide urban growth) represent major factor of Cairo problems. . Therefore researchers direct their studies to solve all interacting problems of Cairo urban region. In this framework the idea of this study was done. It was directed to find essential policies and strategies, which stop urban extensions on the agriculture lands around Greater Cairo region.

Research Methodology: -

As a result of the comprehensive position of Greater Cairo plan "which related to all problems discussed before," it is essential to put an elastic methodology to be able to consider all problems mentioned above. Therefor it is possible to find the best way for stopping informal extensions of the city on agriculture lands. The following diagram shows the Research Methodology.



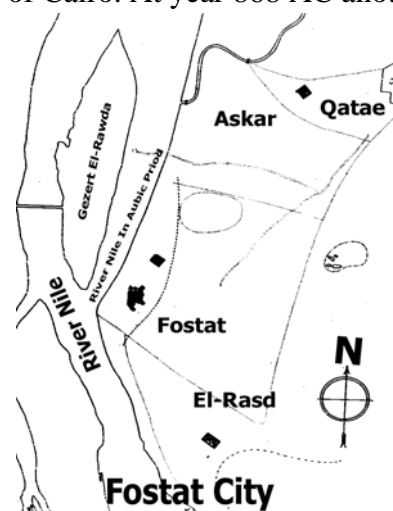
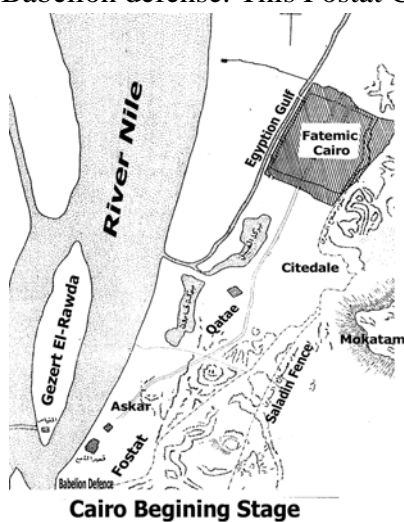
3 GREATER CAIRO URBAN GROWTH HISTORY: -

3-1 Cairo agglomeration growth: -

The urban form of Cairo agglomeration was formulated from its beginning until now through the population movements in the area between Nile valley and Mokattam hill. This growth can be divided to 4 stages as follows: -

3-1-1: Cairo beginning stage: -

Moslems people came to Egypt, at 640 AC they constructed a small city named “Fostat” near to Babelion defense. This Fostat City was the old origin of Cairo. At year 868 AC another city



(named Asker) was constructed in the north east of Fostat City, this was done by Ahmed Ben Tolon. Few years later, Ahmed Ben Tolon constructed another Small City named Qatae, which also was in the north east of Asker. When Fatemides come to Egypt at 969 AC, they constructed a new part of Cairo in the north east of Existing City and named Moezz Cairo. It was considered the main base for Cairo at this date.

3-1-2 Cairo at mid Ages (969 AC & 1805 AC)

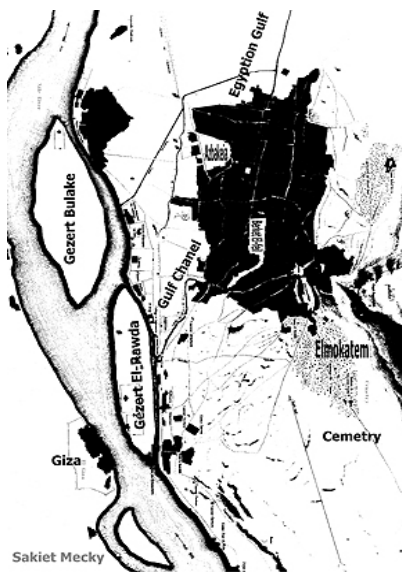
At the Beginning of Fatimid period, the three old cities (Fostat, Asker Qatae) were united as one city of about 400 acres. This was continued for three centuries after. Cairo had been agglomerated and had its major growth related to this period at the age of Sultan Naser Ben Qalawoon until 1340 AC after that, Cairo growth became more and more, specially at Sultan Mohamed Aly (Ottoman period) the agglomeration area at this time was about 15709 acres at the year 1800.

3-1-3 Modern Cairo (1805-1952): -

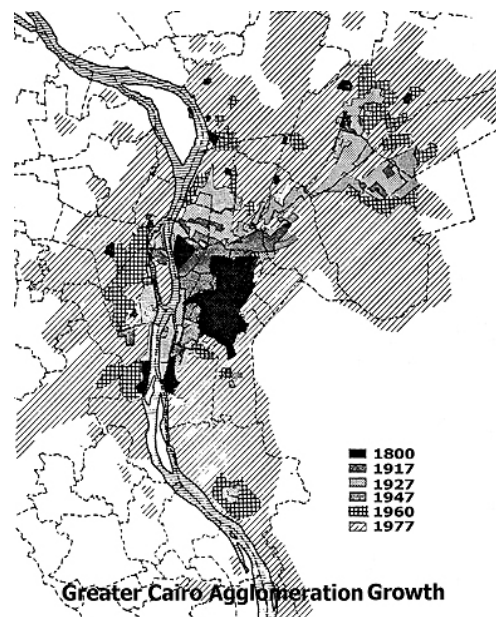
The beginning of 19th century represent a basic change of Cairo urban agglomeration which extended in all directions (without west direction) beside the citadel zone. The area reached to 2025 acres in that time. The period of Sultan Ismail (1863-1882) represent a new stage of Cairo history science, the first plan was done in this period, this plan was done for 750.000 inhabitants, Cairo was called at that time “Oriental Paris”. At the end of 19th century a lot of public building were constructed, especially after the British occupancy; A lot of European foreigners come to Cairo for investments. Therefore, new types of commercial and administrative buildings were done. The extensions were direct to all areas around Cairo and a net of high roads were built and new settlements were appeared such as Heliopolis, north Maadi and Helwan at south, Giza and Roda at the west. In terms of these extensions (all directions) Cairo agglomeration was enlarged over what expected before in the plan. At the end of First World War, immigration ratio was exceeded from villages to Cairo. The immigrants were come to Cairo suburban areas. Cairo population at 1950 was about two millions, (while the plan which put before expected that to be 750.000 inhabitants).

3-1-4 Greater Cairo (after 1952): -

The main policy of revolution government of 1952 was based on industrial developing for all countries in Egypt, especially at big cities in Cairo and Alex. Accordingly immigration ratio



Cairo & Suburbs before 1825



Greater Cairo Agglomeration Growth

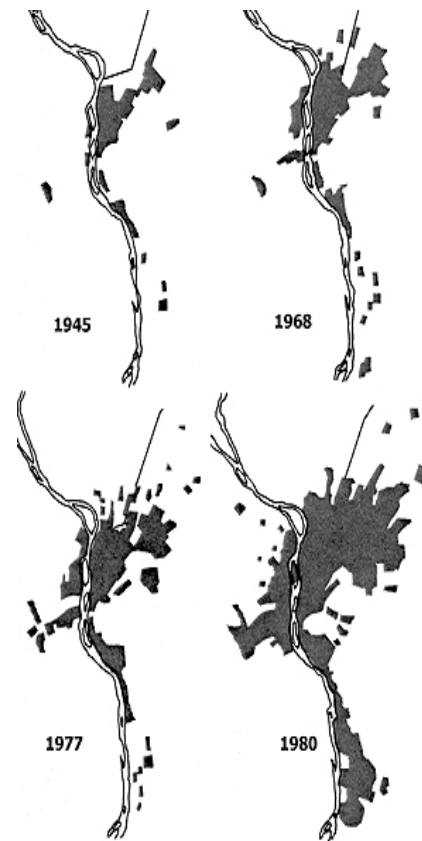
was increased to these cities and Cairo. Furthermore all sources of economy were directed to military needs, So Cairo had a lot of problems, regarding to fast increase of its population and small economy. The population increase had very bad side effects, specially the appearing of informal housing and the interaction of agglomeration extensions of Cairo region and surrounding regions. Therefore Cairo agglomeration was attached to Gize agglomeration and Qallubia agglomeration. They became one agglomeration, which called Greater Cairo. The Greater Cairo area and population were trebled through 20 years from 1950 to 1970.

- All these extensions were added to Cairo area which increased from 1968 to 1982 about 30800 acres and became as total agglomeration at 1982 about 75600 acres. The major problem of this growth was that, a lot part of these extensions were done on agriculture lands.

3-1-5: Greater Cairo growth deductions

-Regarding to this compacted history of Cairo growth, it can be seen that its actual growth was in (1805-1950) period, science it represents about 80% of total Cairo growth from its birth at 640 AC by Arab Moslems. In other way some facts can be deduced as follows: -

- Cairo urban growth never consider its Administrative borders with surrounding regions, so it extended crossing Nile river to Giza at west and Qalubia at North.
- The informal extensions of Cairo agglomeration area were done through Agriculture lands, which were attached to it.
- Naser revolution represents a base point of the increase ratio of Cairo population and increase of agglomeration area but they were not balanced to each other.
- Cairo agglomeration growth had been increased at the period (1977-1982) by high rates, which not are found before, science it increased about 29% of its original area before in 5 years only, (4.2% increase rate every year).
- The total area at 1982 was 64050 acres. About 61% of the increase were built at agriculture land.



Greater Cairo Urban Growth

3-2 GREATER CAIRO URBAN PROBLEMS.

3-2-1 Population Statistical Review.

The population of Egypt grew from 10 million in 1900, to approximately 42 million in 1980, to some 48.2 million in 1986 and final census was 59.27 million in 1996. According to the 1985 UN estimates, moreover, the general density for Egypt's 1.001.449 sq.km. area stood at

50 persons/sq.km. However, since the total inhabited and cultivated territory only accounted for 35.580 sq.km. (Some 3.5% of the total area), the corresponding density for the arable land was around 1360 persons/sq.km. In 1986, probably one of the highest in the world. Census figures also indicate that 44.8% of the total population, or some 22.23 million people, live in urban areas

Statistics for Greater Cairo are much more impressive. While the population was 965.000 in 1897, estimates for 1980 suggest that Cairo has grown twelve folds to some 8.8 million inhabitants ‘ the corresponding annual growth rate was 3.0%. In 1986, returns from the most

recent census revealed that the population grew to reach 12 million inhabitants representing 20.2% of the national total. Furthermore, the population of Cairo increased 9.3% in the intercensal period (1976-1986) and about 17.4 for period (1986-1996).

The increase in population was attributed to both a natural increase, and a heavy influx of rural migrants. Between 1970 and 1980, the average annual rate of increase was 4.5% out of which 3/5 was attributed to natural increase and 2/5 to migration.



- Urban Zone 1966
- New Towns
- Boundary division
- Greater Cairo Boundary

Greater Cairo Zones

3-2-2 Cairo's Primacy as a Generator of Rural to Urban Migration.

The continuation of the phenomenon of rural-urban migration in recent decades is a manifestation of the extreme regional disparities that characterize the settlement pattern in modern Egypt..

The regional imbalances led to the perpetuation of the belief that migration to the city is the only option for a rural/provincial dweller interested in greater social and economic prosperity. The poor living conditions in rural Egypt, coupled with the high densities resulting from high birth rates (3.6% per annum on average) that are perpetuated, in turn, by socio-religious traditions and lack of security, have also acted as pushing forces. As a result, Cairo has been receiving between 100.000 and 150.000 migrants each year during the past decade (or 60% of the national total of rural to urban migrants). These represent 35% of the annual total population increase in the city.

Parallel to the spatial mal distribution on the national level, is an acute mal distribution in Cairo where lateral growth is physically constrained by the archaeological plateau at Giza, to the west, and the City of the Dead and the Moqqattam to the east. In consequence, densities have exceeded to 2000 persons/hectare in some of the city's low-income districts in the late

seventies. The population in the Islamic and European central business districts (CBD), has recently been witnessing a steady decline due to both the saturation of central areas (estimates of 400,000 residents in the Islamic and European CBD are widely accepted), and the changing uses of the center city. High growth rates of population are still recorded in the informal settlements in fringe areas and also in middle class suburbs.

3-2-3: Land-use Characteristics in the Cairo Region.

The Greater Cairo Region corresponds to a vast territory that is administered by three governorates (Cairo, Giza, and Qalyubiya). The Cairo governorate, for example, exercises its jurisdiction over an area of land of which half is desert land. The other half is divided between agricultural and urban uses (roughly 35% and 65% respectively).

In 1982, some 300,000 of the total resident population of the Region lived in six rural towns located in Qalyubiya to the north and Giza to the west of Cairo. The rural enclaves in the vicinity of Cairo constitute 20% of the total built-up area of the Region. Based on current trends of growth, these rural enclaves are progressively approaching the size of small rural towns (population upwards of 20,000 inhabitants). The rate of growth of those enclaves averaged around 5.35% between 1977 and 1982 while the annual regional average registered 3%.

An associated attribute of the development pattern in Cairo is the absence of compartmentalization of land-uses. While the growth of metropolitan Cairo generally follows a mono-axial north-south orientation, the pattern of development still depicts the kind of medieval land-use mosaic typical of an old city, CBDs that served the growing needs of the burgeoning population. In addition to the traditional CBDs: Al-Azhar in the Islamic city, and Kasr EL Nil in 19th century Cairo, Roxy, located in the suburb of Heliopolis, and Dokki, a new service center on the west bank of the Nile in Giza, have become increasingly prominent.

3-2-4 Industrial Land-Uses.

Since 1962, the drive for industrialization has had a marked impact on the development of land uses in the city. Industrial uses, which are concentrated in Cairo, reflect the city's increasing primacy and importance on the national level. Industrial expansion often comes at the expense of valuable agricultural land, particularly in the north of Cairo in places like Shoubra El Kheima, Mustorod, Amirriya and Mattariya. The lack of a rigorous planning policy is partly to blame for the high densities and dilapidated environments in the industrial fringes of Cairo (north and south). The pattern of industrial concentration in the northern and southern suburbs has been consolidated in the past decades. Till fairly recently, the iron and steel works at Helwan were the only major such works in the country, successive expansions further consolidated the prominence of Helwan steel mills despite the inauguration of the more modern Alexandria steel works. The expansion of the Fiat automobile plant and the recent consolidation of the military industrial park, have also ensured Helwan's prominence on Egypt's industrial map. To the north of Cairo, in Shoubra, there has been a marked proliferation of both formal and informal industries in the past 40 years. The formal industries include textile, garment manufacturing, plastics, ship building and, more recently, electronics assembly factories. The 1985 inauguration of one of Egypt's biggest electrical power stations, further added to the weight of Shoubra as a major industrial pole. Shoubra is also home to a thriving informal industry that includes manufacturing, storage and retailing. Many of those involved in such activities reside in the informal neighborhoods that are built in the fringe of the city.

URBAN PLANNING ACTIONS (Guidelines for Managing Cairo Growth).

Egypt had been tried to solve all population problems and infrastructure through planning schemes for large cities. Several plans were put for Cairo in order to develop its existing conditions. Examples of these planning schemes can be discussed in the following data .

Between 1965 and 1970, the Nasser government assigned Egyptian planners the tasks of creating a new master plan for Cairo which was approved by the Premier in 1974. It postulated the establishment of an optimal size for the city by defining its borders. This was to be realized through a variety of controls including the construction of a physical barrier. The plan also called for channeling growth toward three “self-sufficient” new towns and a group of satellite cities. The 1974 plan was soon to be modified, however, for a variety of reasons.

First, it was thought that many of its forecasts were outpaced by the sheer growth of the informal development.

Second, it was felt that the 1990 target date, which was set for the implementation of its provisions, was unrealistically imminent.

Third, the plan had to be updated to take into account some of the recommendations included in the funded National Urban Policy Study (NUPS) which was published in 1980.

Fourth, the exorbitant costs involved in constructing and equipping the new towns created a shift in thinking with respect to the concept of self-sufficiency.

The 1982 plan was premised on recognition of the following facts and forecasts: -

1. An overall annual increase of some 350,000 inhabitants in the Greater Cairo Region, of which 250,000 are attributed to natural increase and 100,000 are migrants.
2. A total number of 5.4 million jobs, or roughly twice the number that existed in 1982, will be needed by the year 2000. The estimate is breakdown runs as follows: 4% in agriculture, 35% in the secondary sector (industry and construction), and 61% in the tertiary sector. The plan is also based on activity growth rate estimates of 30% up to the year 2000 (compared to 27.7% in the 1976 master plan).
3. In 1982, the urbanized zone was estimated to be 32,600 hectares; a further 1200 hectares were thought to be added annually. Based on such trends, it was estimated that the urban area of Cairo will increase by a factor of 2.1 by the year 2000.
4. On the micro level, it was recognized that present trends suggest consistent depopulation of the core, and a stabilization of the population at the periphery. Areas adjacent to the core, it was further hypothesized, will continue to receive populations well beyond their saturation levels, while the suburbs and fringe areas are expected to witness high growth rates.

Based on the hard facts presented above, the master scheme adopted the following set of objectives :-

1. Increasing the absorptive capacity of the Greater Cairo Region so as to enable it to accommodate 16.5 million inhabitants by the year 2000.
2. Stopping the conversion of agricultural lands by offering the low-medium income categories of the population affordable opportunities for land acquisition in desert areas.
3. Controlling the radio-concentric development of the core areas, and informal sprawl in the fringe areas.
4. Upgrading the quality of life in Cairo through the improvement of transportation and infrastructure networks, the preservation of the cultural and historical heritage of the city, the rehabilitation of old neighborhoods, the organization of the urban fabric by promoting the homogeneous sector concept, the control of pollution levels, and finally, the protection and conservation of water resources.
5. Increasing the efficiency of land-uses, through the optimization of industrial location choices and the maximization of the returns of the existing infrastructure.

In terms of these schemes, a new communities policy was confirmed and some of it was constructed in order to participate in Greater Cairo developing process. The following table shows some basic data about new communities and its population.

Table 1: Egyptian new communities data

New community	Existing pop. 1986	Existing Pop. 1996	Planned population
New Cairo	-	34819	500000
Bader	-	248	277000
15 May	24106	65865	350000
El-Salam	19077	366317	500000
10 Ramadan	8509	147839	500000
El-Ebour	1037	991	457000
6 October	528	135477	350000

From the last table, it can be deduced that the population growth in these communities was not as expected. The people desire to live in Crowded Cairo (instead of new communities) which increases problems and urban failure.

4: CONCLUSION

According to the last discussion it can be deduce that the high increase of population of Greater Cairo region has a lot of bad effects. The managing of this urban growth can not be controlled related to the following reasons:

- 1- The increase of informal extensions of urban growth on Cairo suburban areas.
- 2- Unsucceeded experiment of new towns to attract some of Cairo population growth. (It was planned to have 1.9 millions of population by the year 2000. Its population until 1996 was 750.0 thousands only.
- 3- Consuming agricultural lands, which located inside Cairo region. These agricultural lands were built as informal residential housing without any plans.
- 4- The absence of law ability to control urban growth and forming a lot of developing laws which opposite each other).

5: RECOMMENDATIONS

- 1- Finding an executive Administration, which must be able to manage building laws to control building growth, especially extensions on agricultural lands. This Administration will studying the actual solutions for new towns problems such as:-
 - Changing the connection system of slow traffic between new settlements along ring road to be express ways to accelerate transportation system.
 - Find new poles in the new settlements such as universities, industrial facilities, recreation elements and high administrative facilities in order to attract population.
- 3- Managing plans for new extension lands and controls its developing related to suitable densities and infrastructure capability.
- 4- It is important to encourage main investors to participate in replanning projects in old areas, which have land value.
- 5- Direct the Government investments to build new houses for low-income people with low prices to encourage them to live in these new towns.
- 6- Confirming the cooperation between both public sector and private sector in order to put their high investments in large housing projects in Greater Cairo and new towns especially for medium housing types.
- 7- Controlling the main factors which lead to decrease migration from country side to Cairo (about 100,000 to 150,000 every year)
- 8- Decentralizing the administrative system for government ministries and offices through moving them from Cairo to other regions. (Cairo has about 105 governmental sector).
- 9- Replanning Cairo region in the main frame of other Egypt regions in order to absorb some population of Greater Cairo. This mainly to national plan define the main properties for every region in Egypt.

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