

RISE OF URBANISM IN LOWER EGYPT

BY

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Dans la présente note l'auteur analyse l'influence qu'ont eue ces dernières décennies les agents économiques et culturels sur le développement des villes en Basse-Egypte. Il constate qu'à la suite de la révolution agraire et la mise en oeuvre d'un nouveau système d'irrigation de grands changements démographiques se sont produits dans les villes égyptiennes et que le développement de l'industrie, du transport et du commerce a été lié à une intense urbanisation.

The object of this work is to throw light on the influence of cultural factors in the evolution of Egyptian agglomeration during the last two centuries. It is also to show how have the urban centres of the Nile delta developed in both size and area.

The physical setting:

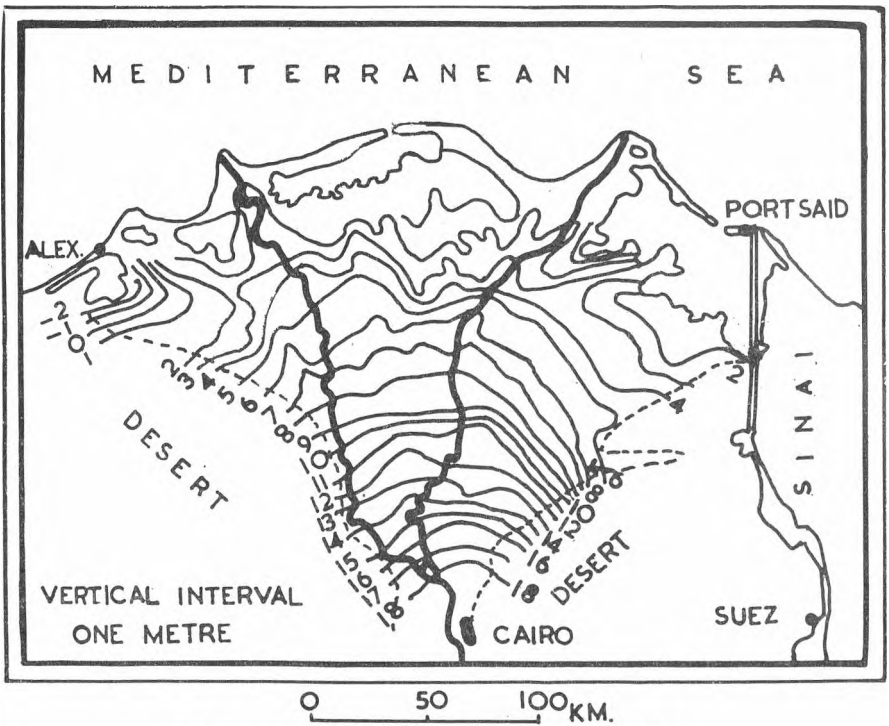
In Egypt, where the Nile shapes the landscape, it is easy to discover which main physical elements control the urban growth. The Nile Delta resembles a fan at the river terminal surrounded by the desert on the east and the west as well as by the sea on the north. The two arms of the Nile, Damietta and Rosetta, traverse the delta on the eastern and the western sides and represent the arterial water-lines in Lower Egypt. In the eastern fringe of the delta lies a gigantic artificial feature, the Suez canal, which connects the two Seas.

The most striking feature in the Nile Delta is the physiographic homogeneity of a vast plain, wide open and agricultural land. In about 22,000 square kilometres, the total area of the Nile delta there is no topographic control. At the present time only about half the area is cultivated, the remainder, which includes most of the northern fringe, being in part occupied by extensive shallow lakes and marshes (Map 1).

The variation in homogeneous landscape is small, so the physical setting of the Nile delta has a limiting effect in determining the situation of the Egyptian settlements. The majority of the urban situations in the delta are determined by historical or relative factors.

However, three types of urban situations can be distinguished, each having its own distinctive character which is either midinterior, or littoral or marginal. The first type includes most of the Egyptian centres, where the river has had a great influence on the location of settlements in Lower Egypt, particularly in the early time (Map 2). The second type of situation contains the three cities of the Suez canal and all the littoral centres on the Mediterranean coast. The third type of situation develops along the fringes of the delta where the reclamation centres exist.

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CONTOUR MAP OF THE NILE DELTA.
 .AFTER DE MORGAN.

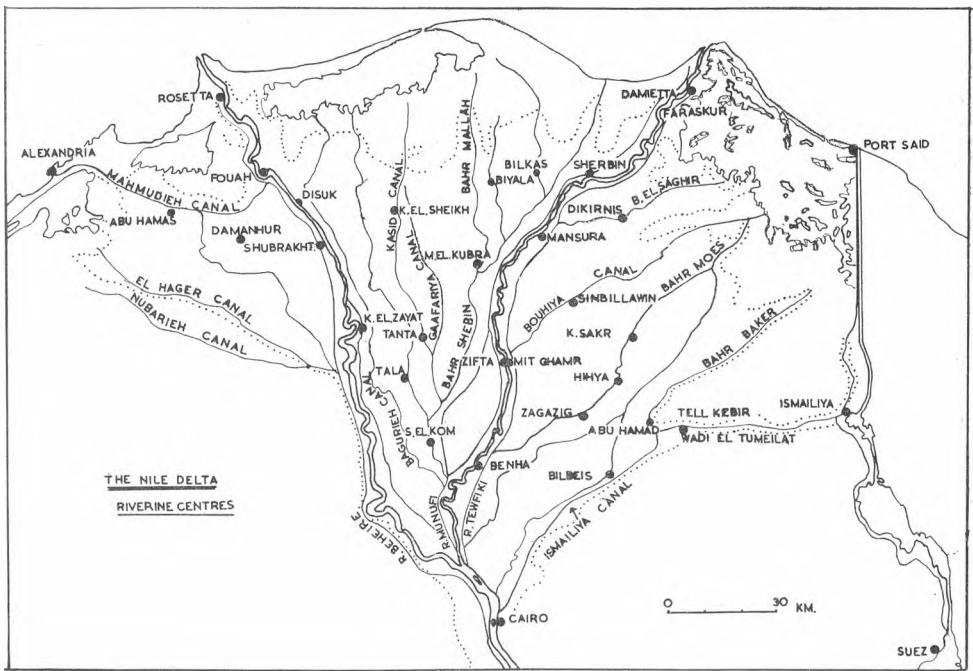
Map. 1. Contour Map of the Nile Delta (After de Morgan).

Geographically speaking, the majority of the Egyptian settlements belong to the creation by man, and their development is connected with the modern factors of urbanization, urban location here is an artificial tribute, and consequently „the situation pattern is much more connected with geographical position than with relief (1)“.

FACTORS AFFECTING URBANIZATION

1. COTTON CULTIVATION AND THE STARTING OF PERENNIAL IRRIGATION:

It is well known that Egypt was invaded by Napoleon in 1798 and Mohamed Ali became the ruler of Egypt a few years later. The latter began laying the foundation of the first economic revolution in Egypt in 1820 by taking advantage of the chance, but highly important discovery of a new type of cotton. Immediately the full import of this was understood, the cultivated area of cotton was increased and many other factors combined to encourage the economic development. Said, the second successor to Mohammed Ali, gave up the royal monopoly of land. In addition to the new freedom



on the market gave oversea countries the opportunity to share in the cotton market (2). This expansion played a prominent part in the urban revolution of which it is one of the steps or stages.

The development of the cotton producing land led to a more advanced system of irrigation which was altered to a network or grid of canals all over the Nile delta. Certainly a radical change came over Egypt in the 19th century through the introduction of perennial irrigation instead of depending on the ancient flood system. This transition was carried out under Mohammed Ali and his successors, and was completed during the British occupation 1882–1922. The British not only continued but extended the work of the 19th century. During the period 1882–1902 the Delta barrages has been completed and the three great canals in the Nile Delta (3) dug. Delta canal were designed to ensure an adequate supply of water the whole year round, and the barrages built to control the water.

The former revolution was the first and the fundamental factor which affect Egyptian urbanization. The fan of new canals and the extension of agriculture produced a new market for crops and, it naturally followed that many local centres, e. g. Mahalla el Kubra and Kafr el Zayat, began to flourish as a meeting place and market site in the cultivated land. The canalization in Lower Egypt created many riverine positions at the convergence of the fan or on the banks of the principal water network. Some examples of these urban settlements are Zifta and Fouah. It must be noted that although with perennial irrigation, as Huzayyin says, the rural settlements became separate (4), it cannot be denied that many of the settlements such as Tel. el-Kebir gained benefit by the canalization.

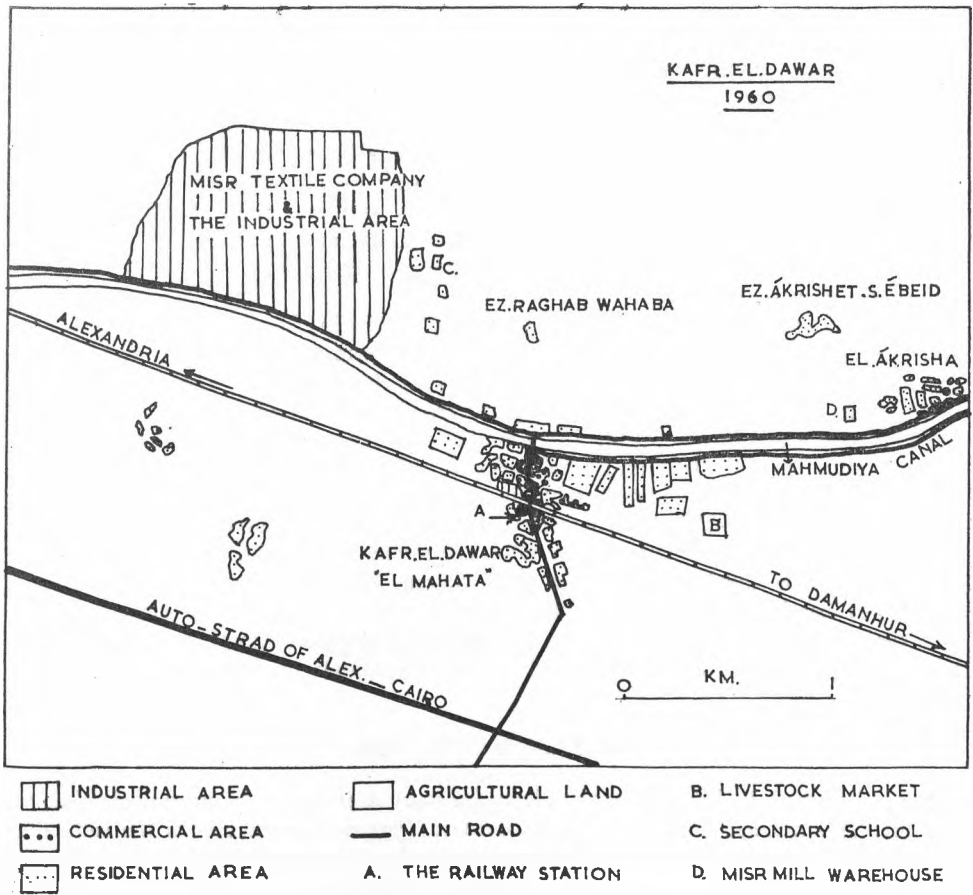
2. THE DEVELOPMENT OF INDUSTRY:

The agricultural and the industrial revolutions, as well as the means of mass-transportation, produced a pronounced change in the Egyptian economy. Before the beginning of the 19th century, that is before the time of Mohammed Ali, there were already some industries e. g. spinning and weaving mills were prosperous in Egypt. But only after 1822 did the processing of the cotton fibre pass from the craft to the industrial stage and in so doing produced a new proletariat. During the British occupation, in contrast with the expansion of agriculture and transport, industry show no real advance (5). The only really noteworthy introductions being salt factories, two spinning mills two breweries and some cigarette factories. However new industries developed from the ginning and pressing of cotton, such as the extraction of oil from cotton seeds and the use of oil soap manufacture.

The opening of the present century saw the low ebb of the few surviving industries such as textiles, sugar, paper, soap, glass and cement, but at the same time it saw the beginning of a new stage of urban morphology. Indeed the need of industrialization began to be realized in Egypt during the First World War as a result of the shortage of imported manufactured goods, and it was speeded up by the Second World War. During the earlier war local industry in some urban centres increased greatly, and at the end of the war the desire to develop the country's economy by encouragement of industrialization was revealed. By 1917 a government commission on trade and industry had urged much greater government help for industry and demanded in particular, tariff reform. The beginning of large scale industrialization was marked by two events of great consequence, the foundation of Misr Bank in 1920 which aimed at setting up new industrial concerns with the help of Egyptian capital, and by the tariff reform of 1930 which protected Egyptian industry. The outbreak of the Second World War, the increase in demand arising from the presence of allied troops in Egypt, and abrupt cessation of the foreign imports had a very stimulating effect on Egyptian industry.

After the war, from 1948 onwards, much new machinery was imported and hundreds of factories were re-equipped. During the last decade industrialization became a modern phenomenon through Egypt. This growth of industry led to urbanism at the same time. Moreover, the industries which were rapidly attracting more and more the Egyptian into urban agglomeration had already created numerous important industrial centres. Perhaps, the most typical example of this type in the Delta is Kafr el-Dawar, a humble village of 850 inhabitants until 1882 and of 1,980 until 1897. It became a textile company town during the last world war and counted a population of 11,053 in 1947, while in 1060 the total of its population reached 43,217 (Map. 3).

Mahalla el Kubra is the model example of the extension of urbanization in centres of the Nile delta. In 1882 it was a small settlement with 27,851 persons, but it developed during the First World War and after the foundation of the Misr company, during which time it trebled the number of its population to 63,292 in 1937. It was affected by large scale industrialization from then onwards, and by 1947 the number of its inhabitants had risen to 115,758. In 1960 it had increased to 178,982, of course the industrial development in Mahalla el-Kubra had created a fundamental change in the structure of the city, in the concentration of population, and the distribution of the social services. This fact appears in the centrifugal movement of industry towards the outskirts of Mahalla el-Kubra. Besides these two examples, industry affected the other industrial centres which had existed before the industrial expansion.



Map. 3. Kafr el-Dawar 1960.

Another point concerns the effect of industry on urbanism. Many of the large industrial firms have shown a praiseworthy regard for the welfare of their employees, and provided them with many amenities. These include the creation of special and splendid towns for them which are provided with all the social services. For example, in Kafr el Dawar the Misr company have established a big urban centre for its employees which contain all the facilities of modern urbanism. The same thing shows in the other big industrial cities such as Mahalla el-Kubra and Cairo.

Here, it is important to notice that during the last decade there was another industrial revolution which was not solely concerned with the manufacture of essential consumer goods and the production of intermediary goods i. e. agricultural equipments, bicycles and electrical equipments, but also with the creation of heavy industry. This recent revolution has affected some urban centres and, consequently, those settlements which specialize in this type of industry have flourished and accelerated the rate of growth during the last ten years. Such a centre is Helwan which is situated as a suburb of Cairo to the south and on the eastern bank of the Nile. At the beginning there was

a plan for creating and building the foundries and the factories for heavy industry in Upper Egypt near the Aswan dam. As the mines are not so far away from Aswan there would be some saving on transport. Also it was of economic value to use the cheap electric power for smelting the ore. But the leaders thought it would be wrong to establish the factories in the dam area when the finances for its construction were still not forthcoming. So the first steel-works are being built at Helwan where there are the facilities for communication and labour, but having to use imported coke. After 1958 onwards many factories were established at Helwan and they make household articles, cars, railway carriages, bicycles, furniture, plastic goods and light tools. Thanks to the heavy industry and industrialization Helwan changed from a small spa town, to a large industrial urban centre.

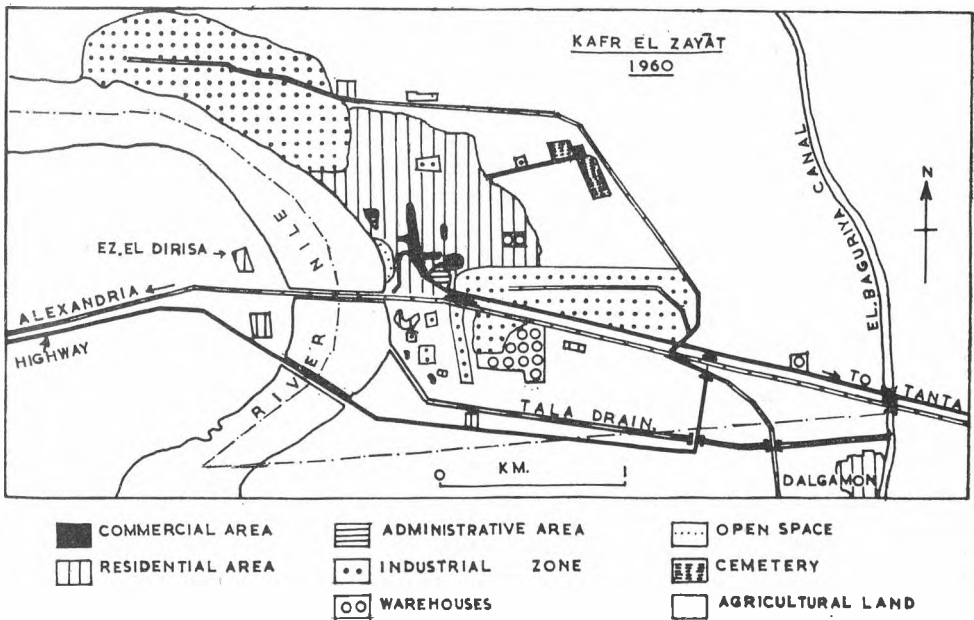
There are also attempts to create small urban centres in the agriculture reform area. Here industrialization aim to draw off a part of the farming labour-force, and to direct the agriculture income into industry by creating a home-market. The method of this is co-operation between industry and agriculture. This is based on two principles: — decentralization and local control. There will be no huge concentration around the main urban centres but industrial and rural units at district level, using local capital, local labour and local markets without excluding arrangements for export. These attempts were made in „Muririyat el-Tahier“ where three settlements were established and Umm Sabir, the capital of Liberation Province was built. The second example of attempts of introduce industry to some rural settlement is wadi Natrun. In this centre food industry was established beside the household industries of furniture, ironmongery, small machines and carpets. Finally it is clear that the industrialization in Egypt has been affected in the extension of urbanization, especially in the outskirts of the big cities where the new factories stand.

3. TRANSPORTATION:

Egypt has some 14 kilometres of railway for every 100 square kilometres of inhabited area (6). This number is near to the standard of Western Europe and at the same time is well above that of the other under-developed areas (7) in the Middle East. Also the network of roads spread in Lower Egypt and now connects the urban centres with each other. Egypt has 25 kilometres of roads for every 100 square kilometres of cultivated area, a proportion above the average of any other Middle East country (8).

The development of transportation and communication aided the growth of agglomerations, and it created new urban centres such as Kafr el-Zayat (Map 4) which was one of the earliest of such centres. It was founded as a model planned town by Mohammed Ali (9). It flourished when the principal rail line was laid between Cairo and Alexandria, and at this place where the line was obstructed by the Western branch of the Nile. Another example of the building of a new settlements is Zagazig. Originally it was just a temporary camp for the public works labour force during the time that the antiquated system of irrigation by direct seasonal flooding of the Nile was being replaced by proper gravity irrigation with all its canals and barrages. But after the laying down of the railway network in the eastern Delta Zagazig became the centre and focus of rail lines. Moreover, the opening of the Suez canal has been effective in its growth.

Indeed there are many settlements in the Nile delta that were affected by the transport revolution such as Tanta, Damamhur and Benha. Tanta developed as a land nodality at the point where numbers of railways intersected and then fanned out to all settlements in Lower Egypt. Also the value of Damamhur was fixed as a staging point along the trunk railway line between Cairo and Alexandria.



Map. 4. Kafr el-Zayāt 1960.

The canals of the Nile Delta did not share in the transport revolution because they were designed primarily for irrigation, not navigation. Thus the water navigation is limited and its influence on Egyptian urbanism is slight. However, the cutting of the Suez canal created a chain of new centres which includes Port Said, Ismailia and Suez. The foundation of these settlements was wholly due to transport. These new urban agglomerations advanced rapidly as shown in Fig. 5.

The media for communication also had a great effect on the growth of cities. The spread of telegraph lines, telephones, post offices, radio, cinema and press have a great part in the improvement of social services in the various urban settlements. The telephone service was taken over by the Government in April, 1918, in 1956—57 the state telegraph had a network of 15,419 kilometres and 1,076,159 kilometres for the telephone's network. The total number of telephones in the country was 196,711 in 1950, compared with 60,000 in the pre-war period (10). Egypt is also well provided with postal facilities for by 1964 there were 19,817 post offices. Radio broadcasting is one of the media for mass communication which exists in urban settlements. Egypt is not too badly supplied with radio facilities. The number of registered radio sets was 500,000 in 1950, and in 1960 the first television station went into use in Cairo.

The first Egyptian film was produced in 1926. By the thirties several studios have been built, and at the present time fifty or more companies produced more than 50 feature films each year. The last and the largest medium of communication is the press. Egypt has from afar the most developed press of any Arab country with 200 weekly papers and 55 dailies. Of the latter 26 are in Arabic and 13 in French. But it should be noted that more than half of the dailies are published in Cairo and 20 are

published in Alexandria. The circulation of these papers covers all Egypt while the local press in some cities such as Tanta, Mansura and Mahalla el-Kubra has only a limited circulation. The principal daily papers in Egypt are „Al-Ahram“, „Al-Akhbar“, „Al-Gumhurya“.

The latest advance in transport revolution is air transport which has greatly developed during the last twenty years. The Misr Airways started operation in 1933, was helped by war time conditions, and has extended its services during the postwar period. The airports for Lower Egypt are Cairo Airport in the suburb of Heliopolis and at Alexandria. It should be noted that air transport serves only both the „million cities“ owing to the compactness of the Delta and the short distances between the main cities.

The fourth factor of urbanization in Egypt is the growth of population. The number of population in Egypt has been increasing rapidly during the 20th century, generally, because of the vast progress in agriculture and industry coupled with a high birth-rate and a declining death-rate. The growth of the Egyptian population is shown in Table 1.

Table 1

Year	The number of population	Year	The number of population
1800 French estimate	2,488,950	1917	12,750,917
1821 Mohammed Ali estimate	7,476,440	1927	17,217,264
1846 estimate	6,881,131	1937	15,904,525
1882 Census	9,734,484	1947	19,022,000
1892 Census	11,287,359	1960	26,065,000
1907 Census	11,287,359		

The increase of population in the Nile Delta during the period between 1917—1960 and their percentage compared with the total increase over the whole country is shown in Table 2.

Table 2

Year	The number of population in the Delta	Net increase		All increase in Egypt	
		%	number	%	number
1917	7,083,542				
1927	8,373,479	11.1	739,937	11.5	1,451,946
1937	9,365,251	10.6	891,772	12.1	1,786,761
1947	11,606,663	23.9	2,241,417	19.4	3,117,475
1960	16,516,000	41.9	4,909,332	37.0	7,043,000

The striking feature shown up in the table is that the greatest increase is in the Delta. Also this rate exceeded the percentage of increase in all Egypt. This is due to the main industrial centres being found in the Delta. The second feature which the table brings to light is that the total population in the Delta doubled itself in less than half a century.

The educational policy in the last two centuries was responsible for the development of some settlements in Lower Egypt particularly in the district headquarters. The edu-

ational revolution began in the 20th century. It was associated with the sending of students on missions to Europe and the founding of universities. In 1908 Cairo University was founded as a private institution to be taken over by the government in 1925. Alexandria University was established by the government in 1943, the Ain Shamse University in 1950 and Asyut University in 1957. These four universities and Al-Azhar had 116,533 students in the academic year 1963—1964. At the present there is a broadening of the educational policy, which can be summarized in the word „decentralization“. The new policy has aimed at giving the educational headquarters more administrative power and more responsibility in order to realize the real requirements of the country (11). Moreover in the field of technical education a new trend has developed, namely, the formation of Central and Regional vocational education councils, in the big centres. Nowadays these vocational centres are centralized in Cairo and Alexandria as well as the provincial capitals. Indeed all these attempts lead finally to the urban development.

The growth of cities has been influenced also by the administrative pattern. This is apparent particularly in the district head quarters which have acquired their value mainly from their administrative power. There are many examples in this connection but the best instance from this point of view are Shubrakhit in Beheira province and Biyala in the province of Kafr El-Sheikh. The main reason behind the growth of Kafr-el-Sheikh is as the administrative centre for the land reclamation in the northern Delta.

There are many other secondary factors such as the distribution of public services, religions and trade which affect the trend of urbanization in Egypt. Trade especially with the foreign countries played a great part in the development of the littoral situation such as Alexandria, Port Said and Suez, the old harbours of Rosetta and Damietta. Also trade in the local markets helped the internal situation to develop.

Religious influence appears in any Egyptian settlements (12) particularly in Tanta and D'isuk. Every year about a quarter of a million pilgrims come to visit Tanta during its religious festivals. The historical momentum of this city is the results of its reputation as a shrine city.

The foundation of municipalities in the urban settlement (14) and the extension of public work, including the layout of the streets, city lighting, the facilities of water supply and town planning are other recent factors of urbanization.

URBAN GROWTH

Urbanism, as we know it is not the result of a steady development from our ancient cities. It was the development of agriculture, transport, industry and commerce which created a revolution in the pattern of Egyptian urbanism, re-arranged the distribution of population in their settlements and led to urbanism.

The following table (No. 3) is given to show the growth of urban population in Egypt during the period 1897—1960 (Fig. 1, 2). It is clear that the large scale of urbanization and the real urban development was associated with industrialization and the extension of urban life particularly after the Second World War. Although the period of rapid urban growth in Egypt was less than fifteen years (1947—1960), the number of urban population rose to its climax during that time and the cities emphasized this function as service centres in their regions.

Of 9,630,000 the total urban population of Egypt in 1960 there were 5,850,000 in the main cities of the Nile-Delta. Moreover, about 76 % or 4,451,000 of 5,850,000, the total population of the provincial capitals of Lower Egypt, and the industrial city of

Table 3

Year	1897	1907	1917	1927	1937	1947	1960
The total No. of population	9,634,754	11,189,978	12,650,918	14,177,864	15,932,694	19,040,448	25,745,000
Total urban population*	1,396,424	1,550,896	1,884,420	2,444,181	2,943,531	4,237,363	9,630,000
Urban % of total population	14.44	13.84	17.21	18.47	18.47	22.21	37.40

* These figures include the inhabitants of the provincial cities and the district towns.

Table 4

Year	Number of population in the Delta		The population of the provincial capitals and M. el-Kubra		Population of Cairo and Alex.	
	number	%	number	%	number	%
1907	5,800,790	—	1,381,835	23.8	1,034,240	73
1917	7,082,542	18.2	1,682,221	25.2	1,230,556	73.1
1927	8,373,479	11.1	2,209,983	26.2	1,637,630	74.1
1937	9,365,251	10.6	2,659,973	28.3	1,997,832	75.1
1947	11,606,668	23.9	4,017,815	34.6	3,009,678	74.9
1960	16,516,000	33.6	5,850,000	40.2	4,451,000	76

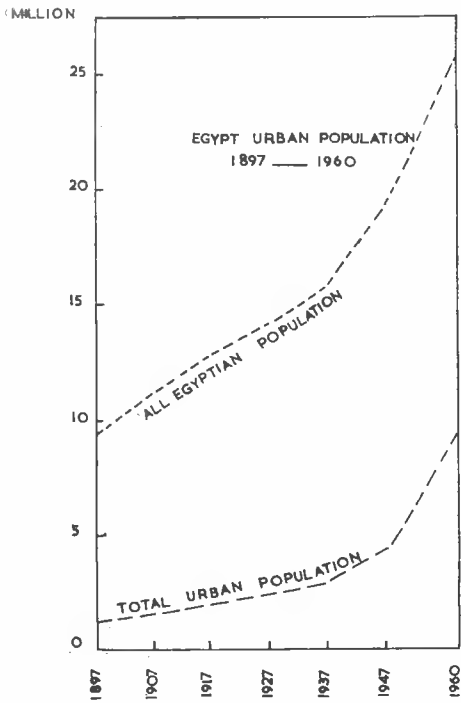


Fig. 1. Egypt Urban Population 1897-1960.

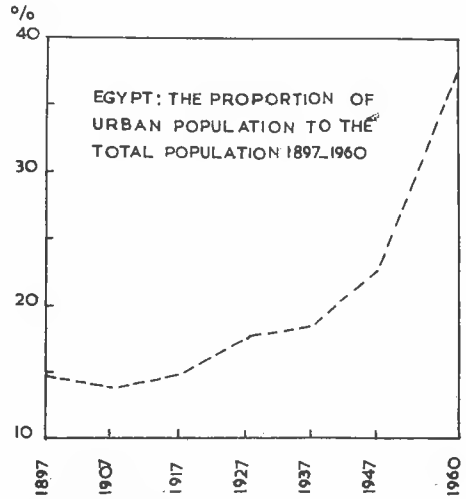


Fig. 2. Egypt: The Proportion of Urban Population to the Total Population 1897-1960.

Mahalla el-Kubra, were concentrated in both Cairo and Alexandria as shown in Table 4.

It can be seen that about a quarter of the population of the Delta in 1947 were dwelling in Cairo and Alexandria and by 1960 it had risen to one-third of the total population of the Delta (Fig. 3, 4). This fact can be taken to indicate that these two

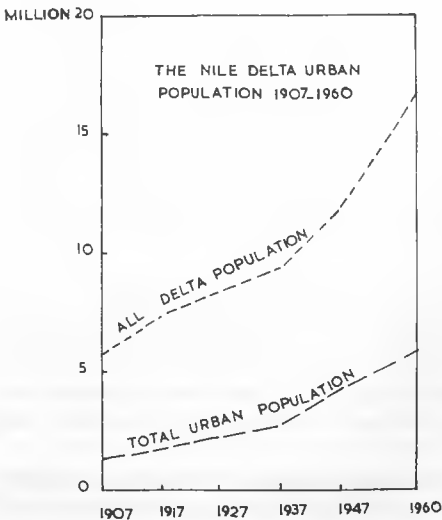


Fig. 3. The Nile Delta Urban Population 1907-1960.

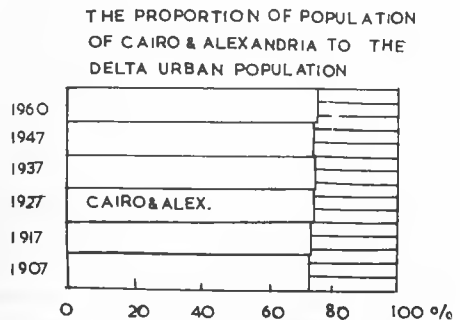


Fig. 4. The Proportion of Population of Cairo and Alexandria to the Delta Urban Population.

cities contained the majority of urban population as a result of the centralization of economic potentialities in these areas. A fact which must not be overlooked is that this trend restricts the growth of the surrounding agglomerations and prevents the existence of the middle size city which has nearly half a million inhabitants.

Before the beginning of the twentieth century in 1897 there were only two big cities with a population of 905,417. These were Cairo and Alexandria. By 1927 one city, Cairo, had a population of 1,064,567. In the same year the number of population in Alexandria had increased to half a million, Port Said had become the largest of the Canal cities and there were other urban centres in Lower Egypt, e. g. Tanta, Mansura and Suez, which had more than 50,000 inhabitants.

In 1937 the scale of urbanism remained as it was in 1927 except that M. el-Kubra with 63,292 inhabitants moved up into the group of urban settlements with more than 50,000. The structure of urbanism in the Delta became changed in 1947. Cairo had grown from a million city in 1927 to a conurbation in 1947 with 2,090,654 persons and four other metropolitan districts had an expanding population of more than 100,000 persons. These were Tanta, Suez, Mansura, and M. el-Kubra. At the last enumeration in 1960 Cairo had trebled its population during the period between 1927 and 1960 and it now has more than three million and a half (3,513,000), and other cities, namely Tanta, Mansura, Suez, Ismailia, Zagazig, Damanhur and Mahalla el-Kubra each have at the present time more than 100,000 persons. Damietta, Shebin el-Kom and Benha are the only centres which have 50 — 100,000 persons.

The ranking of urban centres may be considered in order to find the primate city. Fig. 5 shows the chronological development of the leading cities in the Nile Delta during the period between 1800—1960.

Cairo is the primate city of Egypt. It has occupied this position since its foundation and in the course of time has emphasized its primacy by becoming the centre of national life as well as by the increase of its population. At the present time it is considered the most important intellectual and urban centre in Egypt. Fig. 5 shows that the second and the third cities have changed during the last two centuries. In 1800 Damietta was the second, H. el-Kubra the third and both Alexandria and Rosetta stood together in the fourth place. By the time of the first Egyptian census in 1882 Alexandria had taken over the place previously held by Damietta and the importance of the latter gradually declined until by the 20th century it occupied a very humble place.

It should be remembered that both Damietta and Alexandria as well as Rosetta flourished during the Middle Ages because they were situated on the navigable route to the east. But with the discovery of the cape route and the resulting decline of the Mediterranean Sea as a route to the Far East, the importance of the Egyptians ports began to decline. The decline of Alexandria and Rosetta was faster than that of Damietta because the situation of that city gave it access to trade with the Levant. However, in the nineteenth century, during the reign of M. Ali, Alexandria was revived by the construction of the Mahmudiya Canal (13) which provided the city with fresh water as well as with a navigable canal. From the date of this rebirth onwards the city has grown with extreme rapidity. It increased its population more than twenty times during the period 1800—1889 whilst Cairo had grown only from 260,000 to 678,433 during the same period. This was due to the opening of the Suez Canal which repeated the Medieval history of the Mediterranean Sea as a strategic link between the western and eastern hemispheres.

It can be seen also in Fig. 5 that the third place was occupied by four cities, namely M. el-Kubra in 1800, Damietta in 1882, Tanta in 1897 and 1907, and Port Said from

CHANGE IN RANK IN CITIES

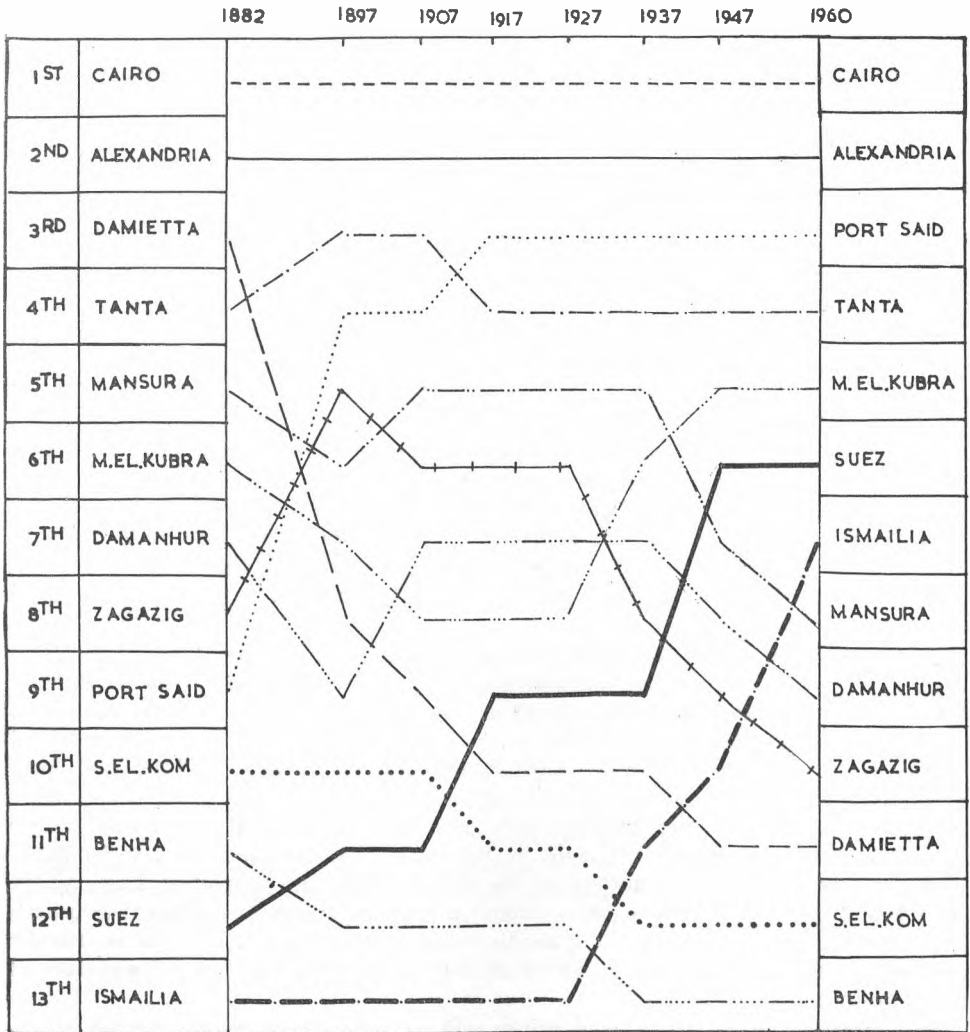


Fig. 5. Change in Rank in Cities.

1917 onwards. Though the supremacy of M. el-Kubra at the time of the French expedition was due to its historical momentum in the textile industry, its real growth started with the establishment of Misr Mill in 1927.

In short the evolution of urbanism has involved a radical change in urban structure, and resulted in the concentration of the population in a relatively few agglomerations (14), which have been able to grow ever greater by reason of their momentum (Cairo—Alexandria) or by the favourable condition of their location, e. g. Canal urban centres. This concentration in the bigger settlements „Grossestant“ (more than 100,000 persons),

directed the urban growth to the centrifugal areas rather than the centripetal core where the business and shop districts are usually found.

The centrifugal extension or as Hoyt calls it, „the lateral pattern of expansion“ (15) in the Egyptian centres has three phases. The first phase is characterized by reaching out into the peripheral zone to form residential areas along the arterial lines of communication which connect the centre-core of „El-Madina“ the city with its fringes such as Cairo and Alexandria (16).

The second form of the centrifugal concentration is distinguished by the establishment of small nuclei for the employees in industrial concerns. Usually these are built near to the factories on the fringes such as the workers towns at M. el-Kubra, Ambaba, El-Matariya and Shoubra in Cairo. The last pattern of the residential extension in the Delta is the development of open settlements (17) in the peripheries of cities. This type of growth appears only in the districts which have low density per square kilometre.

The centrifugal conception does not occur in housing development, but it does include the industrial zone. New industries may be located in these peripheral areas for no other reason except that the competition for space in the central zone is so keen and land values so high (18).

This trend of decentralization is a recent phenomenon in Egyptian urban structure, but it has begun to show in most cities. For example, in Alexandria the principal industries are located near Mahmodiya Canal and in the SE and the western fringes.

The industrial decentralization is also a notable feature in Cairo particularly at Helwan. Similar decentralization can be seen on the border of provincial cities where the industrial establishments try to avoid residential areas and tend to occupy special areas in the outskirts.

It should be noted that the centripetal and centrifugal development in the Egyptian cities have been influenced by land values which are determined either by the demand for space in the centre zone, the „loop“ as Burgess calls it, where the population is concentrated, or by the possibility that much will exist in the future. The highest land values are commonly found in the business districts and usually tend to recede proportionately to the distance from the focus to the rings. But this reduction is not steady or uniform; there are other factors which cause fluctuation and irregularities rather than a uniform graduation (19), such as the social character and the distribution of inhabitants in the various quarters of the city all these are important factors which control land values in Egyptian cities. Attention must be drawn to the fact that in each city there is a new residential area generally called „the new city“. Here the aristocratic and rich are concentrated and the measures of town planning have guided and directed urban growth.

Still other factors determine land values such as subordinate trading centres, transportation routes and pedestrian traffic. In the writer's view the pedestrian traffic especially in the central district is the main factor which determines land values. In general the streets with the heaviest traffic during the course of a day are the most favourable location for certain type of business such as greengrocers, stores and shops.

The movement of population toward the rim of the city has tended to raise land values in the peripheral areas, so land values have depended upon the specific uses and the character of its occupants. While urbanization has had so much effect on the morphological structure of the fringes, its influence upon the nucleus is limited.

Finally, it may be noticed that Egyptian cities are similar to the other medieval cities in the Western World which have slums and blighted areas, on which the city had grown house by house and developed spontaneously without any definite conception

of planning. It is also important to remember that the historical core of the Egyptian cities has been an influence by distributing its function through the other commercial and industrial segments.

CONCLUSION

The irrigation- and agricultural revolution in Egypt, in contrast with western Europe has resulted in a demographic change and led finally, with the assistance of industry, transport and commerce, to an urban revolution.

LITERATURE

1. Hamdan G., *Studies in Egyptian Urbanism*, Cairo 1959, P. 56. — 2. Between 1820—1935 cotton production rose from 1,000 kantars to 243,000 kantars. A kantar being a little under half a hundred weight. See Lacouture, J. *Egypt in Transition*, London 1958, P. 56. —
3. El Gowhary Y., *Urban studies in the Nile-Delta from the beginning of the nineteenth century onwards*: A study in historical geography, unpublished Thesis Ph. Dr., Reading 1964, vol. I P. 58. — 4. Prof. Huzayyin says „with basin irrigation the village was grouped on high ground and everyone co-operated in the up-keep of dikes, and general works. Now the house are separated and everybody works for himself. The village is dying. Locouture, Op. cit. P. 79. — 5. El-Gritley, A. A. I., *The structure of modern industry in Egypt, contemporaine*, Cairo 1947, Vol. 30, P. 367. — 6. Issawi, *Egypt at Mid century*, London 1954, P. 181. — 7. Such as Iran 0.3, Iraq 0.5, Syria 0.9, Lebanon 1.5, Turkey 1., Sudan 0.2, See Issawi, P. 181. — 8. The average in Syria is 8 kilometres per 100 square kilometre of cultivated area, 3 in Turkey, 2 in Iraq, and 43 in Lebanon. The latter average is more than Egypt. — 9. Hamdan. The population of the Nile-Mid delta past and present, unpublished thesis Ph. D., University of Reading, 1953, Vol. 2, P. 206. — 10. Unesco, *The world communication*, 1950, P. 38.
11. Unesco, *International Year Book of Education*, 1958, Vol. XX, P. 341. — 12. „The religious life of the community assumed a dominant position in Egypt, and the city was itself a sort of a shrine or its life centered around one“ — See Carpenter, N., *The sociology of city life*, New York 1931, P. 15. — 13. Issawi C., *Egypt an economic and social analysis*, Oxford 1947, P. 15. — 14. Dickinson R. E., *The west European cities*, London 1951, P. 401. — 15. Queen (5.) 9 Thomes (L.), *The city*, N. Y. 1939, P. 104. — 16. Attention should be drawn to the fact that the site of Alexandria has been contralled in the direction of growth more than the lines of transport. — 17. Open settlement is a term applied to an area in which the buildings are well spaced from each other and separated by open land which is contrary to the practice in the close settlement. See Dickinson, R. E., *city region and regionalism*, London 1947, P. 587. — 18. Gist N., *Urban Society*, N. Y. 1948, P. 121. — 19. Hum Lee, *The city*, N. Y. 1955, P. 116.

Yousry El Gowhary

RAST URBANIZÁCIE V DOLNOM EGYPTE

Autor v danej štúdii analyzuje vplyv ekonomických a kultúrnych činiteľov na rast miest dolného Egypta za posledné desaťročia.

Osídlené územie dolného Egypta tvorí v podstate delta Nílu, obklopená na západe a na východe púšťou a na severe morom. Naprieč deltou tiahnu sa dve hlavné ramená Nílu, a to damietské a rosettské, ktoré predstavujú vodné tepny dolného Egypta. Deltu na východnom okraji lemuje Suezský kanál, ktorý spája Stredozemné more s Červeným morom. Výrazným znakom nílskej

delty je fyziognomická homogenita rozsiahlej, široko otvorenej nížiny. V súčasnom období sa poľnohospodársky využíva asi polovica jej plochy, ostatnú časť, najmä na severe, zaberajú extenzívne plytké jazerá a močiare. Rozmanitosť v tejto homogénnej krajine je malá, a preto fyzické prostredie vplyva v obmedzenej miere na polohu sídiel, ktorá je determinovaná viac historickými a inými činiteľmi. Pokiaľ ide o vplyv fyzického prostredia, môžeme u miest rozlíšiť polohu riečnu, pobrežnú a okrajovú. Prvý typ zahrnuje väčšinu miest dolného Egypta; rieka mala veľký vplyv na lokalizáciu sídiel v dolnom Egypte, najmä v skorších dobách. Druhý typ zahrnuje mestá ležiace pri Suezskom kanáli a na pobreží Stredozemného mora, tretí typ sa vyskytuje na okrajoch delty. Vplyv reliéfu na vývoj miest v nílskej delte bol malý, a preto ak chceme pochopiť rast miest na tomto území, musíme sledovať predovšetkým ekonomické činitele, ktoré tu spôsobujú v posledných desaťročiach prudkú urbanizáciu.

Prvým významným činiteľom urbanizácie dolného Egypta bola poľnohospodárska revolúcia za vlády Mohammeda Aliho v dvadsiatych rokoch minulého storočia. V tom období bol zavedený nový trvalý zavlažovací systém, nezávislý od povodní Nílu. Bola vybudovaná sieť kanálov, ktorá sa ďalej rozšírila a skompletizovala počas britskej okupácie v rokoch 1882—1922. Takto bolo možné podstatne rozšíriť oševné plochy bavlny, ktorá sa stala hlavným vývozným článkom Egypta. Sieť novovybudovaných kanálov a trhová produkcia bavlny mali za následok vznik viacerých lokálnych a trhových centier, ako boli napr. Mahalla el-Kubra, Kafr el-Zayat a i.

Druhým dôležitým činiteľom urbanizácie dolného Egypta bol vznik a rozvoj priemyselnej výroby. Na začiatku minulého storočia priemysel Egypta zastupovala v podstate len remeselná výroba. Za britskej okupácie vznikol iba nepatrný počet tovární na výrobu soli, piva a cigariet. Skutočnú potrebu budovania priemyslu v Egypte vyvolal nedostatok priemyselných tovarov v prvej svetovej vojne. Začiatok industrializácie nastal po založení banky Misr r. 1920, ktorá podporovala vznik nových koncernov za pomoci egyptského kapitálu a po obchodnej reforme r. 1930, ktorá chránila domáci priemysel. Tak isto druhá svetová vojna podnietila rozvoj priemyslu z podobných príčin ako prvá. Najväčší rast industrializácie však nastal po roku 1948, keď sa v Egypte vybudovali stovky nových tovární s dovezeným strojným zariadením. Odvtedy sa industrializácia stala moderným prvkom v rozvoji egyptského hospodárstva. Značný vzrast priemyslu viedol súčasne k intenzívnemu pomešťovaniu a vytvoreniu priemyselných centier. Typickým príkladom je Kafr el-Dawar v nílskej delte; r. 1882 mala dedina s 850 obyvateľmi vzrástla po zriadení textilného priemyslu v druhej svetovej vojne do roku 1947 na 11 013 obyvateľov a do roku 1960 na 43 217 obyvateľov. Podobných príkladov by bolo možné uviesť viac. Obzvlášť veľký rozmach zaznamenali mestá, v ktorých sa buduje ťažký priemysel, ako napr. Heluán. V poslednom období sa javí snaha budovať menší priemysel aj v miestnych trhových centrách novozískaných poľnohospodárskych plôch v provincii Tahrir, ale aj v iných vidieckych centrách, ako napr. vo Wadi Natrum.

Tretím významným činiteľom urbanizácie ZAR je doprava. Na vzrast miest dolného Egypta vplyvalo vybudovanie hlavnej železničnej trate Káhira—Alexandria a železničnej siete vo východnej časti delty. Vplyv železničnej dopravy na rast miest môžeme pozorovať u miest Kafr el-Zayat, Tanta, Damanhur, Benha a i. Vybudovaniu Suezského prielivu za svoj rast vďačia mestá Port Saïd, Ismailia a Suez. Zavlažovacie kanále boli zriadené takmer výlučne pre zavlažovacie účely, a preto po dopravnej stránke neovplyvujú na rast miest. Zato letecká doprava, zavedená r. 1933 a ustavične sa rozrastajúca, nadobúda čoraz väčší význam v dopravnom ruchu Káhiry a Alexandrie.

Štvrtým činiteľom urbanizácie je rast obyvateľstva. Pôsobí naň okrem rozvoja poľnohospodárskej a priemyselnej výroby aj vysoká natalita a pokles mortality. Obyvateľstvo delty sústreďuje prevažnú časť obyvateľstva Egypta a tempo jeho rastu je v rámci oblastí ZAR najväčšie. Počet obyvateľstva delty sa ani nie za 50 rokov zdvojnásobil.

Veľký vplyv na rast miest v ZAR v 20. stor. má aj kultúrna revolúcia, spojená s vysielaním študentov na výuku do Európy a zakladaním početných stredných a vysokých škôl. Roku 1908 bola založená univerzita v Káhire, r. 1943 univerzita v Alexandrii, r. 1950 Ein Shams univerzita v Káhire a r. 1957 univerzita v Asijúte. V školskom roku 1963/64 študovalo na nich spolu s univerzitou Al-Azhar v Káhire 116 533 študentov.

Ako významný činiteľ v raste miest ZAR javí sa administratívna funkcia, ktorej vplyv sa prejavuje najmä vo vzraste okresných a provinčných miest, najmä hlavného mesta Káhiry.

Okrem uvedených hlavných činiteľov urbanizácie je ešte veľa ďalších sekundárnych činiteľov, ako sú rozmiestenie služieb, vplyv náboženstva, obchod, možnosti zásobovania vodou, rozvoj inžinierskych sietí, mestského plánovania a pod. Obchod, najmä zahraničný, zohral významnú úlohu vo vývoji pobrežných miest Alexandrie, Port Saidu a Suez, ale aj u starých prístavov Rosetty a Damietty. Vnútrošný obchod podnietil rast vnútrozemských trhových miest s výhodnou dopravnou polohou.

Podiel mestského obyvateľstva na celkovej počte obyvateľstva ZAR vzrástol zo 14,44 % r. 1897 na 17,21 % r. 1917, na 18,47 % r. 1927, na 22,21 % r. 1947 a na 37,40 % r. 1960. Najväčší rast urbanizácie vykazuje obdobie po druhej svetovej vojne, spojené s intenzívnou industrializáciou krajiny a zintenzívnením mestského života. Z celkovej počtu 9 630 000 mestského obyvateľstva ZAR r. 1960 bývalo 5 850 000 v mestách nílскеj delty. Okolo 76 % z celkovej počtu obyvateľstva provinčných centier dolného Egypta, vrátane priemyselného mesta Mahalla el-Kubra, sa skoncentrovalo v dvoch miliónových mestách v Káhíre a Alexandrii. Roku 1947 bývala v nich asi štvrtina obyvateľstva delty, r. 1960 tretina. Nesmierny rast týchto dvoch miest má však súčasne za následok obmedzenie rastu okolitých miest a vytvárania sa stredne veľkých miest.

Pokiaľ ide o veľkosť miest pred začiatkom 20. stor., boli v nílскеj delte r. 1897 len dve veľké mestá — Káhira a Alexandria. Roku 1927 Káhira prekročila milión obyvateľov (1 064 567), Alexandria dosiahla pol milióna, Port Said vzrástol na najväčšie mesto v oblasti Suezského kanála; vyše 50 000 obyvateľov mali Tanta, Mansura a Suez. Roku 1937 sa poradie miest čo do veľkosti oproti r. 1927 nezmenilo s výnimkou Mahalla el-Kubra, ktorá sa zaradila s 63 292 obyvateľmi do miest s počtom obyvateľov vyše 50 000. Do roku 1947 Káhira vzrástla na konurbáciu s 2 090 654 obyvateľmi a štyri ďalšie mestá Tanta, Suez, Mansura a Mahalla el-Kubra prekročili 100 000 obyvateľov. Pri poslednom sčítaní ľudu r. 1960 Káhira dosiahla 3 513 000 obyvateľov, Alexandria 1 500 000, vyše 100 000 obyvateľov majú Tanta, Mansura, Suez, Ismailia, Zagazig, Damanhur a Mahalla el-Kubra, vyše 50 000 obyvateľov mestá Damietta, Shebin el-Kóm a Benha.

Ak sledujeme poradie miest od roku 1800 do roku 1960, zistíme, že prvé miesto mala a udržuje si Káhira, ktorá sa stala hospodárskym, administratívnym, duchovným a kultúrnym centrom ZAR. V poradí na druhom a treťom mieste sa mestá vymieňali. Roku 1800 bola na druhom mieste Damietta, na treťom Mahalla el-Kubra, na štvrtom boli spolu Alexandria a Rosetta. V dobe prvého egyptského censu r. 1882 Alexandria zaujala druhé miesto a Damietta postupne klesala až do začiatku 20. stor. Tretie miesto v poradí miest vystriedali štyri mestá: Mahalla el-Kubra r. 1800, Damietta r. 1882, Tanta r. 1897 a 1937 a Port Said od roku 1917.

Vývoj urbanizácie v nílскеj delte mal za následok koncentráciu obyvateľstva v relatívne malom počte aglomerácií, ležiacich vo výhodnej polohe na začiatku delty, na jej konci a pri Suezskom priplave. Táto koncentrácia obyvateľstva vo väčších sídlach spôsobila vzrast mestského územia viac k centrifugálne položenému obvodu, kým v centripetálnom jadre sa skoncentrovali obchodné, remeselnícke a sčasti obytné štvrte. Toto centrifugálne rozširovanie sa mestských plôch má v egyptských mestách tri fázy. V prvej fáze sa mestá rozširujú pozdĺž komunikačných artérií, ktoré spájajú jadro mesta alebo „El Medina“ s jeho obvodovými časťami (Káhira, Alexandria). Druhú formu centrifugálneho rastu miest predstavuje vznik malých obytných jadier, budovaných zväčša pre zamestnancov veľkých priemyselných závodov v blízkosti tovární na okraji mesta (Mahalla el-Kubra, Ambaba, Káhira a i.). Tretí typ predstavuje vznik tzv. otvorených sídlisk na periférii miest, oddelených voľným priestorom od ostatnej zástavby. Centrifugálna koncepcia vzťahuje sa najviac na priemyselnú zónu, ktorá sa vyvíja spravidla na okrajoch miest. Treba poznamenať, že centripetálny a centrifugálny vývoj v egyptských mestách bol ovplyvnený hlavne cenou pôdy, tlak na ktorú je najväčší v centrálnej zóne, kde má aj najvyššiu cenu. Kým urbanizácia silne vplývala a vplýva na morfológickú štruktúru egyptských miest, najmä na okrajové zóny, jej vplyv na jadro mesta je obmedzený.

V závere autor konštatuje, že v protiklade k európskym mestám v egyptských mestách poľnohospodárska revolúcia a zavedenie nového zavlažovacieho systému mali za následok veľké demografické zmeny a v spojitosti s budovaním priemyslu, rozvojom dopravy a obchodu intenzívnu urbanizáciu.

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