

URBAN POLICIES IN EGYPT: 1974 TO 1986

AN EVALUATION

by

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NEVIN AHMED TAWFIK

Submitted to the Department of Urban Studies and Planning and the
Department of Architecture on October 21, 1986, in partial
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ABSTRACT

This thesis is an analysis of the urban policies in Egypt since 1974. The historical roots of early centralization and primacy are described. So too are current trends in urban population concentration and concentration-related problems.

Also evaluated are recent urban policies, key studies and development schemes in Egypt, the constraints affecting the implementation of urban policies, and the special problems of the new towns.

A key conclusion of this thesis is that the decentralization policy adopted by the Egyptian Government is not achieving its goals in the planned time-frame. Decentralization of large urban areas will be futile unless accompanied by improved planning and administration and more effective rural development policies.

Thesis Supervisor: Lloyd Rodwin
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INTRODUCTION

In Egypt, there is a widely accepted view that the larger cities have developed beyond optimal size, and that natural or market forces are incapable of bringing about an efficient pattern of national settlement. In 1974 the Egyptian Government adopted policies aimed at slowing down the growth of the largest (primate) city, Cairo, encouraging the growth of smaller cities and promoting decentralization. This thesis explores the types of urban policies adopted by the Egyptian Government to deal with the issue of urban concentration and primacy. It is not an attempt to discuss the primacy phenomenon in general.

The first chapter presents the origins and impact of population centralization. It briefly demonstrates the history of centralization in Egypt to serve special driving needs. Current trends of growth in concentrated urban population and the processes that are producing such growth are reviewed. The chapter provides an analysis of the problems that occur with population centralization under a strained economy. It also examines the phenomenon of the conversion of agricultural land to urban uses.

The second chapter discusses the main forces propelling policy-makers in Egypt to develop the current urban policies. The chapter evaluates these policies and considers how such policies evolved, what goals were established, what methods were employed, and what difficulties might complicate the achievement of such goals in the near future.

The third chapter examines and evaluates the short-term effects of one aspect of the Egyptian urban policy, namely the current New Towns policy. The location, projected size, costs and standards, development control, organization and management requirements, among other aspects of the policy, are evaluated.

The final chapter presents an analysis of the strengths and weaknesses of the urban policies adopted by the government since 1974. The chapter provides a framework for discussing trends and policies that are likely to have an impact on the future of Egypt's larger cities.

The chapter offer an analysis for why the decentralization policy that has been adopted by the Egyptian Government is not achieving its goals in the planned time-frame, and how it is crucial for the government to realize that centralization and primacy in Egypt are outcomes of a long history and were developed to serve driving economic, political, and social needs. Lack of persistence in the administration, coupled with conflicting policies, resulted in urban policies that are not well examined or agreed upon views about economic, political, social and cultural goals, and therefore, the achievability of the set goals is questioned.

1. CENTRALIZATION AND URBAN GROWTH

This chapter presents the current status of Egyptian urban concentration and its development over the years. The chapter is divided into four major sections: the first summarizes the origins and impact of centralization on Egypt; the second shows the current trends in urban population concentration and the processes that have produced such growth; the third documents and analyzes the problems associated with Cairo's growth under a tight and troubled economy; the fourth examines the phenomenon of the conversion of agricultural land to urban uses. These four characteristics of urban Egypt are interrelated and they highlight the need for a national urban policy.

1.1. ORIGINS AND IMPACT OF CENTRALIZATION

Historically, Egypt has had a highly centralized system of settlement patterns and government administration. This tendency has been reinforced by a homogeneous population, uniformity of agricultural techniques, ease of communication along the Nile Valley and defense requirements. These factors have been conducive to the development of a centralized government to control resources, especially the Nile River, and to assure the safety of the peasants.

The dominant factors which have influenced the urban patterns of modern Egypt have been its natural resources and the geo-political strategies that affected the economy.

Table 1 presents the historical population growth trend in Egypt and its cities of over 100,000 population. This growth has fluctuated over the years due to war and economic changes. The Egyptian population has always settled where the most suitable land for agriculture was found, which is mainly along the Nile Valley. Since 1820, large cities evolved and continued growing until recent times with several cities reaching the 100,000 population level. Cairo and, later on, Alexandria became the major urban centers in Egypt. Map 1 shows Egypt's governorates.

1.1.1. Natural Resources

Situated in northeast Africa, Egypt is essentially a desert of almost 1,001,449 square kilometers (sq.km.). As shown in Map 2, Egypt has four main geographical regions: the Nile Valley and the Delta; the Eastern Desert; the Western Desert; and the Sinai Peninsula. Until modern times, this desert has been uninhabitable except for the Nile Valley.

The Nile Valley and Delta contain most of Egypt's agricultural land. The Nile flows through the country for 1,540 km., forming an extremely fertile valley between the parallel ranges of hills. From Cairo northward, the Nile fans out into two branches, the Damietta and Rosetta branches, which form the Nile Delta. The Nile Valley represents about 4% of Egypt's total area, yet holds approximately 95% of the population, 25% of which live in Cairo and 10% in Alexandria. The Delta contains 70% of the entire population.

TABLE 1
 HISTORICAL SURVEY OF THE TOTAL POPULATION OF EGYPT
 AND THE POPULATION LIVING IN CITIES OF 100,000 OR MORE

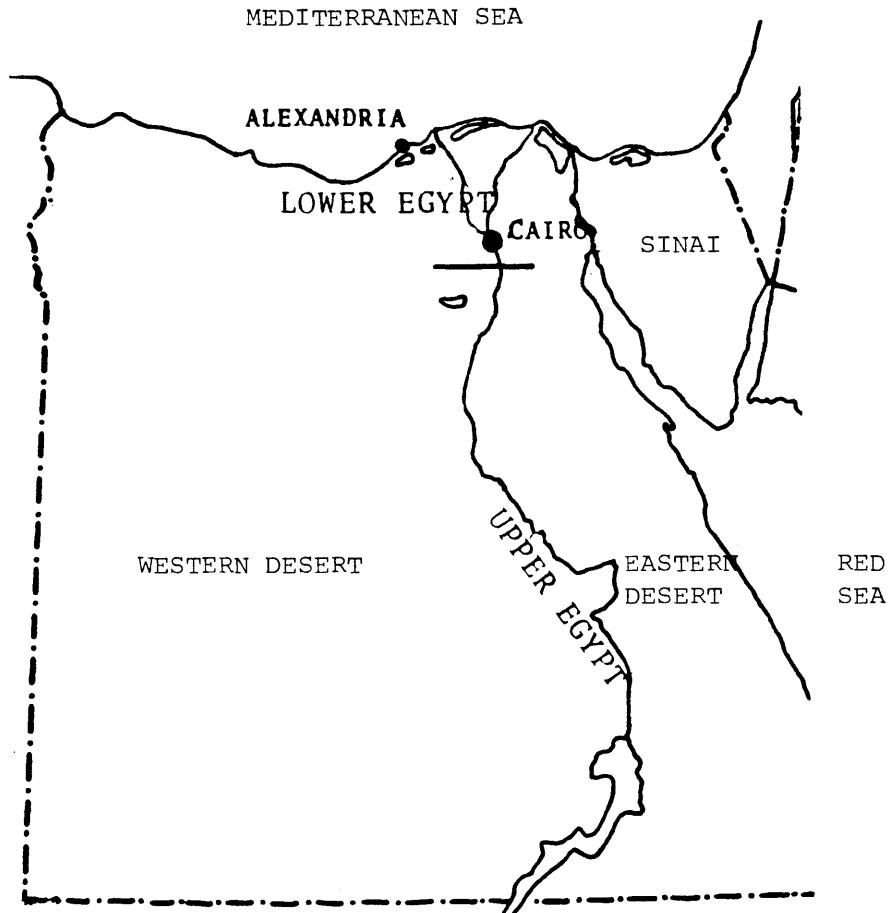
YEAR	TOTAL POPULATION ^{a/}	POPULATION IN CITIES OF 100,000 ^{b/}	PERCENT OF TOTAL POPULATION	CITIES OVER 100,000
	(000)	(000)		
2000 B.C.	5,000	100	2.00	Memphis
1400 B.C.	6,000	100	1.67	Thebes
100 A.D.	7,000	400	5.71	Alexandria
400	8,500	200	2.35	Alexandria
600	9,000	200	2.22	Alexandria
1000	9,000	250	2.78	Cairo, Alexandria
1200	9,000	545	6.06	Cairo, Tinnis, Qift, Qus
1400	7,500	570	7.60	Cairo, Qus
1600	5,000	400	8.00	Cairo
1800	2,439	263	10.57	Cairo
1821-26	4,230	219	5.20	Cairo
1846	5,290	421	7.96	Cairo, Alexandria
1882	6,810	606	8.90	Cairo, Alexandria
1896	9,749	906	9.29	Cairo, Alexandria
1907	11,287	987	8.74	Cairo, Alexandria
1917	12,750	1,288	10.10	Cairo, Alexandria
1927	14,218	1,936	13.60	Cairo, Alexandria, Port Said
1937	15,933	2,250	14.14	Cairo, Alexandria, Port Said
1947	19,021	3,850	20.24	Cairo, Alexandria, Port Said, Tanta, Mahalla Suez, Mansoura
1960	25,980	7,117	27.39	Cairo, Alexandria, Port Said, Tanta, Mahalla, Suez, Mansoura, Ismailia, Assiut, Damanhour, Zagazig, Fayoum
1965	30,080	9,132	30.36	Cairo, Alexandria, Port Said, Tanta, Mahalla, Suez, Mansoura, Ismailia, Assiut, Damanhour, Zagazig, Fayoum, Aswan, Minya
1976	36,526	12,009	32.88	Cairo, Alexandria, Port Said, Tanta, Mahalla, Suez, Mansoura, Ismailia, Assiut, Damanhour, Zagazig, Fayoum, Aswan, Minya, Giza, Shoubra El Kheima, Kafr el Dawar, Beni Suef, Shebin el Kom, Sohag

5

SOURCE: PADCO, National Urban Policy Study, Urban Growth and Urban Data Report, 1982, pp.5.

MAP 2

EGYPT'S GEOGRAPHICAL REGIONS



SOURCE: Adapted from PADCO, National Urban Policy Study, Final Report, Vol. 1, 1982, pp. 2.

The Eastern Desert region comprises 21% of the total area of Egypt. It has mineral resources of oil, iron, copper, manganese, and phosphate. Scarce water resources are formidable constraints upon urban development throughout the Eastern Desert region. Both the quantity and quality of water restrict development to only a few locations: along the Eastern Coastal Belt Zone, within the Western sedimentary Belt Zone, and in Wadi Araba Depression. These have not yet proven to have the long-range reliable water resources necessary to establish a significantly large permanent population.

The Western Desert region makes up 69% of the total area of Egypt. Mineral resources contained in this region are iron, phosphate, gypsum, oil and natural gas. Over 40% of the Western Desert is covered by sand dunes and it has several inhabited depressions, creating oases in the desert. There is some prospect for additional urban development in the Western Desert region as ground water in the New Valley and the eastern Oweinat sector in the southwestern corner of Egypt of the Nubian region would allow small agriculturally-based communities to be located in the area.

The Sinai Peninsula occupies approximately 6% of the total area of Egypt. Its mineral resources are oil, manganese, and coal. Limited ground water resources constrain development in this peninsula.

1.1.2. Political Administration and Economy

Although the locations of most of the urban settlements in Egypt were determined much earlier in history, the last 200 years have seen

the interaction of the major economic and political factors that have determined the size and function of current urban settlements. Urban settlements have either grown, declined, stagnated or shifted according to the principal functions the settlements perform.

1.1.2.1. From 1800 to 1882

During the period from 1800 to 1882, when Egypt was predominantly under the rule of Mohammed Ali, the country's agricultural production increased twelvefold due to horizontal expansion, intensive cropping, and major irrigation works. Mohammed Ali also started an ambitious industrialization plan during this period.

These events caused important changes in urban areas. For example, Alexandria, where many military and naval industries were located, grew tremendously from a population of 8,000 in 1808 to 164,000 in 1846. With the completion of the Mahmoudia Canal, linking it to the Nile, Alexandria became the main port to Europe and replaced Damietta and Rosetta, whose functions declined to fishing, craft industries and port facilities for limited exports to countries east of the Mediterranean. Although technical and administrative activities were located in Cairo, it declined in the face of Alexandria's commercial competition.¹ Alexandria continued to grow until it became the second largest city in the country.

Other cities noted for their small but successful textile industries declined due to the bureaucracy and fiscal policies established by state monopoly during this period.²

In addition to agricultural and industrial development, transportation also contributed to changes in the settlement patterns between 1800 and 1882. The construction of the railroad in the Delta, for example, contributed to the emergence of the mercantile centers in agricultural areas such as Tanta, Damansour, Zagazig and Mansoura. These Delta towns continued to expand at rates greater than those of either the total or urban population of the country.³ The railroad is still essential in Egypt for the transportation of people and goods.

A significant event during this period was the digging of the Suez Canal. Begun in 1854 and completed in 1869, the Suez Canal immediately presented a challenge to the growth of Alexandria, because it provided a faster alternative route to the rail transshipment line of Suez-Cairo-Alexandria. The Canal created two new major urban settlements, Port Said and Ismailia. It was a major contributing factor in the development of Suez -- currently one of the largest cities in Egypt. The Canal also contributed to major economic, political, and cultural changes in Egyptian life, as it incurred large foreign debts which were responsible for foreign (British) interference in the country.

1.1.2.2. From 1882 to 1922

The period from 1882 to 1922 saw the emergence of the issue of political centralization. This period was also characterized by the substantial growth of Cairo into a modern metropolis.

Cairo has been the capital for Egypt for over 1,300 years by reason of its strategic location in the Nile Valley between the Upper

and the Lower Egypt, which was important for defense factors. Another factor that contributed to its primacy was a natural outcome of policies pursued under colonial rule.

It was essential for colonists to consolidate their power in a few large cities in order to maintain an effective control over the entire country. It was also essential to establish means of commercial exploitation by securing a centralized mode of administration over the colonial economy. From this organizational necessity arose a concentration of both economic activity and administrative power that constituted the seeds of a primate mode of urbanization in the post-colonial era.

The British, starting in 1882, appointed central government officials for each province, reporting to the Minister of Interior. Districts were headed by police officers and villages by a local head official also serving under the Ministry of Interior. The main purpose of local government was limited to preserving law and order. For generations, individuals and their descendants often continued to administer their villages as representatives of the central government.⁴

This hereditary system caused weaknesses in the local government since the most qualified administrators usually did not have an opportunity to use their abilities in government. Strong central government became an important factor in encouraging Cairo's primacy.

With a limited power invested in the provinces, Cairo, as the seat of national government, responded to economic opportunities to become the hub of international commerce. It attracted foreign houses of commerce and industry, as well as foreign professional expertise,

educational missions hosted other manifestations of Western culture. Cairo's growth was also promoted by the administrative machinery established by the British occupants; working with or for foreigners attracted migrants from provincial towns and rural areas.⁵

In a period of 15 years, from about 1880 to 1895, Cairo's population grew 52%, while other cities increased collectively by only 38%. Cairo's share of urban growth was about 44% and its population equaled 37% of the total urban population; Cairo was growing at an annual rate of 3.5%.⁶

1.1.2.3. From 1922 to 1952

Throughout the 20th century, the Egyptian Government has continued to be highly centralized and local government has maintained a "top-down" approach. Egypt experienced the two world wars, a period of unprecedented economic boom, as well as the devastating depression of 1929 to 1936.

Despite considerable investment in irrigation works, inefficient land management reduced agricultural productivity. Also, the difficulties of importing goods, supplies and machinery led to severe shortages in domestic production and the loss of indigenous industrial employment.

The fluctuations of this period in agriculture and in industry influenced urbanization in Egypt in various ways. Although agricultural productivity started to show decline, the significant expansion of cropped areas delayed the rural migration to the towns until after World War II.⁷

The new industrial activity during and between the two world wars caused growth in some urban centers at the expense of others. The boom which preceded World War II favored the location of industry in larger cities of Alexandria, Cairo, and in the larger of the Delta cities of Mahalla, Kafr El-Dawar, Kafr El-Zayat, Suez and Ismailia.⁸ The availability of infrastructure and labor supplies were the main reasons industries chose to locate in these cities.

Subsequently, Cairo's expansion was due to the rapid development beginning in the 1940's of its industrial suburbs as well as its residential suburbs. Administrative annexations of smaller settlements and extensive transportation links to its environs started to make Cairo a multinucleated agglomeration.⁹

The British military establishments located in the Canal Zone, Cairo and Alexandria attracted streams of migrant workers from rural area provincial towns, especially from Upper Egypt, who found economic opportunities in servicing the army. This resulted in an explosive growth of employment in the tertiary sector; Ismailia and Suez tripled their populations.¹⁰

Between 1917 and 1947, the gap between the country's population growth (67%) and the growth of cropped land (20%) widened, resulting in greater migration from the country to the cities. From 21% in 1917, the urban ratio grew to 30% in 1947, with no sign of decline.¹¹

1.1.2.4. From 1952 to 1971

From the early 1950's to the present, internal and external political events took place which affected the development of economic activities in the country and, as a result, increased Cairo's primacy.

The first event was internal: a military revolution in 1952, which put a new government into power. It faced dismal social and economic inequalities in the country. To address these problems, two approaches were considered by the new government: to increase the productive capacity through industrialization, and to increase agricultural capacity by reclaiming additional agricultural land.¹² The primary objective was modernization.

The new government's investment policies increased Cairo's primacy. The intended investment for industry was to be 46% in urban areas and 53.1% in rural areas. The rural investment was almost equally distributed over the non-urban governorates in the country. The investment in urban areas was to be concentrated in Cairo, Alexandria, Suez and Mahalla El-Kubra - the four urban areas which already accounted for about 50% of the industrial workers in the country.¹³

Industries were located in the rural hinterland of urban areas nearest available infrastructure and adequate labor supplies. During this period the government did not forbid building on productive arable land. Several large public housing projects and industries initiated by the government were built on arable land.

The loss of arable land through conversion to urban uses began to be significant during this time. This was an extremely important factor in the Egyptian economy. Having agriculture resources inadequate for its population forced Egypt to import large amounts of food, and made it impossible for Egypt to develop as a permanent food exporter.

In the agricultural sector, new land reform laws designed to redistribute land ownership more equitably did not achieve the goal of providing a stimulus to economic development. In a series of laws during the period from 1952 to 1956, the rent for agricultural land was fixed at a very low rate, the conditions of tenure and sharecropping was put under government's control. Pricing policies were introduced in this period, and they still control the prices of crops at a lower value than market prices. In addition, the maximum ownership of agricultural land was limited to 200 feddans for each family (1 feddan is 4,200 square meters "sq.m.", almost 1 acre). Such laws contributed to the reduction of land holdings, a result that eventually slowed the growth of agriculture and increased rural-urban migration. Not only were people, especially those with large families, driven to seek employment opportunities in the cities, but agricultural production and efficiency were limited by the small size of permissible land holdings.

There was no intention to increase the per capita income for the agricultural sector, but there was an intention to increase the per capita industrial income during this period. In 1959 to 1960 the industrial income was about 3.5 times its agricultural equivalent, and in 1970 it was expected to increase, according to the plan, to 5.5 times the agricultural income. Such differentials, when the major urban areas still had the majority of investment, could hardly stem migration flows from the rural areas to the urban industrialized centers of Cairo, Alexandria, and Suez.¹⁴

The second political event contributing to Cairo's primacy was external. The ambitious development projects of the new regime faced

many financial difficulties. To increase agricultural capacity by reclaiming additional agricultural land, the government embarked on building the High Dam at Aswan. It was extremely difficult for the government to construct the High Dam without foreign investment. Western Europe and the U.S.A. refused to offer aid or loans to the new government, compared with what the Socialist countries offered Egypt, especially the U.S.S.R. This led to greater Soviet influence in the Egyptian development strategy from the late 1950's to the early 1970's, transferring the bureaucratic and centralized Soviet model to Egypt.

Nasser nationalized the Suez Canal as a reaction toward the Western countries who did not agree to finance the High Dam. This led to the third internal political event affecting the national economy and Cairo's growth -- the 1956 War, which resulted from the military attack by Britain, France, and Israel. These war conditions forced the government to have high military spending which in turn limited the amount of investment available for industry and agriculture. This led to further concentration of the urban population as rural areas lost the small share of national investment devoted to such vital concerns such as irrigation systems and infrastructure. The deflection of moneys into military spending also meant that the cities were deprived of the development of infrastructure adequate for its ever increasing population, resulting from high rate of natural increase and rural-urban migration.

Beginning in 1960, as a result of Soviet influence, a sweeping wave of socialist measures soon transformed the Egyptian economy. These measures included massive nationalization, further land

redistribution, and severe limitation on capital movement and foreign exchange transactions. The administrative apparatus in Egypt was insufficient to manage and coordinate this tremendous increase in the size of the public sector. The bureaucracy lacked the technical expertise, the experience, and the incentive necessary for this effort to succeed. Further complicating the picture was Cairo's increasing growth at this time.

The 1967 War with Israel caused a sudden mass evacuation of the urban population away from the battlefield of the three Canal cities, mainly to Cairo, Alexandria, and the Delta cities, thus contributing to their growth. The closure of the Suez Canal - the main foreign exchange earner at the time - and the enormous military burden left the economy incapable of coping with the demands of a 3% annual population growth. The capital allocated for urban improvements was reduced.

The policy choices adopted during this period (1952 to 1971) were ultimately far more expensive than Egypt's limited resources could accommodate on a sustained basis. Massive nationalization minimized the private investment in industry and in agriculture. Also, the capital available for development was extremely limited due to the small amount of foreign investment and the high military spending during this period. All the above factors crippled overpopulated and resource-poor Egypt from developing during this period.

1.1.2.5. From 1971 to 1981

By the time a new government came to power under Sadat in mid-1971, the Egyptian economy was at a breaking point. After the 1973 War with Israel, the country was experiencing a weakening of its economy and a general deterioration of the services provided to the public. A radical change in structural economic conditions was imperative. This change would occur during a period of radical overhaul of foreign policy orientations and commitments to the western world. During these years Egypt witnessed three major changes.

The first change was due to the increase of oil prices which resulted in higher foreign exchange to the country. The second major change in government policy was the establishment in 1974 of Infitah, the "Open Door" policy. Initially, this was designed to create conditions attractive to local and foreign investment capital. Subsequent legislation and government practice have expanded the strategy to encompass extensive liberalization of the economy as a whole. Almost all fields were opened to both foreign and Arab investment, protection was provided against nationalization and confiscation, and tax exemptions were granted. Laws passed in 1975 to 1977 provided additional incentives and opened new opportunities for private Egyptian capital. The city of Port Said was declared a free trade zone to encourage the reurbanization of the Suez Canal region.

Infitah and its associated policies succeeded in producing substantial capital inflows into the country. Whether these funds have helped create a sound basis for a Egypt's economic regeneration is another matter. For the fact is, by and large, the government failed to put these large capital inflows into productive use. With continuing high military spending, the consumerism outburst caused by

the sudden liberization, and the flow of foreign investments primarily into real estate and commercial services, only a small proportion went into productive investment in industry, agriculture, and infrastructural development. Despite a good performance in terms of growth in Gross National Product (averaging 7% annually in 1975 to 1983), this new wealth has remained largely inaccessible to the mass of the population.

Infitah nevertheless resulted in massive construction activity in the country - especially in the Greater Cairo Region and Alexandria. Migrants continued to flow from the Upper and Lower Egypt governorates to Cairo, Alexandria, Port Said, Suez, and Ismailia.

With capital now available, in 1974 the government embarked on a policy of decentralization of its population and economic activities from the Nile Valley to the rest of the country. This involved the construction of new towns. The government also considered the development of the remote areas outside the Nile Valley and established studies for the development of the Suez Canal Zone, the Red Sea Coast, the High Dam Lake, the Sinai Region, the Northwest Coast of Alexandria and the New Valley of the Western Desert. The government relied heavily on foreign investments and borrowed large debts in order to finance such mammoth projects.

The third change was the lasting peace treaty with Israel in 1979 which eliminated the war conditions that had been draining the economy since 1948.

1.1.2.6. From 1981 to the Present

The assassination of Sadat in 1981 the Egyptian economy to stagnate. With a new government in power under Mubarak, foreign capital flows in the country were sharply reduced. Foreign and even local investors withheld their capital because, with a new government in power, there was fear of investing in a potentially unstable environment.

The foreign exchange revenues obtained from 1975 to 1984 were a windfall, resulting mainly from remittances of expatriate workers, oil exports, Suez Canal dues, and tourism. Over the past year each of these revenues sources has declined significantly (see Table 2).

In addition, a sizable foreign debt has accumulated since the economic opening to the West began in 1974; its servicing is today a major additional drag on the economy. Total debt was estimated at \$ 34.5 billion at the end of 1985 (see Table 3). The nonmilitary debt service in 1985 soaked up almost 32% of the country's foreign exchange revenues.

The looming foreign exchange shortfall, coupled with a high population growth and a poor economy, means that the implementation of the planned urban policies is facing great difficulties.

1.2. CURRENT TRENDS IN URBAN POPULATION CONCENTRATION

Egypt's number one problem has often been cited as the rapid growth of its population.¹⁵ This problem of congested population has been associated mostly with the urban population. The country is experiencing intense population pressure on land and living space in the inhabited zones; as stated, its population of 50 million (1986)

TABLE 2
FOREIGN EXCHANGE EARNINGS
(US\$ billions)

	<i>1985</i>	<i>1986</i>
Worker Remittances	3.3	2.2
Oil Exports	2.6	1.2
Other Exports	2.1	2.0
Suez Canal Dues	1.0	.9
Tourism	<u>.6</u>	<u>.3</u>
Total	9.6	6.6

SOURCE: Jabber, Paul, "Egypt's Crises, America's Dilemma," Foreign Affairs, Summer 1986, pp.961.

TABLE 3
FOREIGN DEBT BURDEN
(US\$ billions)

	<i>1979-82</i> <i>(average)</i>	<i>1983</i>	<i>1984</i>	<i>1985</i>
Total Debt	21.1	27.7	31.0	34.5
Civilian	16.5	20.3	22.5	25.3
Military	4.6	7.4	8.5	9.2
Total Debt Service	2	3.2	3.3	3.3
Principal	1.2	1.9	1.9	1.7
Interest	0.8	1.3	1.4	1.6

SOURCE: Jabber, Paul. "Egypt's Crises, America's Dilemma," Foreign Affairs, Summer 1986, pp.969.

occupies 40,000 sq.km. (only 4% of the country's territory). The average density of the population in 1986 is 1270 persons per sq.km. in the Nile Valley and the Delta -- one of the highest in the world.¹⁶

Table 4 shows the increase in urban, rural and total population for selected years from 1927 to 1976. Total population increased from 14 million in 1927 to over 36 million in 1976; respectively for these years, rural population increased from 10.3 million to more than 20 million, while urban population increased from 3.7 million to about 16 million.

While the percentage of rural population decreased from 73.6% in 1927 to 56.1% in 1976, the urban population increased from 26.4% to 43.9% in the same period. The ratios of urban/rural and urban/total for the annual percent increases and compounded growth rates show distinctly that urban population has been growing faster than either the rural or the total.

Table 5 shows that while urban population increased more than sevenfold between 1907 and 1976, rural population increased by only 127% within the same period. This rapid shift towards urbanization has taken place with no major additions to the network of urban centers. No cities were established in Egypt since the opening of the Suez Canal in the late 19th century and the construction of Port Said and Ismailia. Past urban growth has thus been absorbed by existing cities and by previously nonurban settlements.

The number of urban settlements and their share of urban population has kept pace with this continuous growth. As Table 6 shows, the number of urban settlements has increased from 100 in 1974

TABLE 4

POPULATION & URBANIZATION 1927 - 1976

(in 000's)

	1927	1937	1947	1960	1966	1976
TOTAL POPULATION	14,083	15,811	18,806	25,772	29,720	36,656
Rural	10,364	11,429	12,604	16,115	17,919	20,559
Urban	3,720	4,382	6,202	9,657	11,801	16,098
% Rural to Urban	73.6	72.3	67.0	62.5	60.3	56.1
% Urban to Total	26.4	27.7	33.0	37.5	39.7	43.9
AVERAGE GROWTH RATE						
Average % Population Change:						
Total	1.23/yr	1.89/yr	2.85/yr	2.55/yr	2.30/yr	
Rural	1.03/yr	1.03/yr	2.14/yr	1.87/yr	1.47/yr	
Urban	1.78/yr	4.15/yr	4.28/yr	3.70/yr	3.66/yr	
AVERAGE GROWTH RATE						
Compound Annual Growth Rates:						
Total	1.20	1.75	2.45	2.40	2.12	
Rural	0.98	0.98	1.91	1.78	1.38	
Urban	1.65	3.53	3.47	3.40	3.15	
Ratio of Average % Population Change:						
Urban/Total	1.45	2.20	1.50	1.45	1.56	
Urban/Rural	1.73	4.03	2.00	1.98	2.47	
Ratio of Average Growth Rate:						
Urban/Total	1.38	7.02	1.42	1.42	1.49	
Urban/Rural	1.68	3.60	1.82	1.91	2.28	

SOURCE: PADCO, National Urban Policy Study, Urban Growth and Urban Data Report, 1982, pp. 241.

TABLE 5

POPULATION IN URBAN & RURAL AREAS IN EGYPT IN CENSUS YEARS 1907 - 1976 ¹

Years	Urban Population	%	Average Annual Rate of Increase ^{2/}	Rural Population	%	Average Annual Rate of Increase ^{2/}	Total Population	Average Annual Rate of Increase ^{2/}
1907	2,125,000	19		9,058,000	81		11,183,000	
1917	2,640,600	21	2.20	10,029,700	79	1.02	12,670,300	1.26
1927	3,715,840	26	3.48	10,367,436	74	0.33	14,083,276	1.01
1937	4,382,083	28	1.66	11,429,001	72	0.98	15,811,084	1.21
1947	6,202,316	33	3.53	12,603,510	67	0.98	18,805,826	1.75
1960	9,651,097	37	3.46	16,120,368	63	1.91	25,771,465	2.45
1966	12,036,787	40	3.75	17,687,212	60	1.56	29,723,999	2.41
1976 ^{1/}	16,036,403	44	2.91	20,489,801	56	1.53	36,526,204	2.11

^{1/} Excluding those outside the country and in the occupied zone on the census date.

^{2/} Average Annual Rates of Increase are calculated exponentially.

SOURCE: PADCO, National Urban Policy Study, Urban Growth and Urban Data Report, 1982, pp.70.

TABLE 6
 DISTRIBUTION OF URBAN SETTLEMENT SIZES
 (1927 - 1976)

Settlement Size	1947		1960		1966		1976	
	No.	%	No.	%	No.	%	No.	%
>1,000,000	1	1.0	2	1.7	2	1.5	3	1.9
200,000 - 999,999	1	1.0	3	2.4	5	3.5	7	4.4
100,000 - 199,999	5	5.0	9	7.5	9	6.3	10	6.3
40,000 - 99,999	13	13.0	15	12.4	23	16.2	33	20.8
20,000 - 39,999	28	28.0	39	32.2	45	31.7	53	33.3
<20,000	52	52.0	53	43.8	58	40.8	53	33.3
TOTAL	100	100.0	121	100.0	142	100.0	159	100.0

SOURCE: PADCO, National Urban Policy Study, Urban Growth and Urban Data Report, 1982, pp. 241.

to 159 in 1976; their share of the total population increased from 31.4% to 43.5% during the same period. The data also show that between 1947 and 1976 urban settlements larger than 1,000,000 increased their share of the total population and maintained their high proportion of the total urban population.

Large cities (100,000–500,000) increased their share of both total and urban populations. Although smaller cities (20,000–100,000) doubled in population, their share of both urban and total population decreased. The settlements smaller than 20,000 maintained their number of inhabitants over the 30 year period of 1947 to 1976, but lost their share of population substantially.¹⁷

Relative to their total numbers the distribution of settlement sizes varied during that period as shown in Table 7. Figure 1 shows the cumulative percentage share of urban settlements. The data show that Cairo, Alexandria, Giza and Shoubra El-Kheima account for 56% of all urban population in Egypt.

In 1976, the population of Egypt was 43.9% urban and 56.1% rural. However, 33 settlements with a population larger than 50,000 account for about 80% of the urban population. The 126 settlements smaller than 50,000 accounts for the remaining 20% of the urban population and serve a rural population in their hinterland which amounts to 75% of the total rural population. The current natural growth rate is 2.3% will result in about seventy million inhabitants in the year 2000, of which 58% will be urban.

1.2.1. Processes of Urban Population Growth

TABLE 7
 PERCENTAGE OF TOTAL POPULATION & OF URBAN POPULATION IN
 EGYPTIAN URBAN SETTLEMENTS OF VARIOUS SIZES

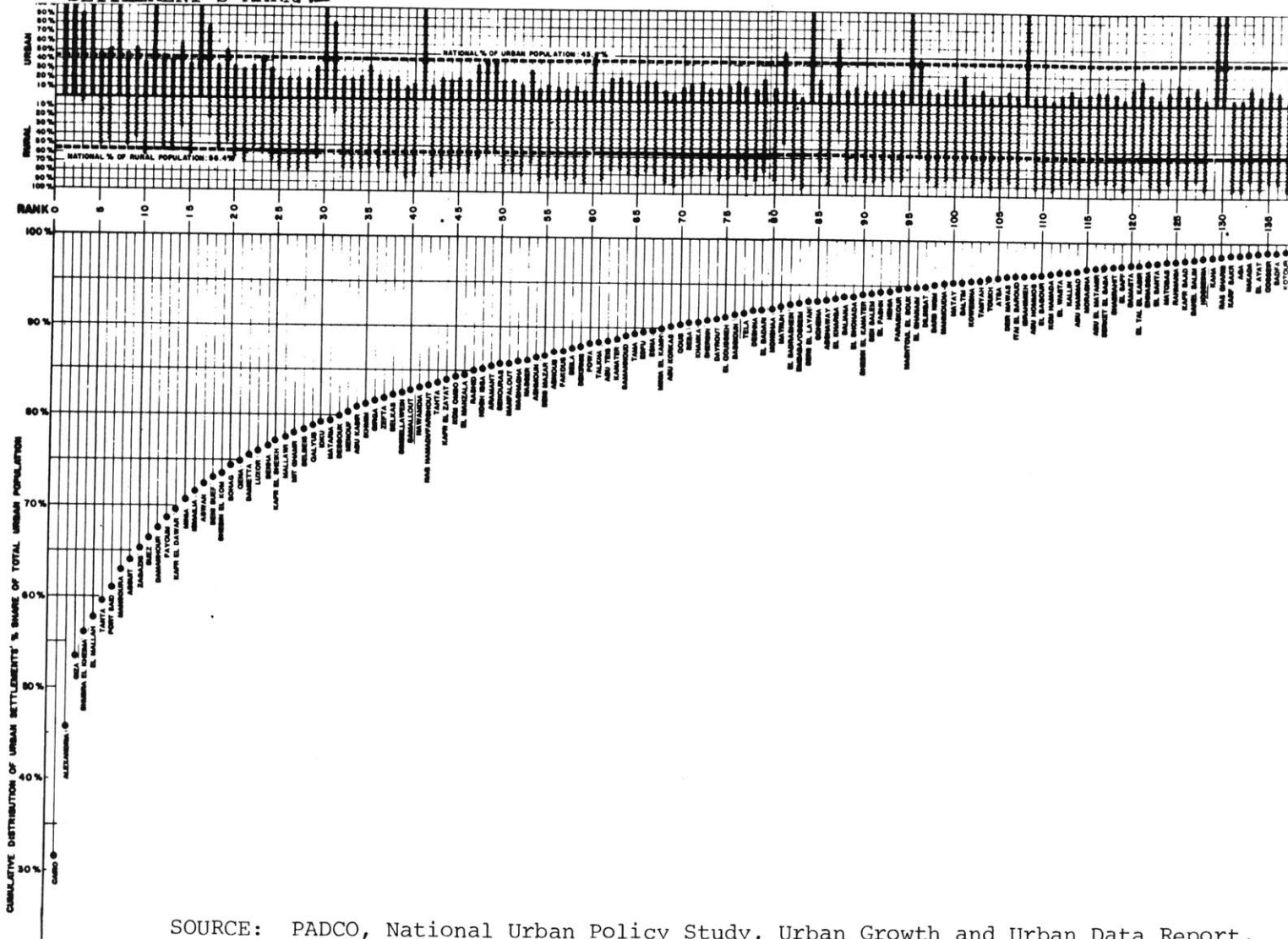
(Percentages Rounded)

URBAN SIZE CLASS*	NUMBER OF CITIES				PERCENT OF TOTAL POPULATION				PERCENT OF URBAN POPULATION				
	1947	1960	1966	1976	1947	1960	1966	1976	1947	1960	1966	1976	
PRIMATE 1,000,000	2	2	2	2	16.0	19.0	22.8	24.97	55.0	54.5	55.75	56.67	
LARGE CITIES (100,000-500,000)	5	12	14	17	3.0	6.4	7.3	8.08	12.0	17.1	17.83	18.34	
SMALLER CITIES (20,000-99,999)	41	54	68	86	9.5	9.3	8.4	8.36	24.1	22.1	20.54	14.87	
SETTLEMENTS (LESS THAN 20,000)	52	53	58	53	2.9	2.6	2.4	1.66	8.9	6.31	5.94	3.77	
SMALLER CITIES	CITIES (50,000-99,999)	9	8	10	19	3.4	2.3	2.15	2.72	12.0	6.2	7.21	6.16
	LARGE TOWNS (30,000-49,999)	13	20	31	39	2.8	3.5	3.97	4.12	10.0	9.9	9.73	9.35
	SMALL TOWNS (20,000-29,999)	19	26	27	28	3.3	3.5	2.27	1.91	11.0	9.7	5.56	4.35
TOTAL	100	121	142	159	31.4	38.9	40.9	43.47	100.0	100.0	100.0	100.0	

SOURCE: PADCO, National Urban Policy Study, Urban Growth and Urban Data Report, 1982, pp.244.

FIGURE 1

URBAN SETTLEMENTS RANK & CUMULATIVE DISTRIBUTION OF SETTLEMENTS' % SHARE OF TOTAL URBAN POPULATION. URBAN SETTLEMENTS RANK AND % DISTRIBUTION OF URBAN-RURAL POPULATION IN SETTLEMENT'S MARKAZ



SOURCE: PADCO, National Urban Policy Study, Urban Growth and Urban Data Report, 1982, pp.244.

Urban growth in Egypt is the product of three processes: (1) natural increase, (2) internal migration, (3) change in the administrative definition of an urban settlement and changes in city boundaries.

1.2.1.1. Natural Increase

The process of natural increase (i.e. the difference between birth and death rates) accounts for the largest proportion of Egypt's urban growth. Natural increase accounted for 59% of the growth of Egypt's total urban population during the period 1966 to 1976.¹⁸ The annual rate of increase in urban centers is currently 2.3%. There are no substantial differences between rural and urban natural growth rates.

1.2.1.2. Internal Migration

The second process responsible for urban growth in Egypt is rural-urban migration. As mentioned, while urban population increased more than sevenfold between 1907 and 1976, rural population increased by 127% within this period. This substantial difference between urban and rural growth of the population is mainly due to internal migration rather than to great differences in natural growth rates (see Table 5).

There is much emphasis in the literature on rural-urban migration and especially on migration to the larger cities of Cairo and Alexandria. However, there is also some urban-urban migration, urban-

rural migration and even rural-rural migration. A 1979 internal migration survey reported that 41% of all the sample of urban migrants came from urban areas and 57.2% came from rural areas. From the total sample of migrants, 74.7% were migrants to urban centers. Migrants to rural areas represented 25.3% of the sample.¹⁹

This trend seems to continue as people are motivated to move to new locations for a variety of reasons. Some of these reasons, having to do with conditions in the original place of residence, are the push factors while others, having to do with the expected characteristics of the destination are the pull factors.

Push factors include demographic pressures caused by high natural growth rates which result in high population density in rural settlements, as density exceeds 1100 persons per sq.km. in six of the sixteen agricultural governorates.²⁰ Declining economic opportunities and scarcity of adequate services are further increasing density.

Traditional Egyptian law dictates that land is divided among the children. Combined with a high fertility rate, this leads to severe land parcelling and a steady decline of productive land owned by a single household. The land reform laws that were adopted by the government during the 1950's to redistribute land ownership resulted in 70% of all agricultural units being currently less than 0.43 hectares (ha.) in size, which in many cases is far too small to feed a three-generation family.²¹

Another push factor is a result of direct government control over the pricing of many crops. The prices farmers receive for these crops are less than the true shadow price (see Table 8). Also as a result of the government fixing the rents for agricultural land, tenants pay

TABLE 8
ESTIMATED AGRICULTURAL RENTS¹

	<u>Cotton</u>	<u>Rice</u>	<u>Wheat</u>	<u>L.Ber.</u>	<u>S.Ber.</u>	<u>Tomatoes</u>	<u>Oranges</u>
Export Price (1972-76, ton)	600/800	120/200	60/120	3.5	3.5	150-200	80-120
Farm Gate Controlled Price (1976, ton)	480	45	50	3.5	3.5	40	35
Yield (tons/harvest/acre)	.3	2.3	1.5	10	28	6	7
Harvest Cost	85	65	45	17	24	90	130
Harvests/year	1/3	2/3	1/3	1/3	1/3	3	2
Annual Shadow Rent			212/383			2400/3300	830/1400
Annual Regulated Rent			84			450	420

¹All monetary values in Egyptian pounds

SOURCE : Wheaton, William C. and Hisanobu, Shishido. "An Economic Appraisal of the New Town's Policy in Egypt", M.I.T.-Cairo University T.A.P. Program, 1978, p.8.

the landlord only a fraction of the price of the produced crops. The result is that the agriculture industry is not currently among the popular investments.

Pull factors include the attractiveness of economic factors, including greater employment opportunities and higher wages. They also include the attraction of socio-cultural factors, greater facilities for education, health and recreation, and concentration of political power. In addition, the overall attractiveness of Cairo as a center of culture and innovation, and of political, administrative and economic power is an important factor for the potential migrant. Most of the important institutions, services and industries of the country are concentrated in Cairo.

Another pull factor that contributes to rural-urban migration is the free public education from elementary school through college. A large rural population joins urban centers for a college education and later for jobs. There are large numbers of young men who join the army which is located in urban areas. At the end of their service they tend not to go back to their original local regions; they would rather stay in urban areas for better job opportunities. That is the reason that the government started to establish local universities and local military bases in urban areas other than Cairo and Alexandria.

The "urban bias"²² and the often noted dualism between cities and rural regions in developing countries is extremely evident in Egypt. The average annual household income in rural regions is LE 1600, which is lower than in urban centers where it is LE 3600. (LE is the Egyptian pound, LE 1.35 = \$ 1 in 1986 according to the official exchange rate and LE 1.85 according to the free market rate). The

result is that there is an increasing pressure on farmers to migrate to another community having a more diversified economic base. Spatial imbalances and the social, economic and cultural implications of the above have led to, and still lead to, an extensive out-migration of population from rural areas, mainly into Cairo and Alexandria (see Table 9 and Map 3).

It is important to detect the characteristics of these migrants in order to identify people who are more apt to be physically mobile, and determine the effect of migration on the receiving population.

A recent study compared migrants in Cairo and Alexandria to the resident population of the two cities in terms of age, education and occupation structures.

Migrants tend to be concentrated in young age groups, between 15-29 years of age (see Table 10). They increase the labor force participation rates in the cities as well as increase the proportion of those in the reproductive age, which affects the overall birth rates of the city.²³

There is a greater concentration of illiterates and those with secondary and post-secondary among recent migrants to Cairo and Alexandria, than for the total population. Younger migrants (15-24), both males and females, tend to have more formal education than the 25-34 age groups. This is the age group that is attracted by the available educational institutions in both cities.²⁴

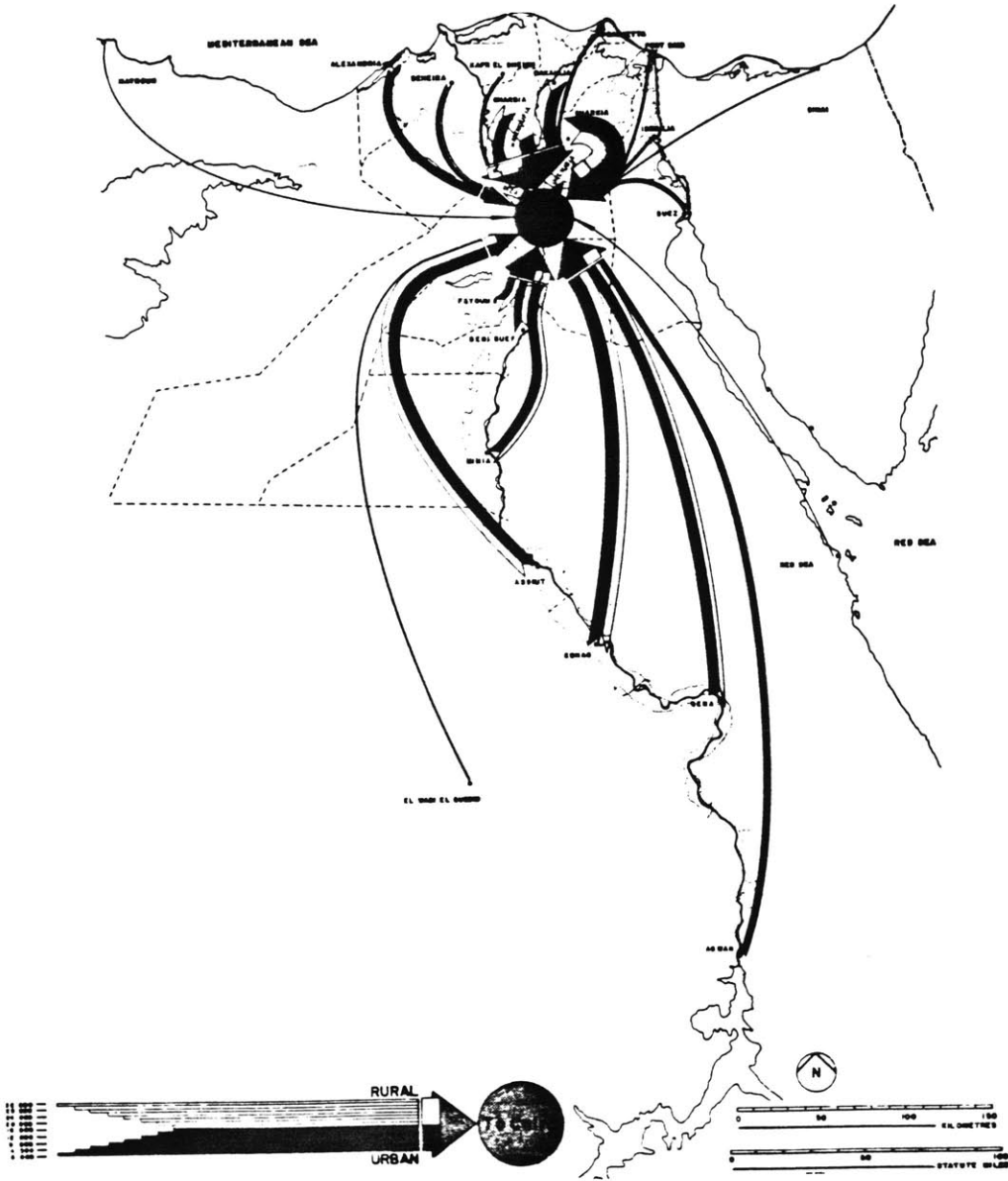
The occupations of recent migrants to the two largest cities do not differ substantially from those of the receiving populations. There is, however, slight concentration in top managerial and professional occupations of migrants and great concentration in service occupations.²⁵

TABLE 9
 PERCENTAGE OF POPULATION GROWTH OF URBAN AREAS BY
 GOVERNORATES CAUSED BY NET MIGRATION
 BETWEEN 1966 - 1976

Urban Areas	% Growth by Net Migration
City of Cairo	6.6
Qalyubia	59.5
Giza	64.8
Alexandria	24.8
Damietta	10.9
Dakahlia	35.7
Sharkia	30.4
Kafr El Sheikh	34.5
Gharbia	24.4
Beheira	62.9
Menoufia	46.7
Beni Suef	30.0
Fayoum	31.9
Minia	16.2
Assiut	36.8
Sohag	negative growth rate
Kena	36.7
Aswan	12.5

SOURCE: PADCO, National Urban Policy Study, Urban Growth and Urban Data Report, 1982, pp.73.

MAP 3
PREVIOUS RESIDENCE OF RECENT MIGRANTS
(1971 - 1976)



SOURCE: PADCO, National Urban Policy Study, Urban Growth and Urban Data Report, 1982, pp.75.

TABLE 10

AGE STRUCTURE OF RECENT MIGRANTS (Five Years or Less)
AND TOTAL POPULATIONS OF CAIRO & ALEXANDRIA IN 1976

Age	Cairo		Alexandria	
	Recent Migrants %	Total Population %	Recent Migrants %	Total Population %
0 - 4	12.0	11.7	11.8	11.8
5 - 9	6.2	11.0	6.1	11.2
10 - 14	7.8	12.8	7.3	12.8
15 - 19	20.0	11.9	21.4	11.6
20 - 24	20.1	10.4	20.7	10.6
25 - 29	12.5	8.3	12.4	8.5
30 - 34	6.4	6.5	6.1	6.7
35 - 39	4.4	6.0	3.9	5.5
40 - 44	2.9	5.5	2.7	5.4
45 - 49	2.3	4.3	2.3	5.4
50 - 54	1.6	3.9	1.6	4.2
55 - 59	1.4	2.4	1.4	2.3
60 - 64	1.0	2.3	1.0	2.5
65+	1.5	3.1	1.4	3.1
TOTAL				
POPULATION	239,218	5,074,017	76,542	2,317,340

SOURCE: PADCO, National Urban Policy Study, Urban Growth and Urban Data Report, 1982, pp.78.

1.2.1.3. Administrative Decisions

The third process that contributes to urban growth is administrative decisions which redefine rural-urban populations. Egypt is divided into governorates, each governorate - other than the urban governorates of Cairo, Alexandria, Port Said and Suez - is composed of several districts called markaz. Each markaz has a central administrative town that is defined as urban and several rural settlements. Some villages, because of demographic, economic, administrative, political or security reasons, may be redefined as towns and be included statistically within the urban areas.²⁶ Urban centers may also change boundaries and annex small adjacent villages, changing the size of urban population.

1.2.2. Differential Growth of Urban Areas

As Table 11 shows, the greatest urban concentration is currently in the Cairo Metropolitan Region where 78% of the region's population is urban. Cairo is Egypt's primate city since this population represents about 45% of all the urban population of Egypt in the 1976 census (the most recent census). The second highest urban concentration is in the Alexandria Metropolitan Region where 61% of the region is urban and represents 18% of the total urban population. The remaining 37% of the urban population is distributed among the other six regions. Table 12 shows the percentage distribution of urban population within each planning region and the proportion of the

TABLE 11
POPULATION DISTRIBUTION, URBAN & RURAL - 1976 ^{1/}

Governorate	Urban	Rural	Total
Cairo	5,074,016	--	5,074,016
Alexandria	2,317,705	--	2,317,705
Port Said	262,760	--	262,760
Suez	193,965	--	193,965
Ismailia	174,211	179,764	353,975
Beheira	595,100	1,869,345	2,464,445
Damietta	142,707	433,619	576,326
Kafr El Sheikh	291,614	1,115,546	1,407,160
Gharbia	764,307	1,528,933	2,293,240
Dakahlia	656,840	2,080,466	2,737,306
Sharkia	530,051	2,087,887	2,617,938
Menoufia	336,623	1,374,226	1,710,849
Qalyubia	685,238	995,599	1,680,837
Giza	1,378,009	1,038,650	2,416,659
Fayoum	275,378	866,501	1,141,879
Beni Suef	276,429	833,703	1,110,132
Menia	430,462	1,227,053	2,054,105
Assuit	470,369	1,227,053	1,697,422
Sohag	409,520	1,515,294	1,924,814
Qena	392,079	1,317,220	1,709,299
Aswan	234,340	384,178	618,518
Red Sea	48,438	6,977	55,415
New Valley	34,769	50,406	85,175
Matruh	51,756	60,791	112,547
Sinai	9,717	--	9,717
TOTAL	16,036,403	20,589,801	36,626,204

^{1/} Population present at census date, does not include population abroad (1,425,000) and population in occupied zone of Sinai (147,000).

SOURCE: PADCO, National Urban Policy Study, Urban Growth and Urban Data Report, 1982, pp.70.

TABLE 12
 PERCENTAGE OF URBAN POPULATION OF THE EIGHT
 PLANNING REGIONS AND PERCENTAGE OF URBAN AND RURAL
 POPULATION TO THE NATIONAL RURAL & URBAN
 POPULATION IN 1976

Region	% Urban to Region	% Urban to National Urban	% Rural to National Rural
Cairo	77.8	44.5	9.9
Alexandria	60.9	18.2	9.1
Suez Canal	34.3	7.4	11.0
Delta	25.1	13.7	31.7
North Upper Egypt	23.0	6.2	16.1
Assuit	28.3	3.1	6.2
South Upper Egypt	24.7	6.6	15.7
Matruh	46.0	0.3	0.3
Egypt Total	43.7	100	100

SOURCE: PADCO, National Urban Policy Study,
 Urban Growth and Urban Data Report,
 1982, pp.71.

region's urban and rural populations to the nation's urban and rural population. The three governorates experiencing the highest rate of urbanization are Giza, Qalybia and Qena.

1.2.3. Urban Concentration and Settlements

The urban population in Egypt, around 16 million in 1976, is distributed in 152 urban settlements, of which there are four different administrative types. The first type represents cities that are also governorates (urban governorates): Cairo, Alexandria, Port Said and Suez. The second type of urban settlement is city that is the capital of the governorate; the third type is a town, capital or center of a district or markaz. And the fourth type is a town that is defined as urban and has no rural settlements administratively attached to it, such as Faraskour in Damietta and Farshout in the district of Naga Hammadi, governorate of Qena.

1.3. PROBLEMS OF CAIRO'S PRIMACY COUPLED WITH A TROUBLED ECONOMY

Greater Cairo consists of Cairo Governorate, some parts of Giza Governorate, the city of Shoubra El-Kheima in the Qalubia Governorate, as well as a few villages in the Nile Valley and the Delta. Currently the population amounts to over ten million inhabitants. Assuming that growth will continue at its present rate, the population of Greater Cairo will reach 16.5 million by the year 2000.

Like many other primate capitals, Cairo reaped the benefits as well as carried the burdens of socioeconomic and political change.

Since 1900, the factors influencing growth and directions of growth have multiplied in number and become much less controllable. Urban activities sprawled in all directions, except the southeastern direction where the new development on the Mokattam Mountain did not prosper because of its relative inaccessibility.

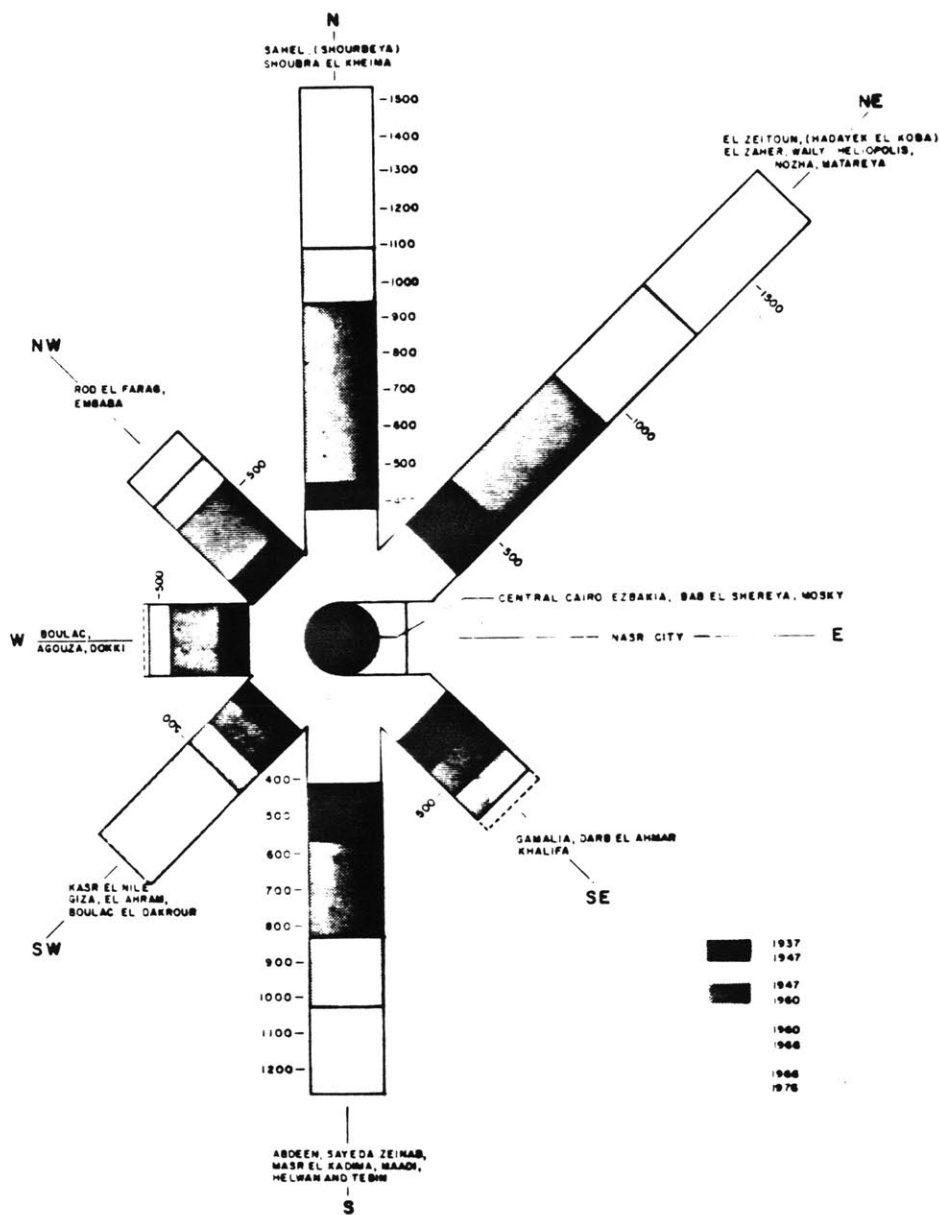
While development in other directions continues, new growth corridors following major transport routes to the northeast and southwest are modifying traditional expansion patterns. Southwestern development is being facilitated by new bridges across the Nile, by Pyramid Road and new desert roads. The northeastern development follows the light rail system to Heliopolis, the agricultural road to Ismailia Canal, and the Egyptian rail system to suburban El-Marg. Prime agricultural land to the north, west, and south gave way to planned as well as unplanned urban growth bringing the total built-up area to some 2900 sq.km. in 1977. Development to the east and west are characterized by relatively lower density and are more orderly, since they were undertaken by large private and public corporations on government-owned land. On the other hand, extensions north and south, in the direction of the area's main industrial agglomerations, were chaotic. This is due in part to patterns of migrant settlement in the area which led to uncontrolled small developments on privately owned, fragmented farmland (see figures 2 and 3).

Whether the sheer growth of large urban concentrations like Cairo is a problem or is desirable in itself is disputable.²⁷ It has been argued that large cities of developing countries are more likely to generate net social benefits. It has also been argued that one cannot tell whether a city is too large or too congested, or whether it is merely poorly organized.²⁸

FIGURE 2

GREATER CAIRO DIRECTIONAL POPULATION GROWTH TRENDS

(1937 - 1976 BY KISM)



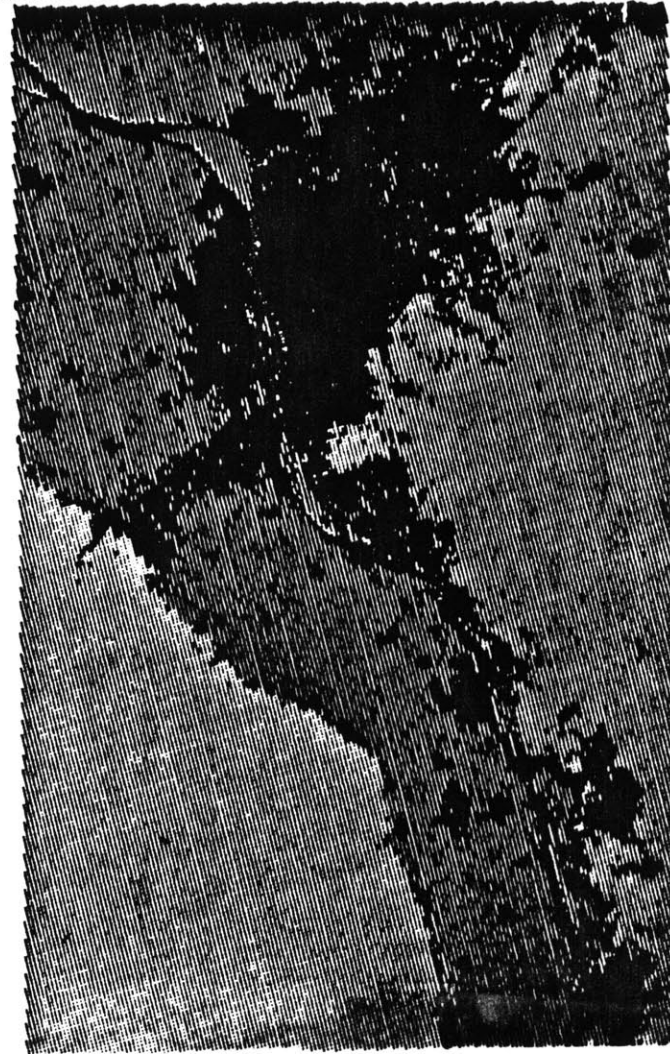
SOURCE: PADCO, National Urban Policy Study, Final Report, Vol. 1, 1982, pp.80.

FIGURE 3
 GREATER CAIRO METROPOLITAN URBAN CHANGE 1972-1978



CAIRO METRO AREA
 1972
 SCALE 1-200,000

KEY
 ■ URBAN
 ▨ AGRICULTURE
 ▩ BARREN
 ■ WATER



CAIRO METRO AREA
 1978
 SCALE 1-200,000

KEY
 ■ URBAN
 ▨ AGRICULTURE
 ▩ BARREN
 ■ WATER

Whether Cairo's growth is desirable from the national point of view was not studied until 1968. The Egyptian Government assumed, because of the internal problems of the area resulting from concentrated population growth, that Cairo's growth was undesirable. However, the national economic and industrial plans which Egypt has had over the last thirty years were responsible for a major part of Cairo's recent growth.

1.3.1. Housing Supply

Although the Cairo area is getting a relatively large share of state and privately supplied housing, according to government figures, there is an estimated national housing deficit of 3.5 million dwellings in 1986. The government projects that there is a demand for a further 1.6 million dwellings by the year 2000 in order to meet population growth. Note that the above deficits are challenged by a study on housing conditions in Egypt. Cite the study indicates that there is no housing deficit in Egypt due to the large supply of the informal sector housing.²⁹

There are three major groups involved in the production of housing in Egypt: the government, the formal private sector (those who have building permits and build on legally registered land) and the informal sector (illegal construction). The latter is illegal not due to squatting, as the land is purchased from its owners -- but because this type of construction is invariably in violation of the laws regulating land subdivision, sale of lots, construction and/or land use.³⁰

The public sector housing projects were built in the early 1960's in the urban areas. The initial target groups were government employees and industrial workers. Typically, public sector housing consists of 45 to 50 sq.m. units containing two or three rooms with private service facilities located in relatively low-density projects consisting of five story walk-up apartment buildings. These units are under rent control policies and tend to be rented at very low rents which frequently do not cover the costs of collecting rents.³¹

Due to lack of revenues, partially due to these low rents, maintenance in public housing projects has been minimal and the condition of the housing has deteriorated much faster than if it were well maintained.

Law No. 49 of 1977 established rental payments as contributions toward the purchase price of public housing units. Under the requirements of the law, tenants who had paid rent for fifteen years became instant owners while other existing tenants had fifteen years to complete payments for ownership.³²

Although relatively little data about the beneficiaries of public housing exists, one study performed in Helwan (an industrial suburb of Greater Cairo) in 1978 gives a flavor of the types of beneficiaries and their attitude towards their housing. Due to the special economic conditions in Helwan, the bulk of householders in the study were employed in industries located in Helwan. Rents tended to be quite low, both in absolute terms (averaging LE 2.06 per month) and in terms of total family income (only 3.8% of the total family monthly income).³³

Total public sector construction (government plus public sector companies) amounted to only about 6.6% of total housing construction between 1966 and 1976.³⁴ The public sector approach failed since it could never produce a sufficient number of dwellings to meet demand. The units produced were an uneconomic solution, as they created a drain on the government from the high subsidies involved and the low cost recovery.

The private sector supplied most of the housing in Egypt until the late 1950's. Starting in the early 1960's, private investment in housing construction has been discouraged and a housing shortage emerged for the first time in Egypt. This was mainly due to rigid government housing policies adopted after 1952, such as rent control, laws prohibiting eviction, housing finance and the allocation of building materials. Such laws contributed to the deterioration of the housing stock in Cairo as well as in other parts of the country. Fear of investment in housing construction was accentuated by the expropriation of assets for nationalization and redistribution of wealth in the late 1950's. As a result, condominiums were introduced to cater to the demand of the higher income groups, and key money (a compensation for discrepancies between real and estimated costs) were levied illegally by most of the landlords.

The standards of private sector housing exceed those of public sector construction. As Table 13 indicates, the formal private sector is serving a very small group of upper income households, an assumption which is also suggested by the small contribution made by the sector to new housing construction between 1966 and 1976.³⁵

TABLE 13

INDICATIVE HOUSING PRODUCTION BY SECTOR, UNIT TYPE
AND INCOME GROUP SERVED, 1978

SECTOR	UNIT SIZE (m2)	UNIT COST (L.E.)	DISPOSABLE HOUSEHOLD INCOME 1/ (L.E.)	INCOME QUARTILE/ DECILE 2/
Public	70 80	3,500 4,000	1388 1580	90%
Private Formal	90 150	5,000 10,000	1983 3966	Over 90th %
Private Informal	50	2,000	793	50th - 75th %

1/ Based on 25 percent of income allocated to housing and a 10 percent capitalization rate.

2/ Quartile/Decile groups are based on 1975 estimate by Professor L. Taylor (M.I.T.)

SOURCE: PADCO, National Urban Policy Study, Urban Growth and Urban Data Report, 1982, pp.414.

As a result of the above, the relative smallness of the formal private sector contribution to the newly constructed housing amounted to 15% of total housing produced between 1966 and 1976. This relatively small contribution resulted partly from the costs and difficulties encountered in obtaining building permits and access to legal subdivisions, and from the lack of long term financing.³⁶

The informal sector has been responsible for 84% of the housing built between 1966 and 1976 in the country.³⁷ Although the informal sector housing does not have access to subsidized building materials as the formal sector does, and though it lacks building permits, the standards and quality of the informal sector housing are relatively high compared to the public sector housing.

In Shoubra El-Kheima and other areas, owners of agricultural land began conversion of the area to urban uses when industrial pollution of canals became too great for agricultural uses. Other land owners began converting their farms to urban uses when surrounding development of other urban uses began creating pressures on their areas for middle and low income housing.³⁸

1.3.2. Urban Transport Networks and Traffic

Cairo's transportation networks largely reflect the patterns of urban growth and the land uses and lifestyles which were current at the time they were introduced. For example, in the old city, streets are narrow and crooked and designed for pedestrians. In Garden City, streets are narrow and winding, designed to provide access to the villas which were once there. Each area and sub-area has its own

pattern of development but a number of key features characterize Metropolitan Cairo transport network.

According to a recent study, about 25% of Greater Cairo's total urbanized area is road space but the practical traffic carrying capacity is about 25% less than that achieved in developed countries.³⁹

There is a high percentage of unsurfaced roads in the city's secondary and tertiary systems which is compounded by poor maintenance and repair. Lack of traffic signs, signals and controls, aggravated by a poor or no enforcement, further add to traffic problems.⁴⁰

Public transport is operating at a high level of inefficiency -- about one-third of the operational fleet is unavailable for a variety of reasons. The low quality and quantity of the public transit system is due mainly to the low cost recovery provision of the service. Improvements could be either directly from users (e.g., fares), or via more general but related sources such as fuel taxes, vehicle taxes, etc.

The burden on public transportation is further compounded by the rigidities of the housing market: that is, the lack of residential mobility as a result of supply shortages and regulations governing rent and vacancy. Both of these factors result in irrational or inefficient land use linkages and distribution patterns, creating a great number of lengthy trips to and from work.

Among the various proposals to help relieve Cairo's transportation crises is the subway. The idea of a subway was first introduced in 1954 and has been debated ever since. Now the project is being implemented. However, there is a serious question as to

whether the underground is needed in the form proposed. It is passing through areas already developed, and even if land use controls can be effectuated, it is very likely that densities will rise even more within these already crowded areas.

If there is a success in resolving the traffic problem but it is implemented without good management and control, the primary problem will grow and Egypt will need ever more costly solutions. Underground transport systems enable more people to work in the same small area, lead to ever higher buildings and greater densities, higher land values, and more people and traffic, especially on the surface.⁴¹

For these reasons, alternative schemes for Cairo's transport networks should be recognized. A number of consultant studies have suggested that greater capacity is not really required in Cairo, rather a better traffic management and improved public services are needed, including better bus service and private para-transit services.

1.3.3. Infrastructure

Life in Cairo is still marked by sewage overflowing in a number of the city streets, power failures, and water shortage in many parts of the city. The city's sewage and wastewater system was initially built in 1914. It was extended once - in 1930 when the city's population was only one-sixth of the present ten million inhabitants. There is an estimated daily deficit of potable water that amounts to 35,000 cubic meters.⁴²

However, it was not until 1973 that the government initiated infrastructure renewal projects for Cairo. The under-maintenance of the system, coupled with the lack of extensions provided, make it very difficult to rehabilitate. A new sewage system is now under construction with a billion dollar cost, but the implementation of the project is facing difficulties in finance and management.

There is a great waste of water in the urban areas, including Cairo, which results from insufficient use. The low cost recovery of water provision should be increased to finance upgrading the system.

1.3.4. Shortage of Other Facilities

There are other critical facilities shortages in Egypt today. A 1970 study indicated that the average hospital bed per patient ratio is 3.28 beds per 1000 patients in Greater Cairo. The city had 44 child-care centers with an average of one center per 166,000 children.⁴³

There were 143 post offices in the region, with an average of one office per 36,000 persons.⁴⁴ The average green area for a person amounted to less than 1 sq.m. The above figures fall below any reasonable standards, and the figures are much more critical in 1986.

Although all the problems cited exist in Greater Cairo and Alexandria, census statistics indicate that conditions in those cities are better than many other urban settlements in Egypt.

However, due to the size of both Greater Cairo and Alexandria, their problems tend to overwhelm the problems of other settlements. For example, although Greater Cairo had 73% of its households

connected to water supply, the absolute number of persons not connected is approximately 1.8 million, a population which is greater than any other urban settlement outside the metropolitan areas.⁴⁵

Even with under-maintenance of urban facilities such as infrastructure (though under-maintenance was not as a result of explicit government policies to stop Cairo's growth) there has not been a decrease in Cairo's size.

1.4. URBANIZATION OF AGRICULTURAL LAND

Egypt's major economic asset is its productive agriculture. However, high population growth and government policies have contributed to a situation where the land base on which agriculture depends is being threatened. Due to the government's rigid policies of land redistribution which resulted in small landholdings, controlling the pricing of crops, and of fixing the rent of agricultural land, the conversion of arable land to urban uses is extremely profitable to land owners. People are migrating from rural areas in large numbers contributing to increasing urbanization which, in turn, is impinging on the agricultural land base.

Egyptian land area is 238 million feddans, but only 2.5% of this area is being cultivated. An estimated 5.9 million feddans are presently being cultivated along the Nile Valley and the Delta area. Per capita cultivated land has decreased from 0.48 feddan in 1907 to 0.15 feddan in 1975. Each year an estimated 40,000 to 60,000 feddans of agricultural land are converted to nonagricultural uses. Thus, on the order of 1% of cultivated land is being transferred annually from

agricultural production to non urban uses according to official data.⁴⁶ As a result, Egypt is now a major food importer as the sum of food imports amounts to ten million dollar every day.⁴⁷

Replacing lost value from urban encroachment will be difficult if not impossible. The cost of reclaiming desert land amounts to LE 5.000 per feddan and, although it becomes productive after six years,⁴⁸ its fertility is much less than the Nile Valley's arable land. The reclaimed land amounted to less than one million feddans since 1952, including the major contribution of the Aswan Dam.⁴⁹ The productivity of new lands lags behind the lost urbanized productive land. These factors combine to cast doubt on the possibility of any value added from the loss of productive agricultural land.⁵⁰

This rapidly shrinking per capita supply of usable land resources and the increasing fragmentation of agricultural land holdings has resulted in increasing migration to urban areas.

Egypt's villages, many of which are over 20,000 in population, are currently subjected to building permit requirements and land-use controls. In spite of such laws, farmers continue, in large numbers, to allow new housing to be built on farm land for a variety of reasons. Primarily a change in the family structure, such as the children's marriage, or the desire of a prosperous urbanite member of the family to build a modern house and maintain roots in the village, are responsible for such activity. Occasionally, small parcels of land, usable only as building sites, are sold outside the family in cases of extreme financial distress. In the agricultural hinterland of urban centers, the regulations, and severe penalties for violators, are frequently not enforced, mainly because of the housing shortage.⁵¹

Urban population concentration, combined with urbanization of agricultural land are two major problems forcing policymakers in Egypt to develop a national urban policy. The following chapter will show how the government is trying to deal with these pressing problems.

2. RECENT URBAN POLICIES IN EGYPT

This chapter considers how the current urban policies in Egypt evolved, what methods were employed, what goals were established, and what constraints might complicate the achievements of such goals.

2.1. THE NEED FOR A NATIONAL URBAN POLICY

All countries are better off with a national urbanization strategy that is the outcome of a careful national debate about economic, political, social, and cultural goals.⁵²

A national urbanization policy is especially important for developing countries because the location of new economic activities and the movement of population affect the efficiency of their national economy and the stability of their political systems.⁵³

The proper formulation of a national urbanization strategy requires the systematic discussion of three major policy areas affecting patterns of population distribution and national settlements. The country must examine in turn: (1) the implicit spatial effects and biases of national policies, (2) the appropriate policies to deal with problems of very large cities such as congestion and pollution, and (3) the problem of regional inequality and the direct or explicit policy instruments for the redistribution of economic activity.⁵⁴

The formulation of a national urban policy has four major objectives: the full development of the national resources of the country, the maintenance of national cohesion among various regions, particularly in the case of very large disparities in per capita output among regions, the prevention or correction of excessive concentration of economic activities within the capital region, and the more efficient and more equitable management of growth within cities.⁵⁵

In Egypt, the need for a national urban policy emerges from two important and pressing factors: the concentration of population and economic activities in only 4% of the country's area, and the continuing loss of productive agricultural land.

2.2. THE HISTORY OF URBAN POLICIES IN EGYPT

Egypt showed no interest in spatial policies before the 1960's. More recently, the relentless growth of the urban population and the tendency for people to concentrate in the capital city have generated much more concern for the future patterns of urban settlements in the country.

The concentration of economic activities in a few urban areas in the Nile valley and the tremendous annual loss of productive agricultural land were seen by the Egyptian Government as requiring the formulation of sectoral and spatial plans and programs to guide the future growth patterns of urban settlements.

It was not until 1965 that the government paid serious attention to spatial development policies. At first, it was Cairo's growth that

called attention to the need for such policies. The difficulty in maintaining physical and functional order in Cairo and of effecting a socially acceptable regional balance of population in the country have promoted investigations into the possibility of curbing the city's growth. A committee studying the subject for the Greater Cairo Planning Higher Committee (G.C.P.C.) in 1967 concluded that the remedies were twofold: the first was to continue efforts to limit population growth and establish policies to encourage migration to other parts of the world. The second was to establish a national policy of regional and urban development and to enhance and strengthen the system of local government.⁵⁶

Up until 1968, the pattern of regional development was largely a function of the personality and leadership of governors and the individual judgement of central departments and ministries. Policy co-ordination was to be achieved through the Cabinet and several permanent and ad hoc committees. In 1968 a cabinet subcommittee recommended that an agency be created to study and define alternative policies and to formulate a national policy on urban development. This agency was to include the recently created G.C.P.C. (1965) and the Alexandria Regional Planning Committee (1967) findings as essential elements in the structure. One of the cabinet subcommittee accomplishments was the creation of a general sympathy for the urgency of a national urban policy.⁵⁷

The committee recommended that the growth of the central urban area around Cairo and Giza be limited to a maximum of 9.5 million people with gross densities ranging from 225 persons per acre (55 ha.) at 3.2 km. from the center to 50 persons per acre (123 ha.) at the

fringes. Restructuring of land uses, densities and transportation were all aimed at bringing into intensive development all the marginal areas disrupted by dispersed urban growth and pockets of undeveloped land within an established boundary.⁵⁸

The plan was that population growth be gradually channelled into three regions containing four new satellite cities for settlement extension within Greater Cairo. The new cities' linear concept would permit incremental and flexible development of up to one million inhabitants each.

The plan represented the first effort in the country to deal with the problem of urban population concentration and its impact on agricultural land. It also laid down the foundation for the idea of new towns as a feasible solution. However, for several years the plan served only as a statement of policy without any serious effort to implement its recommendations.⁵⁹

The three regions of the Primary General Plan were: the Helwan Region to accommodate three-quarters of a million people, a new town along Fayoum Road, and a new town along Suez Road. As for the other two new towns proposed, one would be located to the north of the Abu El-Rawash area, and the other in the El-Khanka region to the northeast of Cairo.⁶⁰ The four new towns planned were to accommodate 25,000 persons by the year 1990.

The war situation did not allow the implementation or even the planning of any spatial policies at a national level until 1974 except for Law No. 70 of 1973.⁶¹ This law was established to divide the country into eight regions: Greater Cairo, Greater Alexandria, Suez and Sinai, Delta, Matruh, North Upper Egypt, South Upper Egypt, and

Assuit. It was intended that an integration of economic and regional planning would take place within and among these regions.

2.3. URBAN SPATIAL POLICIES SINCE 1974

After 1973, the Egyptian Government established its broad national development objectives as the following:

- * Sustaining a high rate of economic growth.
- * Improving the standard of living of all Egyptians, with emphasis on low income groups, through:
 - Creating productive employment opportunities for the rapidly growing population.
 - Generating a sustained increase in real per capita income.
 - Ensuring that public service and facility gains are equitably shared by the Egyptian people.
- * Achieving certain special objectives:
 - Encouragement of the deconcentration of Cairo.
 - Protection of arable land from urbanization.
 - Demonstration of modernization and progress.⁶²

The first step in implementing these goals was explicitly stated by former President Anwar Sadat in April, 1974, in the "October Working Paper":

"...the life of the Egyptian people cannot remain confined to the Nile Delta and the narrow valley of the Nile...We cannot wait until the population grows up to 40 or 50 millions before we begin to act...I believe ...it is time for drawing a new map for Egypt. This cannot be

achieved by scattered projects here and there. It can be done by creating areas for population concentration and new economic activities able to equal the pulling power of the capital."

He called for construction of new cities:

"...It has become important for Egypt to carry out new projects for the establishment of new cities."

Former President Sadat's new map for Egypt also included the development of the Suez Canal Region into an industrial, agricultural, and tourist area. Other development strategies included extending development along the Mediterranean and Red Sea coasts and developing of the High Dam Lake, Sinai, and the New Valley.

The Egyptian Government was anxious to employ for this task planning teams which would comprise foreign consultants with wide international experience working in partnership with local practitioners conversant with local requirements and practices. A further concern was that much of the work be carried out in Egypt, for it was felt that this would be helpful both in ensuring the continuing relevance of the proposals and in providing counterpart experience for the many Egyptian staff involved.

2.3.1. Construction of New Towns and Satellite Cities

The building of new towns has a long history in Egypt dating from the time of the Pharaohs. In more modern times, Cairo, Alexandria and

the Canal cities were originally planned as new settlements. However, the concept of developing satellite communities in close proximity to large urban complexes is of fairly recent vintage.

In most countries today new towns are viewed as an attractive alternative to the congestion and socioeconomic problems associated with overcrowding in the older cities. In Egypt new towns are also associated with the need to open new territories and achieve an even spread of the population outside the Nile Valley.

The history of new towns in the Greater Cairo Region is a worthy of note. Heliopolis and Maadi were planned as satellite communities and were intended by their designers to remain separated from the urban mass of the city of Cairo. The major emphasis of these satellite communities was to provide employment and residences outside of Cairo. The purpose of those satellite communities was to lessen the congestion in central city services, while still maximizing the use of existing infrastructure wherever possible. Obviously this was not achieved and even though the two communities still maintain a great deal of their original character, they have been overtaken by the spreading growth of the city. These two communities were not a part of a regional plan that defined their role. In other words, their establishment was not a reflection of a conscious policy decision.

Two other developments were mistakenly thought of as new towns: Madinet El-Awkaf, built in the late 1940's and Madinet Nasr built in the early 1960's. There was no establishment of businesses or services along with housing construction in these communities. They were in planned extensions of the then existing urban grid and did not possess any of the ingredients of new towns.

There were no other new towns planned until in May, 1974 when the Egyptian Government, represented by the Ministry of Housing and Reconstruction, initiated a program of developing new cities to be located outside the Nile Valley and the Delta.

In 1975, the government initiated the planning of both Tenth-of-Ramadan City, 55 km. northeast of Cairo, and Sadat City, 95 km. northwest of Cairo and halfway to Alexandria. In 1977 planning began for New Ameriyah City, 40 km. southwest of Alexandria. All three cities were planned to be self-contained.

The plans prepared for the three cities aimed for them to be industrial ones, in order to create employment and economic activities. The target population, based on proposed industrial employment, was to be blue-collar workers.⁶³

In 1977, a proposal was submitted to the People's Assembly calling for the establishment of an Organization for the Development of New Towns. In the fall of 1978, a new ministry was established and charged with responsibility for the planning and development of new communities.

In early 1979, the government decided to plan five new satellite cities in the Cairo metropolitan area. These cities were planned to be smaller than the three self-contained cities mentioned above, and to be closely integrated with Cairo. These five satellite cities were: Fifteenth-of-May City in Helwan, 35 km. south of Cairo, Sixth-of-October City, 32 km. west of Cairo, El-Obour City, 30 km. northeast of Heliopolis, El-Amal City, 50 km. east of Cairo's southern fringe and Badr City, 45 km. north of Cairo. These new cities are now in different stages of completion.

2.3.2. Suez Canal Master Plan Studies

Master Plan studies were commissioned for Suez, Port Said and Ismailia in 1974. There were two basic aims to these long-range development plans: (1) to prepare programs for initial reconstruction and (2) to prepare dynamic frameworks for the growth of the three cities to a population of between 750,000 and 1,000,000 persons by the year 2000.

The 1967 War resulted in tremendous upheaval and devastation to the area of the Suez Canal, where concentrated bombardment and fighting forced the virtual abandonment of the cities of Suez, Port Said and Ismailia by 1969. A formerly prosperous region of Egypt was put into a state of limbo and all but ceased to exist except for a battlefield. The population was evacuated and settlements and infrastructure were progressively destroyed.

The political and military stalemate was not broken until 1973, by which time it was clear that a massive and urgent program of reconstruction would be necessary to rehabilitate the evacuated population and the economy of the region.

The main objectives of the reconstruction program, which represented a clear commitment to long-range peace in the region, were the reopening of the Suez Canal, achieved in 1975, and the renewal of the three urban centers in the Canal zone.

The goal of the Master Plan was that the Canal area and its cities play a positive and increased role in the development of the Egyptian economy and help relieve pressure on the rapidly growing and overcrowded cities of Cairo and Alexandria.

2.3.2.1. The Development of the City of Suez

Unlike the two other Canal cities, the history of established settlement in Suez did not commence with the Suez Canal's construction and opening in the 1860's. At first was a settled watering point on the caravan routes through Sinai, then a Roman settlement, later Egypt's Red Sea port nearest to Cairo. The opening of the Canal, however, stimulated a constant period of development and growth for Suez.

In the mid-1960's Suez was Egypt's third largest, and fastest growing, urban area. By 1966, the city was experiencing an annual population growth rate of some 4.2%, exceeding that of Cairo, and had grown to 250,000 persons.

During the 20 year period up to 1966, half the increase in the population of Suez was due to migration. Suez attracted 56% of all migrants from Qena and Sohag, the two poorest and most crowded governorates in Upper Egypt.⁶⁴

Following the establishment of oil refining in the 1950's, the 1960's saw major development in heavy industry, notably petrochemicals. Between 1960 and 1967, 15% of all government investment in industry was in Suez, and wage rates were twice the national average.

The workforce was employed in fishing and agriculture, port activities (Canal Authority facilities, ship repair provisioning) and tourism. The city had a substantial proportion of workforce employed in industrial plants, a large fertilizer plant and a paper-making factory.

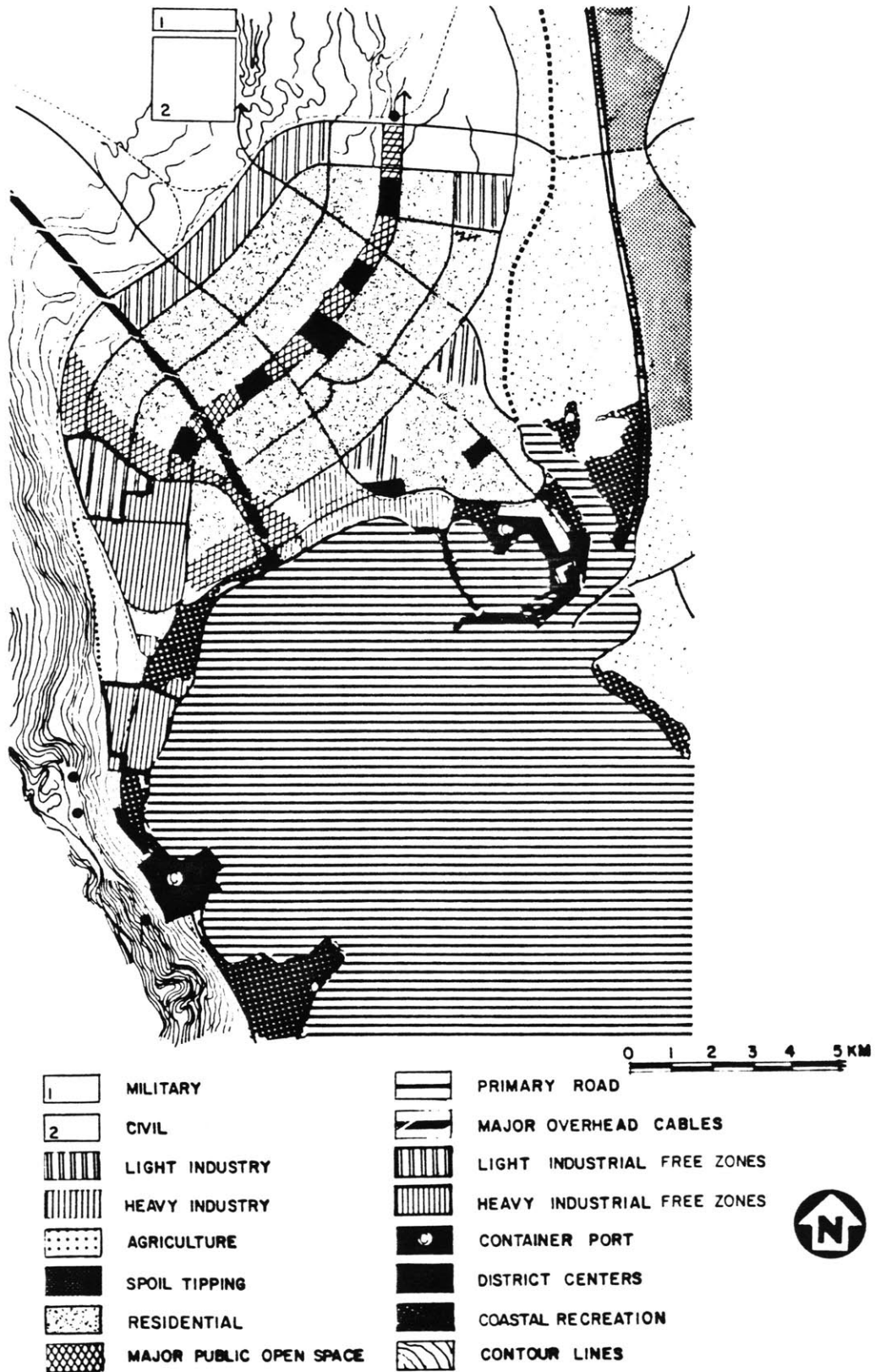
In 1967, the Egyptian Government evacuated the population of Suez to Cairo and other towns in the Delta. The city had suffered artillery damage in incidents which occurred in the late 1960's and early 1970's and the war of 1973. Some 85% of all buildings in Suez were damaged and 50% of the dwelling stock (25,000 units) was damaged beyond repair.⁶⁵ The population did not begin to return to Suez until early 1974.

2.3.2.2. Main Features of the Suez Master Plan

The terms of the plan were forward-looking: to overcome the immediate problems of war damage and to stimulate a continuous program of reconstruction. A population of one million by the year 2000 was aimed at; economic development was envisaged on a broad front encompassing manufacturing industry, industrial and commercial free zones, expanded port capacity, agriculture, fishing and tourism. This was to be paralleled by the creation and improvement of social and community facilities, and initially, by proposals for further advancement of the reconstruction program (see Figure 4).

With the exception of the paper factory, the major prewar industrial installations are either fully operational or well advanced towards that state. In addition, a new commercial free zone has been established as part of the revitalized port and a major new cotton spinning plant has been opened. Many smaller industries have sought to establish themselves in the city, but demand for serviced land is far in excess of land available.

FIGURE 4
SUEZ MASTER PLAN



SOURCE: PADCO, National Urban Policy Study, Final Report, Appendices, Vol. 1, 1982, pp. 190

In mid-1980 a survey suggested that the total workforce in Suez was some 73,500, of which one third is in basic employment. The growth of jobs is in general conformity with the Master Plan projection, as is population and housing growth.⁶⁶

2.3.2.3. Key Development Issues for the City of Suez

The Suez Master Plan provides a good basis for future development to major metropolitan size. Recent industrial and population expansion are encouraging signs that population targets can be reached.

A major government push in Suez City can lead to the development of the city as large urban competitor to Cairo and Alexandria, enhance the growth prospects of the Canal Region, and build a base for subsequent growth in Sinai and along the Red Sea Coast.

There are, however, several constraints in achieving the governments goals of including Suez as an industrial center in the urban policies of decentralization. Industrial growth will demand massive investment that is not currently available to the government. Another constraint is that the army occupies large areas in Suez which contributes to the difficulty of obtaining serviced land for development.

2.3.2.4. The Development of the City of Port Said

The establishment of Port Said was associated with the construction of Suez Canal in 1859. Port Said prospered as the Canal

did and by the outbreak of World War I had grown to a city of almost 100,000 persons. The 1920's and 1930's were decades of growth during which the city expanded as it became a city of traders, merchants and shipping agents; it stood at the crossroads of east-west world trade routes. The 1940's and 1950's saw Port Said in transition, becoming a more broadly-based trading community.

At the outbreak of the 1967 War, when Port Said was a thriving city of 280,000 people, its economy was still firmly rooted in the Canal; the port, shipyard, and multiplicity of trades serviced both the ships and their passengers and crew.

The economic vitality of Port Said has always been closely linked with that of the Suez Canal. Thus, the closing of the Canal, during and after the period of hostility, was a serious setback for the city.

2.3.2.5. Main Features of the Port Said Master Plan

Like the Master Plan for Suez, there were two main objectives to encompass in the preparation of the Port Said Master Plan: to overcome the immediate problems of war damage and to stimulate a continuous program of reconstruction; and to prepare a planning framework for the growth of Port Said to 750,000 persons by the year 2000.⁶⁷

The means proposed to achieve the required expansion in employment opportunities were as follows: (1) the promotion of a successful industrial free zone development, concentrating on manufacturing industries which could exploit the regional export markets; (2) the development and upgrading of the city's port

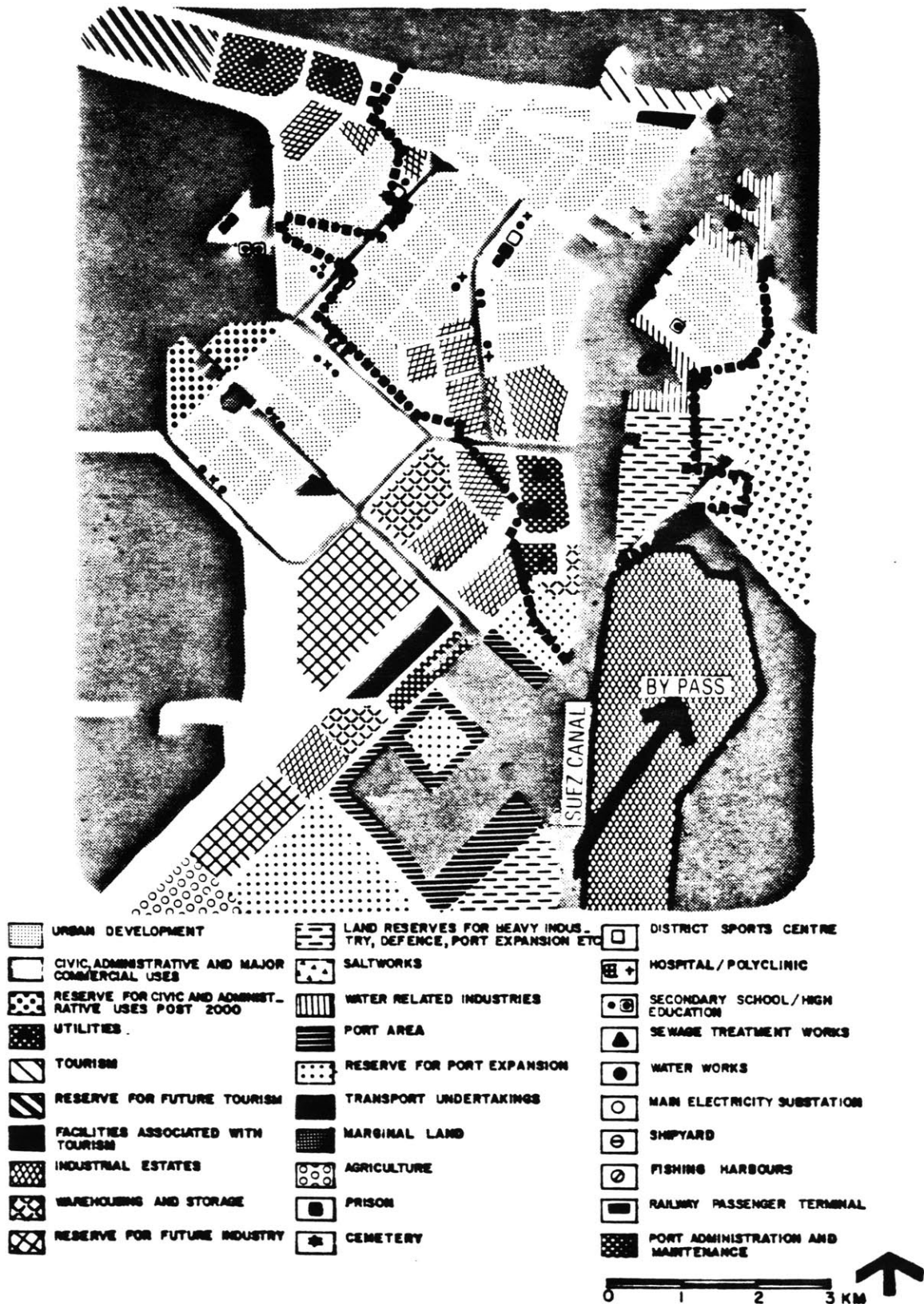
facilities; and (3) the realization of the agricultural potential of Port Said's immediate hinterland, in particular the fishing potential of Lake Manzala.⁶⁸

Consideration of alternative physical growth strategies revolved around the relative disposition of six key components affecting the city's growth pattern: (1) the Suez Canal, (2) the port, (3) regional transport links, (4) major industrial development, (5) tourism/recreational activities, and (6) the urban living areas. The growth strategy may be described as a strategy of natural expansion with canal and port operations continuing on the present alignment and with major urban growth confined to the West Bank, expanding in parallel to the south, connecting to the regional and national transportation links⁶⁹(see Figure 5).

As a part of the long term strategy, port industry and urban core were planned to grow in a linear, parallel, direction to the southwest, leaving the Mediterranean coastline and the Lake Manzala edge free for tourism and recreational development. This allowed a simple and direct relationship to be maintained between the industrial areas and the residential areas to the south of the city. Land reclamation for agricultural development could continue unimpeded and so could the exploitation of the fishing in Lake Manzala to the west.

The Port Said Master Plan called for the creation of three new industrial zones which were planned to create 3,140 jobs. It also called for expansion of the port to three million tons by 1980 and ten million tons by the year 2000. The development of resort facilities in coastal areas (65 ha.) was among the study recommendations. The Master Plan also called for reclamation of 6,500 hectares on the west

FIGURE 5
PORT SAID LAND USE PLAN



SOURCE: PADCO, National Urban Policy Study, Final Report, Vol.2, 1982, PP. 154

bank of the Canal for agricultural purposes and 12,500 hectares on the east bank (Sinai) after 1990. It also provided for the establishment of a fruit and vegetable production area to the south of Port Said (6,300 ha.).⁷⁰

Free trade city status was conferred on Port Said in January, 1976, and internal free zones were established for warehousing and for industrial development as a means of stimulating the rapid growth of manufacturing in the city. The free trade city status has resulted in a dramatic upturn in the city's economic fortunes as a result of the high level of investment that has been attracted to Port Said's free zones.

Since 1976, there has been a rapid build-up of population as families have returned to the city, attracted by the booming free trade city. The 1976 census recorded 262,500 persons living in 52,000 dwellings following the reconstruction of the city in 1974. In addition, there has been limited migration, principally by employees associated with the free zone industrial and warehousing zones, unskilled port workers and construction workers, from the Delta and the Upper Egypt.⁷¹

The Master's Plan 1985 population was expected to be 740,000 persons. The construction of another 40,550 dwellings would be needed to house the increase in population as well as to replace shanties and old stock in the city.⁷²

2.3.2.6. Key Development Issues for the City of Port Said

The principal development constraint in the Port Said Region is the lack of dry land for urban and agricultural development. Virtually all land has to be claimed from Lake Manzala. Development costs for urban land reclamation were estimated in 1975 at LE 35,000 per ha. or ten times that needed for agricultural reclamation per hectare.

The ability to reclaim land from Lake Manzala at an economical cost is critical to reaching targets for employment population growth and future standards of development. To date, the Port Said Free Trade Zone has attracted primarily transit-related development; means must be found to attract or create manufacturing establishments.

Another possible development constraint for Port Said is the supply of bulk water. Currently Port Said is supplied by the Abassiya Canal. However, planned large-scale reclamation efforts west and east of the canal, and urban development requirements in the other Canal cities, the eastern Delta and New Communities northeast of Cairo, are all competing for water from the same sources.

2.3.2.7. The Development of the City of Ismailia

Ismailia was established about 100 years ago as the headquarters of the Suez Canal Authority, which it is still. The Suez Canal Authority is the largest employer in the city. Other employment includes small-scale ship building, light manufacturing and service industries.

During the periods 1947 to 1960 and 1960 to 1966, Ismailia grew at annual growth rates of 6.5 and 4%, respectively, indicating regular and sustained growth.⁷³

Evacuees began to return to Ismailia in early 1974 and by the end of the year approximately 132,000 had returned. According to the Ismailia Master Plan, the city had regained a population of 175,000 by 1975.

2.3.2.8. Main Features of the Ismailia Master Plan

The main elements of the Ismailia Master Plan's strategy were concerned with the development and settlement of its agricultural hinterland and expansion of its service, commercial and industrial (light manufacturing) sectors. It also called for the reclamation and settlement of approximately 450,000 feddans (189,000 ha.) including infrastructure networks primarily in the Salhia district north of the Ismailia/Belbeis Road. Possible development areas on the west bank of the Canal were also identified, but not suggested for reclamation until the year 2000 (see Figure 6).

The Ismailia Master Plan projected future urban populations for the years of 1980, 1985, 1990 and 2000 of 218,000, 275,000, 356,000, and 560,000, respectively.

The Master Plan projected major population growth in its agricultural hinterland, a large part of which is currently being reclaimed. A hierarchy of towns ranging from regional subcenters to market service towns to villages were planned for expansion or new town development. The Master Plan estimated that the population in these new or expanded settlements could be increased (from 43,000 in 1978 to 211,000 by the year 2000). In addition, the Master Plan anticipated population increases in existing (1975) agricultural areas

FIGURE 6
ISMAILIA CITY LAND USE PLAN



- | | | | |
|---|--------------------|---|----------------------|
|  | GENERAL URBAN AREA |  | AGRICULTURE |
|  | EDUCATION |  | CEMETERY |
|  | TOURISM |  | EXISTING AREA (1978) |
|  | INDUSTRY |  | RAPID TRANSIT |



SOURCE: PADCO, National Urban Policy Study, Final Report, Appendices, Vol. 2, 1982, pp.168.

and newly reclaimed areas of 220,000 and 263,000, respectively. Thus, the total population of the Ismailia Master Plan study area, excluding Ismailia city, was expected to reach 694,000 by the year 2000.

Study of soil survey results showed that reclamation of much of the desert land between the Suez Canal and the Nile Delta north of Ismailia was an economical proposition. Proposals were made for land reclamation, cropping patterns and a range of settlement types related to the agricultural potential and the type of settlers involved.

Employment growth targets were based on the support of small industries, the building of serviced industrial areas, the development of the Canal University, the transfer of some central government jobs and limited development of tourism.⁷⁴

2.3.2.9. Key Development Issues for the City of Ismailia

Ismailia enjoys amenities afforded by Lake Timsah, the Great Bitter Lake, and reclaimed arable areas along the Ismailia or Sweetwater Canal. Ismailia has a good deal of potential for horizontal expansion in desert areas to the west, north and south.

The development potential of Ismailia is primarily a function of its locational advantages vis-a-vis the Suez Canal, Delta, Sinai and its agricultural hinterland. The opportunities for land reclamation are significant. The Ismailia Master Plan estimated that up to 450,000 feddans (189,000 ha.) could potentially be reclaimed.

Like Port Said, Ismailia's future development will hinge on the availability of bulk water. Currently, the Ismailia or Sweetwater Canal supplies potable water to all of the Canal cities, some eastern

Delta settlements, and ongoing reclamation projects in the region. Increased demand in new irrigated areas and new communities northeast of Cairo and in Ismailia's hinterland could conceivably pose a development constraint.

As Ismailia's economy is primarily service-oriented, there are few large or small-scale industries. Industrial employment in 1980 only constituted about 12% of total urban employment. Those large industries that exist are involved in food processing, the manufacture of electrical equipment and clay tiles. Small-scale industries in Ismailia include furniture-making, wearing apparel and steel fabrication.

Ismailia's prospects for growth depend on its ability to become a major service center for the Canal Region, the eastern Delta, and its agricultural hinterland. Success in land reclamation in Ismailia's hinterland will greatly influence the city's potential as a regional service center.

Imposition of development constraints for light manufacturing in the Delta is critical to Ismailia's potential in this sector. Agro-industrial potential is also related to success in land reclamation.

2.3.3. Features and Regional Plan of the Red Sea Governorate

The Red Sea Governorate forms about one-sixth of Egypt's land mass. In 1980, the estimated population was 83,300 persons; a density of 0.39 inhabitants per sq.km., a very low density compared to the Nile Valley and the Delta. The governorate has 800 km. of coastline. The mountains in the area have some mineral resources. At the present

time mining activities are limited mainly to extraction of phosphate, largely because of the diffusion of the mineral resources, and the lack of transportation and water. With increased provision of infrastructure, greater prospecting activity may be expected.

While it does not play a major role in the economy of the governorate, oil is its chief wealth. Ras Gharib is declining as a center for exploitation; this activity is moving to Ras Shukeir, where it may be sustained for a number of years.⁷⁵

The governorate's fishing and tourism potential are the base of development in the region. Six main zones offer the best potential for tourist development and sea sport activities: Gamasa Bay, North and South Hurgada, Quseir-Mersa Alam, Ras Banas and Mersa Abu Madd.

The Regional Plan for the Red Sea Governorate was started in 1978. It has provided a sectoral analysis of the development potential of the Red Sea Governorate and the Red Sea coast. The main objectives of the Plan were: to provide employment potential in the region in order to attract migrants from the Nile Valley and to develop the region.⁷⁶

The Plan proposed a multiple increase in the level of public investment in the governorate in order to raise the per capita share. Investment programs were outlined for the following sectors: fish exploitation, oil, mining, industrial development and tourism.⁷⁷

In addition, investments to permit accompanying development in human settlements and regional infrastructure were set forth in the Plan — with emphasis on water supply projects and consideration also of renewable energy resources.⁷⁸

Among the principle industries recommended by the plan are fish processing, building materials, chemicals (from phosphate), petrochemicals (from Suez outputs), and a flour mill. The plan suggested major expansion of tourist industry.

The plan also emphasized the availability of resources, port facility potentials, and linkages with the Nile Valley as its key advantages. The plan estimated that the Red Sea Governorate would accommodate some 700,000 persons by the end of the planning period.

2.3.3.1. Key Development Issues for the Red Sea Governorate

Development constraints include the scarcity of rainfall and the limited supply of ground water, which decrease the availability of vegetation in the region.

Primary constraints for industrial development in the region are the lack of water and the high cost of its supply, the shortage and high costs of labor, the lack of cheap energy and the remoteness of markets.

Other constraints include lack of infrastructure, transportation, and communication. It will be extremely difficult for the region to attract industry and population with such insufficient services.

2.3.4. Features and Study of the High Dam Lake

The High Dam Lake is the Egyptian part of the reservoir created by the construction of the High Dam at Aswan. Completion of this project has brought a number of benefits to Egypt through flood

control, perennial irrigation and generation of a substantial portion of the country's electricity.

Until now, however, utilization of the High Dam Lake and its surrounding area has been minimal. In 1978, an integrated regional development plan had been initiated. The specific area covered by this study comprises the city of Aswan and the area around the High Dam Lake. The project area extends about 300 km. from east to west (see Figure 7).

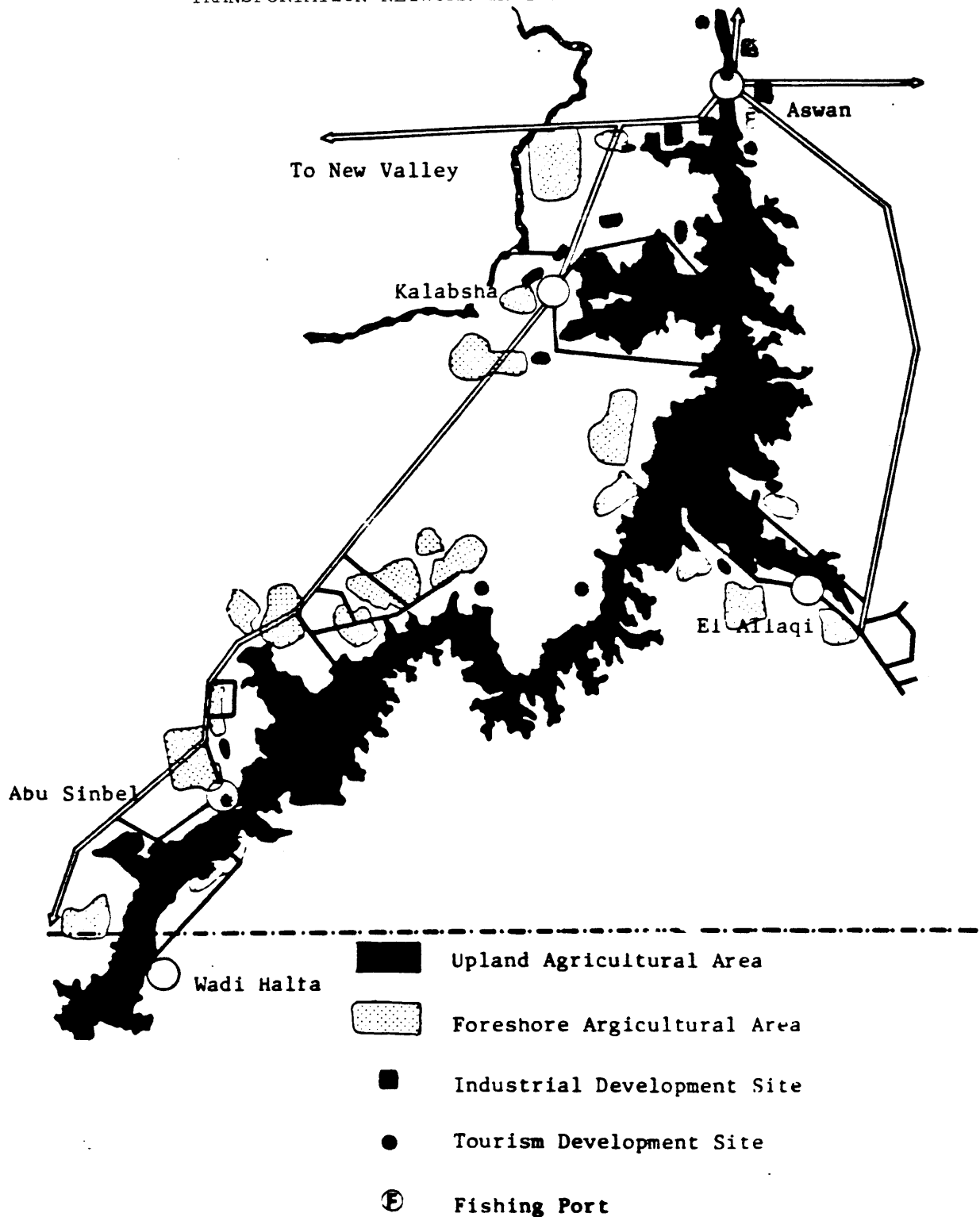
The study emphasized the potential for agriculture along the lakeshore, exploitation of fishery resources in the lake, extraction of mineral resources and the fostering of tourism at recognized sites around the lake. It called for further industrial development and extended agricultural areas in the region. It also called for emphasis on development of tourism and fishing.

The main objectives of the study were to investigate the degree of viable economic development in the region in order to achieve maximum population absorption.

2.3.4.1. Key Development Issues for the High Dam Lake

Development constraints are the extremely hot climate, especially during the summer -- virtually no rainfall, the extremely low humidity, and the wide diurnal and seasonal variations of temperature. These climatic conditions are adverse to agricultural development and human habitation. Water requirements for irrigation are high due to high evapo-transportation. In addition, the capability of the soil for agriculture in the area is low. Other development constraints

FIGURE 7
 DEVELOPMENT PLAN FOR THE HIGH DAM LAKE AREA INCLUDING
 TRANSPORTATION NETWORK IN THE YEAR 2000



SOURCE: Summary of Programs and Potential for Investment in Egypt, Ministry of Development, October, 1982, pp.6-34.

include lack of infrastructure, transportation, and adequate communication.

2.3.5. Features and Study of the Sinai Region

The Sinai region has a moderate mineral potential as it contains manganese, copper, phosphate, gypsum, coal and oil. Such mineral potential can provide the basis for employment opportunities in industry. The region also has a tourism potential as it contains attractive beaches. The peninsula, with nearly 61,000 sq.km. area has a population of only 200,000 persons.

The Sinai Development Study started in 1979. The need for it became apparent after the 1979 Peace Treaty, when President Sadat identified Sinai as having the nation's first development priority.⁷⁹

The study objective was to provide early impetus to the development of Sinai through the identification of technically, economically, and financially feasible projects established within a framework of a preliminary development strategy for the region. The Sinai Development Study emphasized the development of the industrial and the tourist sectors. It called for development priorities in the centers and axes of El-Arish, the Canal Region, the Southern Gulf of Suez and the Gulf of Aqaba coastline. Subsequent development would expand outward from these locations.

Industrial development was proposed with good access to transportation, convenient local support services and supplies, compatibility with other land uses, ready availability of utilities, and access to services of workers. Initially such development was

proposed for El-Arish and later for El-Qantara, East Suez and the Abu Rudeis-Abu Zenima area. Industry was the first main employment sector.

Tourism was the second main employment sector. The two types of tourism on which substantial growth would depend are warm water beach tourism, along the Gulf of Aqaba, and regional beach tourism, around El-Arish (see figure 8).

The emphasis of the longer range investment program was on upgrading housing and community services, plus major water supply and transportation projects.

2.3.5.1. Key Development Issues for the Sinai Region

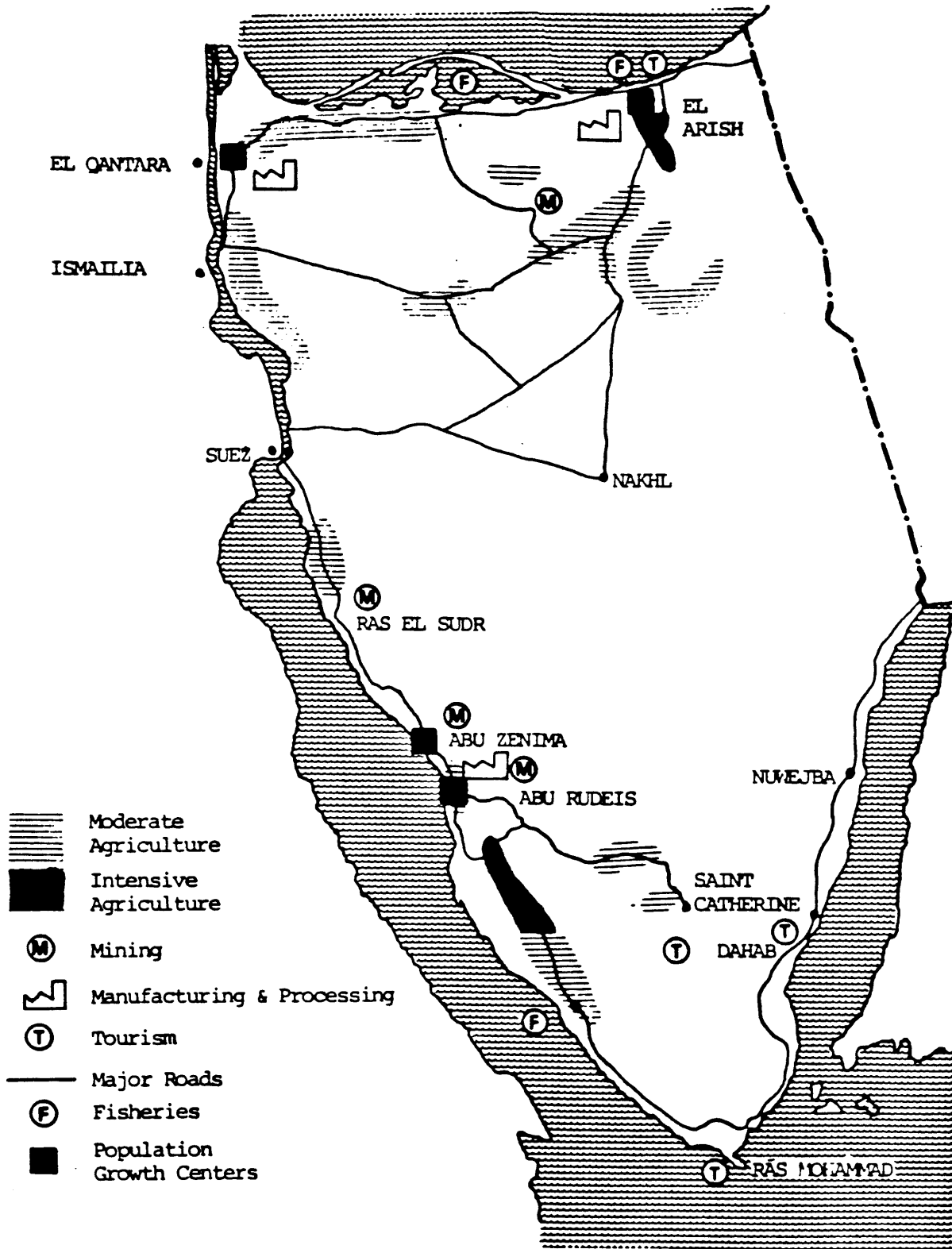
The development constraint for the Sinai region is once again the limited water supply. Ground water resources are limited. In Sinai the better soil, which would have higher agricultural yields, tends to be at a higher elevation in the eastern and southern portions of the peninsula. The cultivation of such soil tends to be costly as water has to be brought up to the land's level for irrigation. Lack of adequate infrastructures, transportation, and communication are among the major development constraints in Sinai.

2.3.6. Features and Development Program for the Northwest Coast

The most apparent and attractive aspect of the northwest coast is that it borders on the desert, the Delta, and the Mediterranean Coast, and thus benefits from the advantages of each. The region has a

FIGURE 8

STUDY OF LOCAL RESOURCE BASED DEVELOPMENT FOR THE YEAR 2000
 PREPARED AS A PART OF THE SINAI DEVELOPMENT STUDY - PHASE I



SOURCE: Ministry of Development, Summary of Programs and Potential for Investment in Egypt, October, 1982, pp.b-61.

moderate climate and more rainfall than in elsewhere in Egypt. It once formed part of the Nile Delta with the result that there are good soils suitable for agriculture in many areas.

The region has large deposits of limestone and gypsum. Salt recovery in the shallow parts of Lake Maryout has facilitated the establishment of chemical industries in the region.

Another resource for future development in the region is the Mediterranean Coast which has attractive beaches for tourism and recreational activities. Tourism is spreading rapidly westwards as large numbers of cooperatives have obtained development rights for tourism projects along the coast. By the year 2000 the area between Agami and Sidi Krier and El-Alamein will accommodate and provide facilities for 285,000 visitors.⁸⁰

Another factor that is contributing to the economic development of the region is Alexandria's limited ability to expand in a southwest direction across Lake Maryout. The rapidly increasing overspill of industrial activities from Alexandria is moving into the northwest region.

Since there were few employment opportunities in this area in the past, until recently it was populated mainly by Bedouins, few of whom were settled in permanent settlements. They were exclusively engaged in sheep breeding as a livelihood. Many of them have now settled in the region, together with an increasing number of migrants from other parts of Egypt who have been attracted by new employment opportunities created in the reclamation areas. There were a number of new jobs created by development projects, particularly in industrial and construction sectors.

The Development Program for the northwest coast was initiated in 1981. The studied area is located between the 34 km. and 100 km. of the Alexandria coast, with an area of 360 sq.km. The population in 1976 was 22,000 and was expected to grow to 26,000 in 1980.

Proposed developments in the region include the completed S.U.M.I.D. oil terminal and future nuclear power plant in Sidi Krier, a new sea port at Dekheila, a cement plant along the coastal road north of Borg El-Arab, and a large inorganic chemical complex west of El-Hammam. A free zone and a petrochemical complex are among the larger projects now under construction. There is also a new international airport that has been proposed for the area.

2.3.6.1. Key Development Issues for the Northwest Coast

The region has good development potential since water resources are available, it has a moderate climate, and there is good soil for agriculture. There is also a good base of natural resources for industry. The closeness of the region to Alexandria provides a ready labor supply.

2.3.7. Features and Regional Plan Study of The New Valley

The New Valley encompasses portions of two governorates, New Valley and Giza, and includes the oases of Kharga, Dakhla, Farafra and Bahariya. The area has a moderate amount of agricultural activity and some mineral resources such as kaolin, phosphate and iron.

The regional development plan for the New Valley area, which was initiated in 1982, was based on its agricultural development potential.

The New Valley Regional Plan called for a phased settlement pattern, it included agricultural and nonagricultural activities, and emphasized functional differentiation among centers. It determined the infrastructure required to serve existing and future populations and to initiate economic development, and it determined the development of an outline of infrastructure that would link the region to the rest of the nation.

The study identified priorities for administrative actions and investments needed in the near future to foster growth in the region and achieve long range goals. The Study defined projects and regional priorities for immediate action, with particular emphasis on projects that would stimulate local development initiatives, self-help, rural development, and agricultural surpluses.

2.3.7.1. Key Development issues for the New Vally

Agricultural development potential for the New Valley dependents primarily upon the area's groundwater resources and the cost of their exploitation. Lack of infrastructure, transportation, and communication are other development constraints in the area.

2.3.8. National Urban Policy Study

In 1980, after the Egyptian Government began most of these urban development strategies, the Ministry of Development commissioned foreign consultants to prepare an urban policy for Egypt. The purpose of the National Urban Policy Study (N.U.P.S) was to develop a comprehensive set of policies to guide urban growth in the country through the year 2000 in the light of current and future estimates of urban population and the investment resources available to the country.

During the initial stages of the study much of the effort was devoted to the establishment of an adequate data base and the development of a reinforced methodology for arriving at the alternative urban patterns. A simplified model of the country's economy was devised by means of which the total foreseeable sums available for urban purposes, including the creation of non-agricultural jobs, could be estimated up to the year 2000.

The next part of the study involved the development of six alternative recommendations strategies for urban development, ranging from encouraging relative concentration through counter-magnet cities and the use of growth poles, to a strategy of dispersed settlements. The study agreed with the Egyptian Government that there was a great need to deter the conversion of agricultural land to urban uses and that urban development should not come to the expense of future agricultural needs of the country. Each of the alternative strategies had implications in terms of overall costs, and the demand for other resources. They differed in their capacity to create jobs and manage growth, and in the extent to which equity among regions and population groups could be achieved.

Estimates for cost for each settlement strategy included two major components: (1) the cost of creating new jobs in different regions of the country, which took into account increasing marginal costs when a city was projected to grow rapidly, and (2) the costs of urban and regional infrastructure.

In the third and concluding phase of the National Urban Policy Study the alternative strategies were evaluated by the consultants both quantitatively (in terms of preliminary costs) and qualitatively. As a result of this process, a preferred settlement strategy incorporating various elements of the six original strategy alternatives evolved. The basic regional and sectoral dimensions of the N.U.P.S. preferred Strategy are the following:

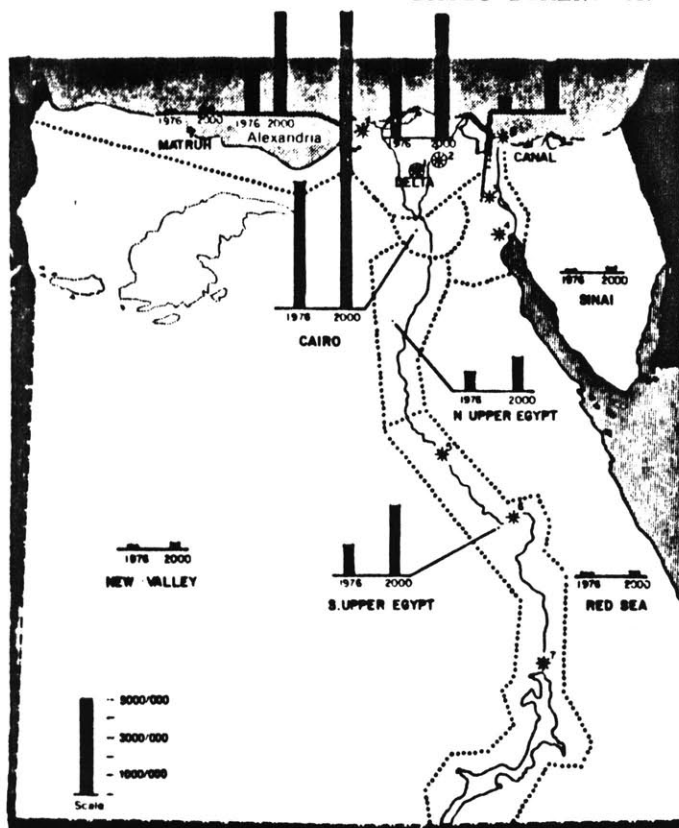
- The exploitation of strong economic advantages of the Cairo and Alexandria Metropolitan Regions to absorb a major portion of the expected growth in urban population, while reducing concentration in core areas. The study projected population for the year 2000 in Cairo to be 16 to 16.5 million and for Alexandria's population in the year 2000 to be 5 to 5.5 million.
- A concentrated effort to support population growth possibilities in the Suez Canal Zone with a focus on Suez City. Population targets in the year 2000 were 750,000 to 850,000 in Suez, 400,000 to 500,000 in Ismailia and 550,000 in Port Said.
- A strategy of maintaining the expected spontaneous growth in Delta cities which aims at limiting unnecessary extensions on arable land while providing additional urban employment. There was emphasis on Tanta and Mansoura with year 2000 population

targets of 525,000 to 575,000 and 500,000 to 550,000, respectively.

- An effort to include additional growth in an initially limited number of Upper Egypt cities to develop an economic base for more decentralization later on. Special emphasis was placed on Assiut, Qena/ Naga Hamadi and Aswan with year 2000 target population targets of 550,000 to 600,000, 325,000 to 400,000 and 400,000 to 450,000 respectively.
- A project-by-project approach to the settlement problems of the remote areas to utilize emerging technologies and establish implementing institutions to increase the attraction of these areas for human settlement. Major population increases were not anticipated; year 2000 population targets for existing main settlements of approximately 400,000 were projected.
- A choice of standards for housing and infrastructure service levels that is affordable by a wider range of the population and of a mechanism that would increase the proportion of public cost recovery.
- Increased emphasis on the industrial sector in economic planning, encouragement of private investment to conserve public funds, and integration of spatial and sectoral planning through selective use of direct industrial investment, and tax and non-tax location incentives.

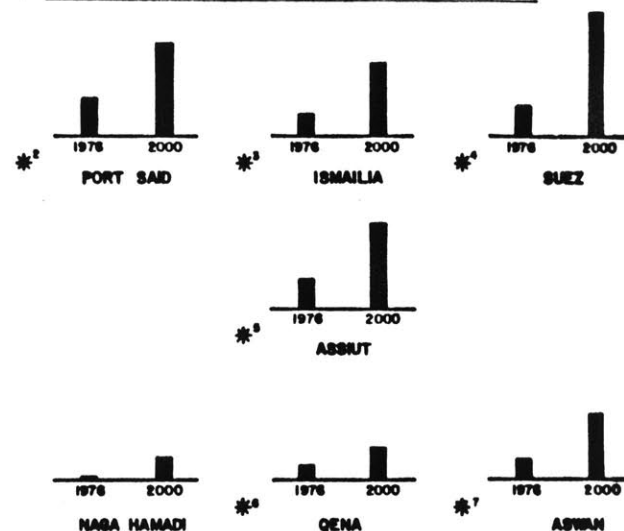
The settlement zones recommended for spatial emphasis as part of the national strategy and their targeted population for the year 2000 are shown in Figures 9,10,11 and 12.

FIGURE 9
BASIC DIMENSIONS OF SPATIAL RECOMMENDATIONS

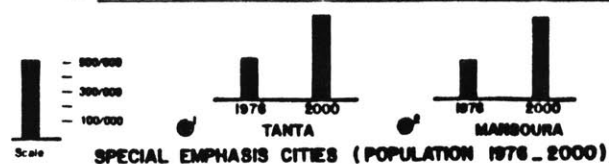


SETTLEMENT ZONE	TOTAL URBAN 1976	TOTAL URBAN 2000	URBAN CHANGE 1976 - 2000
CAIRO	6,843,000	16,500,000	9,657,000
ALEXANDRIA	2,319,000	5,500,000	3,181,000
CANAL	630,000	2,089,000	1,459,000
DELTA	3,668,000	6,952,000	3,284,000
NORTHERN UPPER EGYPT	983,000	1,821,000	838,000
SOUTHERN UPPER EGYPT	1,488,000	3,748,000	2,260,000
REMOTE AREAS			
RED SEA	58,400	110,000	51,600
NEW VALLEY	34,400	100,000	65,600
SINAI	10,000	100,000	90,000
MATRUH	81,000	90,000	9,000
REMOTE AREAS TOTAL	181,800	400,000	218,200
TOTAL URBAN	18,082,800	37,010,000	20,927,200

* SPECIAL EMPHASIS CITIES FOR GROWTH EMPHASIS



* SPECIAL EMPHASIS CITIES FOR GROWTH MANAGEMENT

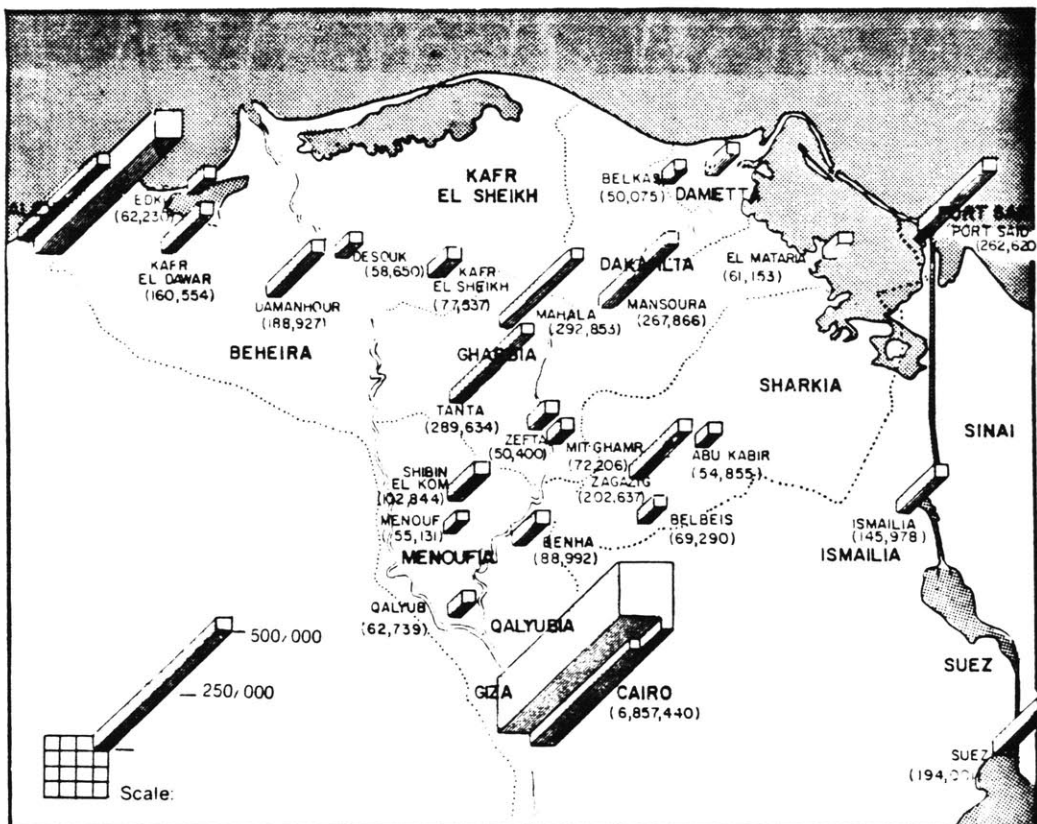


SPECIAL EMPHASIS CITIES (POPULATION 1976 - 2000)

SETTLEMENT ZONE	URBAN POP. 1976	URBAN POP. 2000	CHANGE 1976 - 2000
SPECIAL EMPHASIS FOR GROWTH ENCOURAGEMENT (EXCLUDING ALEX.)			
* ² PORT SAID	262,600	680,000	387,000
* ³ ISMAILIA	147,000	600,000	353,000
* ⁴ SUEZ	190,200	680,000	489,800
* ⁵ ASSIUT	213,900	680,000	366,100
* ⁶ NABA HAMADI	19,800	178,000	158,200
* ⁷ QENA	93,800	229,000	131,200
* ⁷ ASWAN	144,400	480,000	305,600
SPECIAL EMPHASIS FOR GROWTH MANAGEMENT			
● ¹ TANTA	285,000	578,000	290,000
● ¹ MANSOURA	288,000	580,000	292,000

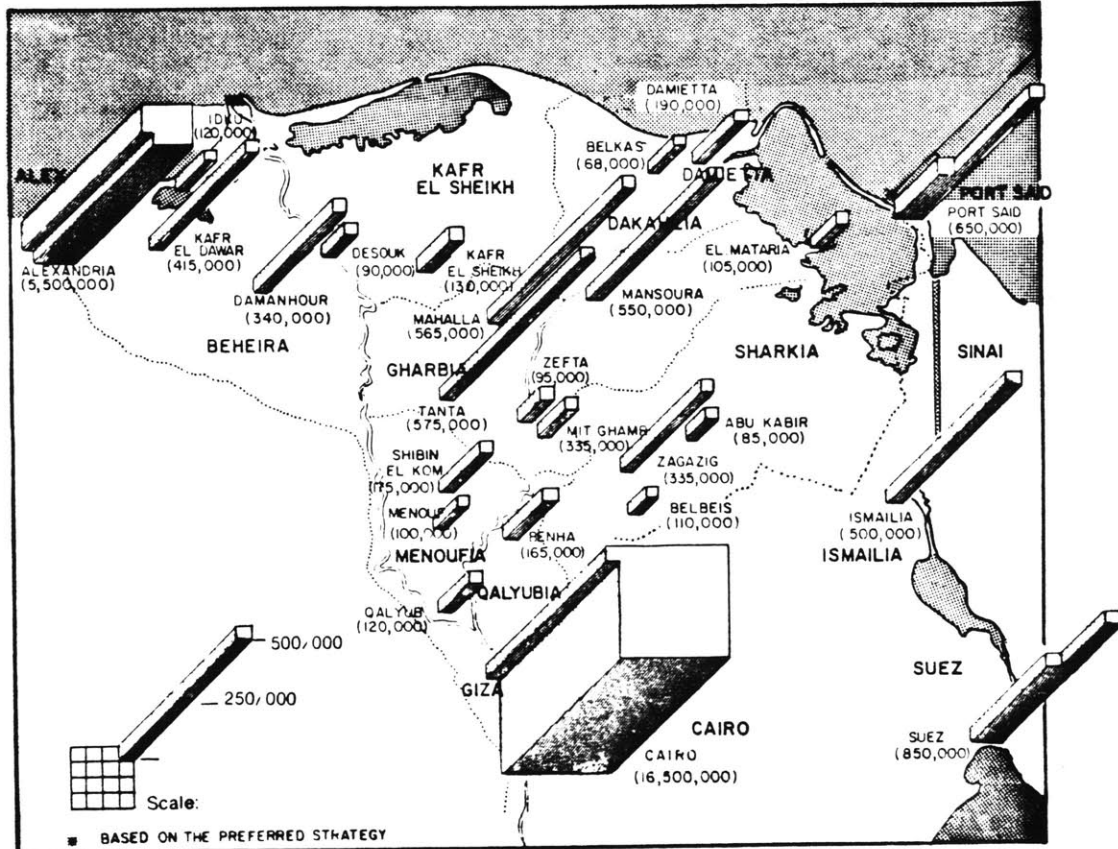
SOURCE: PADCO, National Urban Policy Study, Final Report, Vol. 1, pp.3.

FIGURE 10
 LOWER EGYPT SETTLEMENT HIERARCHY
 1976
 DISTRIBUTION OF URBAN POPULATION
 (BY SETTLEMENT OVER 50,000)



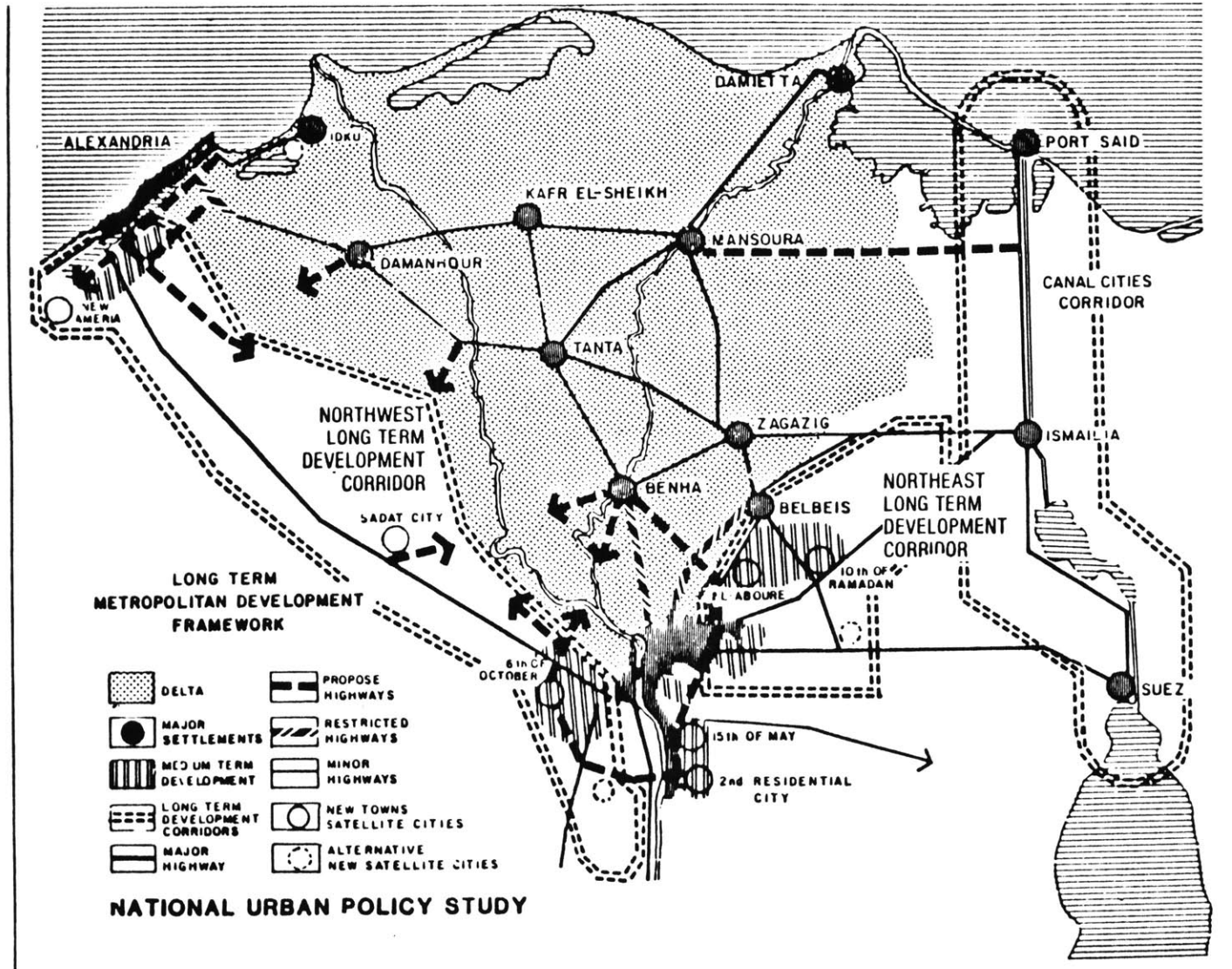
SOURCE: PADCO, *National Urban Policy Study, Final Report, Vol. 1, 1982, pp.5.*

FIGURE 11
 LOWER EGYPT SETTLEMENT HIERARCHY
 2000
 DISTRIBUTION OF URBAN POPULATION*
 (BY SETTLEMENT OVER 80,000)



SOURCE: PADCO, National Urban Policy Study, Final Report, Vol. 1, 1982, pp.5.

FIGURE 12
LONG TERM METROPOLITAN DEVELOPMENT FRAMEWORK



SOURCE: PADCO, National Urban Policy Study, Final Report, Vol. 1, 1982, pp.77.

Although the National Urban Policy Study provided the most comprehensive analysis for aspects related to urban planning in Egypt, the Egyptian Government rejected the findings and recommendation of the study for undocumented reasons.

The government should have considered the N.U.P.S. recommendations as the study was based on an economic analysis which is crucial for the urban development in the country.

2.3.9. The Greater Cairo Region Long-Range Urban Development Scheme

As mentioned, Greater Cairo Region consists of Cairo Governorate, some parts of Giza Governorate, the city of Shoubra El-Kheima in Qalybia Governorate, as well as a few villages in the Nile Valley and the Delta. The Greater Cairo Region Long-Range Urban Development Scheme study was initiated In 1980. It was based on the belief that the Greater Cairo Master Plan of 1968 should be revised and updated within the boarder context of the National Urban Policy Study (N.U.P.S.) and other recent studies. The study's objectives were to provide a more current master plan to guide the growth of Greater Cairo, establish the appropriate agency to administrate the plan, and provide it with the resources to make it an effective tool in controlling the region's development.

Consistent with the findings of earlier studies, the Long-Range Urban Development Scheme recognized that the urban population of Greater Cairo will be in the range of 16.5 million by the year 2000. Thus a major task of the planning effort has been to consider means of accommodating this number of people in an efficient manner, while at

the same time reducing congestion in the region's core, increasing the level of amenity throughout the Region, and curbing the prudent conversion of agricultural land to urban uses in much of the Region.⁸¹

The scheme identified sectors of the Cairo agglomeration that have a tendency to break away and rather than reinforce their lines to the central area -- to improve their capacity for self sufficiency by reinforcing the tendency for geographic specialization in each sector. These sectors would be called homogeneous as far as opportunities for living are concerned.

Criteria for identifying homogeneous sectors within the existing urban fabric and for extending the concept to future settlement areas were as follows: a population of one to two million persons, a minimum-employment to labor-force ratio of 0.80, an existing or potential service center in each sector, where new services can be organized and supported by adequate utility and transport systems, an opportunity to recognize local transport systems within each sector before improving regional links among different sectors, and an opportunity to provide and maintain open spaces or physical barriers between sectors in order to reinforce economic autonomy.

Within the Greater Cairo Region, some fourteen homogeneous sectors, plus three protection sectors encompassing agricultural areas were identified where urban development would be discouraged.

The concept of homogeneous sectors, with clustering of new settlements, had provided the framework for three alternative scenarios of future spatial distribution. Each scenario recognized the absorptive capacity of the existing urban agglomeration in each

sector and paid attention to committed projects on the periphery of the urbanized area. Each scenario varied the emphasis given to further growth. The first emphasized growth in the northwest and east along the desert fringe of the Delta. The second emphasized growth in the east and south (El-Amal and Helwan), and the third stressed a more balanced pattern with expansion occurring both east and west of the existing agglomeration. This last scenario was selected as the basis for the final strategy plan (see Figure 13).

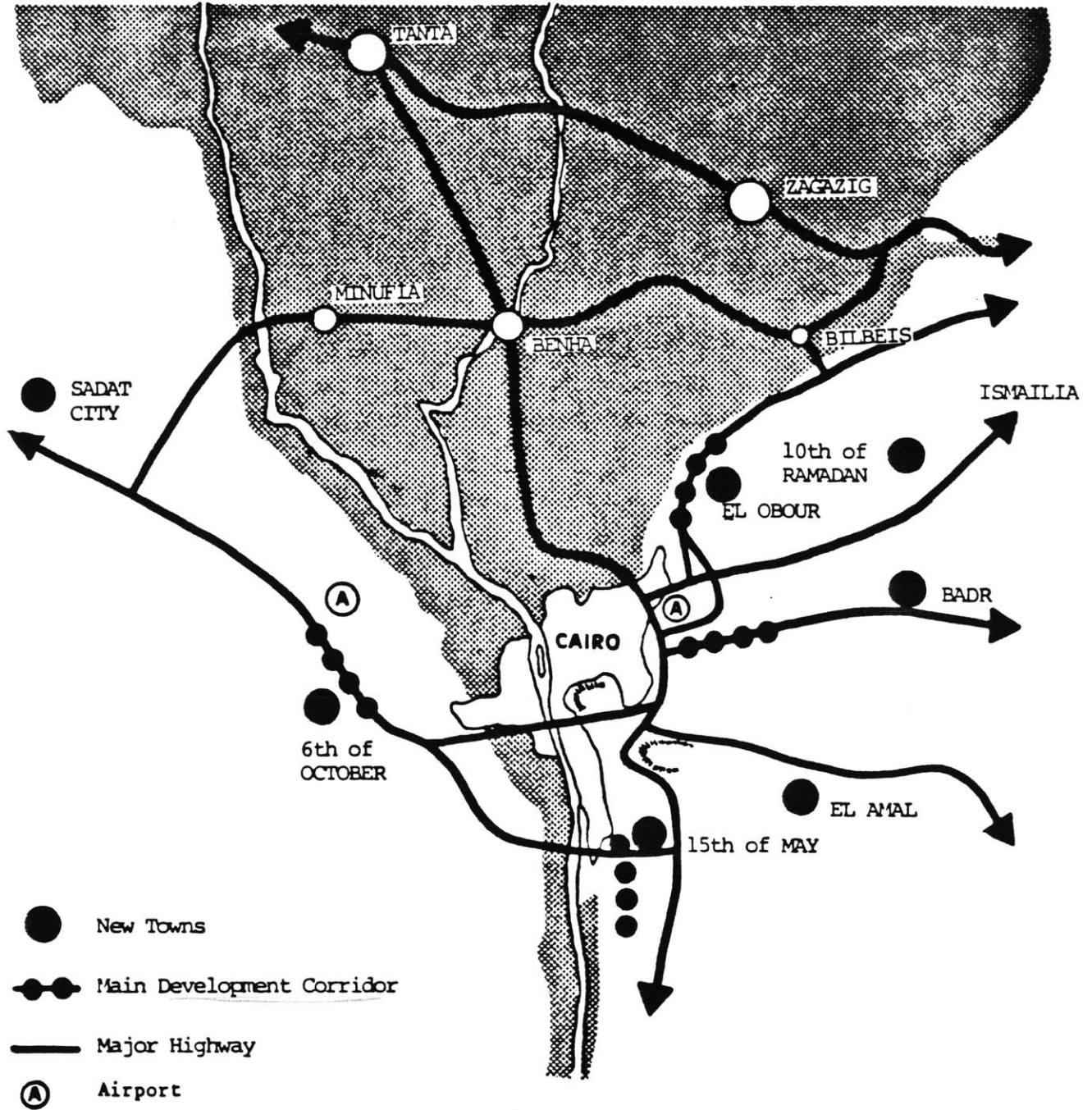
The construction of a ring road around the Greater Cairo Area was one of the recommendations of the study and has been under construction since 1983.

2.3.10. Other Sectoral Plans and Programs

A number of other smaller scale sectoral plans and programs were prepared during the 1970's and early 1980's. Within the context of the Greater Cairo Region Long Range Urban Development Scheme and the National Urban Policy Study, there was an effort to establish overall development policies and a framework of future urban expansion in the Cairo Metropolitan Region and in Giza Governorate. The Land Development Study for Greater Cairo examined land use and infrastructure development issues for the region. The study focused on public and private land ownership patterns in both agricultural areas and desert areas, as well as on the feasibility of providing infrastructure in desert areas to divert development pressures away from agricultural areas.

FIGURE 13

GREATER CAIRO REGION - LONG RANGE DEVELOPMENT SCHEME



SOURCE: Ministry of Development, Summary of Programs and Potential for Investment in Egypt, October, 1982, pp.d-16.

The Master Plan for Giza Governorate provided a strategic plan which forms a framework for a detailed structure for Giza City and its fringes, a master plan for the urban areas in Giza City along the Pyramid Road, and a pilot housing scheme for a large new housing area.

There were a number of plans prepared for smaller scale new cities and in different parts of the country that need urban expansion due to population growth pressures. Such projects included the planning of a New Damietta City that is related to the New Damietta Port development constructed near Damietta. This program also included planning for New Ismailia City, New Salehia City and New East Qantara City. Some of these new cities are now under construction.

There were also a number of new twin cities planned in Upper Egypt. El-Shams City is in the Assiut Region, Sohag New City, Minia New City, and Beni Suef City are envisioned as early steps in the development of an urban corridor extending along the Eastern and Western Deserts. Again, some of these new cities are now under construction. Through the building of bridges across the Nile, the attraction of population and activities to the eastern bank is expected.

2.4. CONSTRAINTS AFFECTING THE IMPLEMENTATION OF URBAN POLICIES IN EGYPT

In reviewing the ability of the Egyptian Government to carry out specific urban policies, it is critical to examine certain constraints on the implementation of these policies. Particular constraints include settlement distribution, infrastructure, economy, and the political and institutional capacity.

2.4.1. Settlement Distribution

The distribution of water resources constrains the patterns of urban settlements. Water resources are limited mostly to the Nile River. This centralized settlement distribution pattern, 7,000 years old, has fostered strong social attachment -- a pattern that will be very slow to change.

The urban concentrated settlement in the Nile Valley and the Delta, with high densities in larger urban areas, create development pressures in terms of services provided in such areas as housing supply, transportation, infrastructure, health, and education.

2.4.2. Infrastructure and services

There are large current deficits and large future needs in Egypt's infrastructure and services. The country's vast desert requires higher infrastructure expenditure per capita in order to achieve spatial, political, and economic integration. The transport system of the country is sufficient for serving only the existing settlements, thus encouraging continued urban concentration. The communication system is inadequate and technical information is not readily available. If people are to be relocated to remote areas, they will need improved services.

2.4.3. Economy

The economic resources available and the national economic priorities determine the range of national urbanization policies that can be adopted.

Egypt's natural resources are limited to oil exports and some minerals for local use. Other resources are the oil countries worker remittances, the Suez Canal dues, and the tourism industry. All four resources have been decreasing in revenues the last five years (see Table 2). The economy has had difficulty sustaining a high growth rate.

In the mid 1970's, the government began an enormous urban investment program, partly to rehabilitate the capital stock that had been neglected during the 1960's and early 1970's, and also to bring about a higher level of output and employment. However, this desire to increase urban investment has not been accompanied by much increase in domestic resources for investment. Consequently, the program cannot be implemented. Domestic savings performance in recent years has been weak and below the level needed (without major foreign contributions) to maintain high overall growth. The low productivity and over-expansion of the large public sector, combined with a nonselective use of incentives for private development has result in a declining share of industry in the economic development. The stagnated growth in agriculture is also contributing to the economic crisis.

Excessive reliance on foreign financing exposes the nation's investment plans to the vagaries of foreign economic and political events. This is especially true when a substantial portion of foreign investment takes the form of government-to-government concessionary

loans and transfers. An investment program financed largely with domestic resources will have a sturdier foundation than one relying on foreign resources. If foreign funds are not used efficiently, the risk will be even greater.

2.4.4. Political and Institutional Capacity

Indicators of Egypt's institutional ability to carry out policies are: the degree of administrative centralization, the share of central government expenditures in total public investment, and the relative balance between public and private sector investment.

In Egypt, the central government has most of the control over local government including decisionmaking and fund allocation. Although the local government is responsible for the implementation of policies, it has little input into the formulation of policies. For example, some urbanization policies concentrate exclusively on the problems of urban decentralization and ignore the fact that other national economic policies (in such areas as trade, industry, and infrastructure) provide strong incentives for people to locate in the dominant urban region. Another traditional shortcoming in the present urbanization policies is the stop-and-go application of policy instruments according to short-range political or economic circumstances.

In order to achieve decentralization in Egypt, it is crucial to realize that planning of any region will not be effective if done in isolation. It must be part of a national strategy based on the comparative advantage to the local region as well as on a realistic

appraisal of national resource constraints. Such a strategy requires a high-level political commitment to a more equitable distribution of economic activities throughout the country. But this commitment has been lacking in Egypt.

3. EVALUATION OF THE EXISTING NEW TOWNS POLICY

The New Towns program was adopted by the Egyptian Government in 1974 as a major component in urban policies adopted for decentralization from the Nile Valley and the Delta.

This chapter will consider how effective the new towns and satellite cities are -- and are likely to be -- in the deconcentration of the population growth and the redistribution of economic activities of the Cairo and Alexandria metropolitan areas by the year 2000. The new cities will be evaluated on the basis of the following factors:

- Location
- Projected size
- Development costs and standards
- Population and housing stock
- Target group affordability
- Development control
- Organization and management required

3.1. LOCATION

The location of the self-contained new cities, which are far from existing urban centers, is raising certain problems. Traditionally, Egyptians are not desert dwellers, and the majority of urban centers grew in proximity to bodies of water and rural hinterland. Such proximity has traditionally served several important functions in

Egyptian urban life. It has moderated the harsh environment, provided a readily accessible substitute for public open space, nurtured close ties between urban dweller and their rural regions, and provided opportunities for income support and sources of cheap food supplies (particularly for the new migrants and the poor).⁸² The location of the new self-contained cities will minimize such opportunities.

The sites of the new self-contained cities, impedes the desirable linkage of the new settlements with an agricultural hinterland, which contains 55% of the country's population and employs 50% of the labor force. Thus in some cases the potential of the new towns to affect the economic and social development of Egypt's rural population is lost.

It has frequently been suggested that the new cities would intercept migrants from the rural areas to existing cities. But the location of the self-contained cities does not provide the appropriate economic and social networks for those migrants. So they will continue to flock to overcrowded Cairo and Alexandria.

The optimal distance for a city from the nearest larger or equal sized city is one which maximizes the sum of agglomeration and hinterland effects.⁸³ Thus an urban center has better growth prospects if it is either close by or far away from all competitors.⁸⁴ The location of some of the Egyptian new cities does not seem to follow this rule.

All of the current new cities are further than 40 km. from the nearest large city center. Sadat City is the least desirable location, being 95 km. away from central Cairo and 75 km. away from any present urban development. Tenth-of-Ramadan City is slightly better located, 58 km. from Cairo.

The situation is brighter with regard to the satellite cities than the self-contained ones. These cities are located along existing development corridors and close enough to Cairo to attract industries and residential population. Fifteenth-of-May City has the potential of attracting workers from industries in Helwan though current costs of dwelling units are high. Sixth-of-October City is located in a potential development area of the Giza Governorate, attractive for both industry and tourism facilities. El-Obour City is located near to the Cairo-Ismailia Corridor, near the Belbeis Desert Road and close to the El-Khanka industrial site overlooking the Delta and closer to Cairo than Tenth-of-Ramadan City. It is, therefore, more attractive for industrial and residential development.

3.2. PROJECTED SIZE

Experience in other countries has shown that a new urban center must be able to reach a critical mass of approximately 500,000 persons in order to attract private industry and secondary jobs without the need for public subsidy.⁸⁵

Table 14 compares likely population sizes of the new cities in the year 2000 (based upon past growth rates of urban centers in Egypt and upon present development and construction plans of new cities) to the target population. The table indicates that growth rates of from 8-24% per annum for the next 20 years would be required to reach year 2000 target population, however, such growth rates seem to be difficult to achieve.

TABLE 14

NEW COMMUNITY PROJECTED POPULATIONS IN YEAR 2000
AND IMPLIED RATES OF GROWTH

COMMUNITY	BASE YEAR	BASE POPULATION	ASSUMED MAXIMUM AVERAGE RATE OF GROWTH PER ANNUM	YEAR 2000 POPULATION		IMPLIED ANNUAL GROWTH RATE OF NEW COMMUNITY POPULATION TARGETS
				PROJECTION AT OPTIMUM HISTORICAL URBAN TRENDS ⁶	NEW COMMUNITY TARGETED POPULATION	
10th of Ramadan City	1983	20,000 ¹	10 %	101,100	500,000	21 %
Sadat City	1985	20,000 ²	10 %	83,500	500,000	24 %
New Ameriyah City	1985	20,000 ³	10 %	83,500	390,000	20 %
6th of October City	1984	17,500 ⁴	10 %	80,400	350,000	21 %
15th of May City	1985	50,000 ⁵		150,000 ⁷	150,000	8 %
TOTAL	-	127,500	-	498,500	1,890,000	

SOURCE: PADCO, National Urban Policy Study, Final Report, Vol. 1, 1982, pp.160.

Even if the new towns reach the proposed size in the year 2000 - it is doubtful that they will contribute to solving the problem of concentration of urban population and industries in few urban areas. For the next generation (or 15 to 20 years), it is probably not feasible (or desirable) in most developing countries to stop the spread of the growth of population of the giant cities (cities with population of 500,000 or more); but it may be feasible (and desirable) to lower their rates of growth in relation to the growth rates of other urban centers.⁸⁶ There are no examples of successful efforts to stop the growth of these large cities or reduce their size.⁸⁷ Experience in developing countries shows that small cities cannot compete with large ones. In most large cities, the central cities may be growing less rapidly or even losing population, but their outer regions are expanding enormously.⁸⁸

There are two aspects of implementation of new towns. One is the physical implementation of buildings, roads and services. The other is the human element -- the population, the available jobs, the skills and workers that make it up, with the physical elements -- the total environment of the new town and ultimately determine its success.

In considering the human element it must be remembered that the majority of urban population in Egypt is not very mobile for social as well as economic reasons and might be unwilling to move. Strong family ties in the Egyptian society lower the level of mobility of the urban population.

The new cities still lack the adequate resources of city life, such as qualified health-care centers, shopping facilities, transportation and recreational facilities. They will remain new for a long period of time.

An influence that has a greater effect on labor mobility than the influence of social aspects is the phenomenon of urban agglomeration. All the important institutions, services, and industries of the country are concentrated in Cairo. Moreover, the limited number and kind of job opportunities in the new cities limit labor mobility.

Several studies on the costs and benefits of alternative settlement patterns reveal that despite a number of negative externalities and city size (congestion, pollution, psychosocial stress and crime), there are also positive externalities. Urban agglomeration economies include business agglomeration economies and social agglomeration economies. The first refer to the wide range of externalities associated with large cities that accrue to individual firms. They include: access to specialized business services; sources of capital, labor market economies (more varied skills, greater elasticity of labor supplies, superior training, better organized placement services), a larger stock of managerial and professional talent, the presence of facilities, e.g., good public investment, a cultural amenities, likely to attract professionals and high socio-economic status groups, opportunities for specialization offered by a large market (project specialization, technical externalities, transport cost savings), economic in water-supply and other public services, information and communication economies, and greater adaptability and flexibility in the use of fixed capital.⁸⁹

Among household agglomeration economies, mention should be made of the opportunities for earning higher income, having a wider choice of jobs and variety in housing, and the availability of shopping facilities, public services, leisure and cultural amenities.⁹⁰

Social agglomeration economies refer to the systematic functions of large cities and their contribution to national economic growth. Foremost among these functions are the incubation of new industries and their subsequent filtering-down to smaller cities. Other roles of large cities are to act centers of innovation and as the initial source of hierarchical diffusion.⁹¹

An outstanding supply of adequate housing and attractive jobs is required to persuade families to relocate. People follow jobs and not vice versa. Jobs are the most important requirement for the development of an urban center. A critical mass of jobs must be provided in order to achieve a rapid development of the new cities.

Based on the above, it could be argued that the government's approach of new towns would only effect a small part of the urban population and its economic activities. In 1986, ten years after the construction in Tenth-of-Ramadan City had started, 95% of workers in the city do not live in Tenth-of-Ramadan.⁹² A program marginal in its effects, should not be very high on the list of the country's urban investment priorities. The argument for creating the new cities is further weakened when we examine the estimated increase in urban population in the year 2000. While the increase in urban population is estimated to be twenty million, only four million will be absorbed in the new cities according to governments projections. There would still remain sixteen million additional urban dwellers who would have to be absorbed primarily by Cairo and Alexandria.

3.3. COSTS AND STANDARDS

Perhaps one of the most intractable issues associated with new cities development is costs.⁹³ The costs of developing new towns are significantly greater than the costs associated with contiguous urban development.⁹⁴

In general, the overall standards of the new cities regarding level of infrastructure, community facilities, land efficiency and housing are quite high when compared to current urban standards and other urban projects being carried out by the government. The estimated cost for the completion of Sadat City, Tenth-of-Ramadan City, Fifteenth-of-May City, and Sixth-of-October City is approximately LE 4650 million.⁹⁵ As mentioned, the population by the year 2000 in the new cities will not accommodate more than four million persons while the increase in urban population will be twenty million by the year 2000.

Thus, the new cities would require a very large proportion of the capital available for urban investment, while producing a small return with regard to the accommodation of urban growth.

As Table 15 illustrates, 5% of the total investment expenditure and 14% of both housing and utilities expenditures for the Five Year Plan period (1978 to 1982) were designated for the new cities, a disproportionate amount considering the number of people served.

3.3.1. The Large Scale Development of the New Cities

Large scale development projects are difficult to execute in developing countries which often lack the required number of experienced contractors and adequate materials supply and equipment needed to perform large scale undertakings.⁹⁶

TABLE 15

PER CAPITA INVESTMENT IN INFRASTRUCTURE EXPANSION IN EXISTING URBAN AREAS: 5-YEAR PLAN 1978-82

<u>Investment Category</u>	<u>Average Investment Annually (MLE)</u>	<u>Reported Investment (MLE) for New or Expanded services (non-replacement)¹</u>	<u>Expansion Investment divided by population growth² (LE)</u>
Housing	208	165	273
Utilities	380	135	225
Water	62	37	61
Sewage	56	44	73
Electricity	185	36	60
Telephone	71	15	25
Other	7	3	5
Transportation	154	16	26
Education	82	55	91
Culture	29	15	25
Health	26	14	23
Total	879	399	665

¹Based on project descriptions in 5-year Plan

²Assumes 18 million urban inhabitants growing at 3.25% annually.

SOURCE: Wheaton, William and Shishido. "An Economic Appraisal of the New Town's Policy in Egypt," M.I.T. - Cairo University T.A.P. Program, 1978, pp.12.

It seems that it is difficult for Egypt to execute large scale development projects involving such a large population and extensive area of land. There are currently serious problems which cripple the development of the new cities. Such problems are a result of the imbalance of different stages of development in the various components of the cities. As shown in Table 16, the stages of development planned for the three self-contained new cities are for a population of at least 150,000 each (a good-sized city). Even the Fifteenth-of-May satellite City is planned for stages of 50,000 each, large scale by international standards. For example, the size of the developmental stages is in effect increased by the fact that often work for a second is begun before demand is shown for the first.

It is more efficient to complete large-scale projects by stages both in terms of time and available resources. One can then determine if the project concept is correct before committing more resources. New towns should be developed in stages of 50,000 persons or less. If the jobs have been provided for that critical mass of population, then the chances of increasing that population to 150,000-200,000 in several decades and from there to the level of 500,000 are significantly better.⁹⁷

Another major problem now facing the new cities's development is the severe shortage of adequate financing. During the 1970's, the "Open Door" policy attracted foreign investment to the country. The economy benefited from the oil revenues, the reopening of the Suez Canal, the high remittance from Egyptian workers in Gulf countries, and the tourist industry. All the above resources have been decreasing greatly during the last two years. The country has a substantial amount of foreign debts (see Tables 2 and 3).

TABLE 16

NEW COMMUNITY PLANNED AND PROJECTED GROWTH RATES, 1981-2000

COMMUNITY	CURRENT POPULATION (1981 or 1982)	TARGET POPULATION			REQUIRED ANNUAL GROWTH RATES TO REACH TARGET (%)		
		1985	1990	2000	1981- 1985	1981- 1990	1991- 2000
TENTH OF RAMADAN CITY	5000	150,000	224,000	500,000	134%	53%	27%
SADAT CITY	5000*	61,000	122,000	500,000	130%	49%	29%
NEW AMERIA CITY	5000*	28,000	153,000	390,000	78%	53%	27%
6th OF OCTOBER CITY	2000*	68,000	132,000	350,000	224%	69%	33%
15th OF MAY CITY	2000	50,000	72,000	150,000	124%	49%	26%

NOTE:

* Indicates expected population in 1982. Lack of the Star indicated 1981 population.

SOURCE: Sherer, Samuel. "New Towns and Satellite Cities - A Strategy for Decentralization of Urban Development," 1982, pp.16.

Due to the long period of implementation required, few government administrations have been able to see a project through to completion. Government changes in ministries, staff, and top officials have further slowed the momentum of such projects, as each new official tends to alter development plans according to his own views and political environment.

Policymakers should not be mesmerized by the prestige and technological advances bodied by very large-scale projects, and as a result tend to neglect the scope for less glamorous but cost-effective small projects.

3.3.2. Infrastructure Standards and Residential Densities

The current new cities are characterized by high infrastructure standards as compared to those of already developed cities. Combined with low residential densities, these produce tremendous costs. Table 17 reports per capita costs of infrastructure in the current new cities compared to other urban projects. These high standards exceed the implementation potential of the country. The immense cost of these comprehensive, high standard systems, bind scarce financial resources which otherwise could be better used to develop other projects and serve a larger number of population.

Tenth-of-Ramadan City has the highest cost standards. Its cost of LE 1083 per capita for Stage One basic infrastructure is four times that of any other urban project. To get an idea of how large these per capita infrastructure costs are, several calculations can be made. To begin with, if such investment levels were provided for each of

Egypt's estimated 600,000 new urban residents annually, the yearly expenses would be between 750 and 924 million LE. Egypt's Gross Domestic Product is only 8,000-10,000 million LE, so roughly 10% of GDP would be required to construct this infrastructure for all of the incremental growth in population. The cost to every inhabitant is even greater. Using an interest rate of 10%, the annualized cost per person would be LE 120-150. Per capita income in Egypt is currently around LE 175 (these figures are based on 1976 estimates). The country would eventually have to devote 75% of its total output every year to afford such infrastructure outlays. Clearly expenses of this magnitude would create an enormous drain to the Egyptian economy.⁹⁸ Table 16 makes it clear that the level of infrastructure planned in the new cities is far higher than that which exists around already developed ones.

Much of the above-mentioned difference in standard costs is due to a low residential densities in the current new cities. As Tables 17 and 18 illustrate, of all the new cities, Tenth-of-Ramadan, Sixth-of-October, and Fifteenth-of-May have the lowest gross densities (ranging between 75 and 160 persons per ha.). Net residential densities vary between 215 and 701 persons per ha. for the three self-contained cities, and 386 to 618 persons per ha. in the satellite cities. These densities are almost 50% of densities in other urban projects in existing cities. These low densities prevent the new cities from being compact enough so that most activities are within walking distance. Such compactness would reduce the necessity for any transport.

TABLE 17

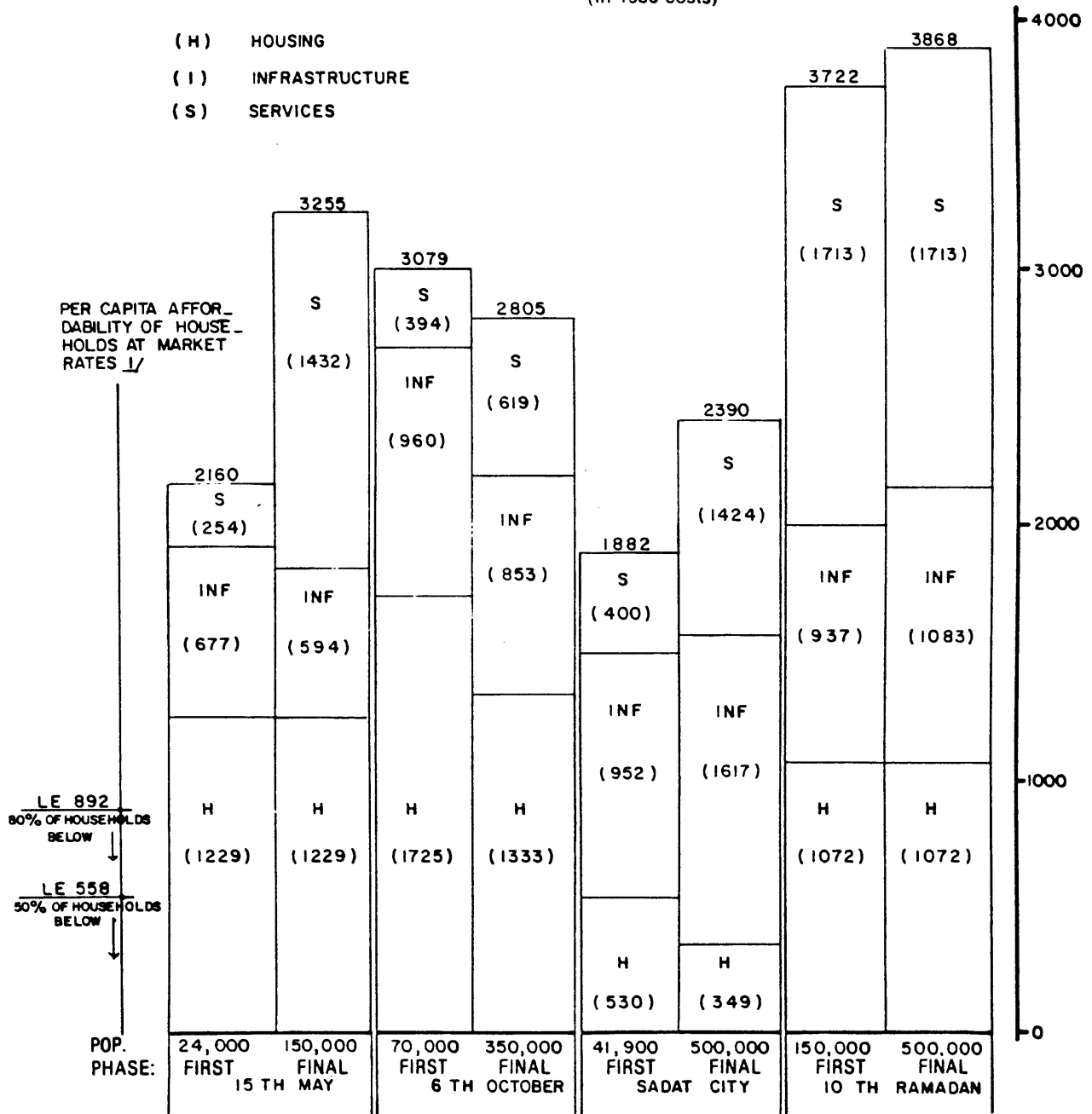
TOTAL PER CAPITA DEVELOPMENT COSTS OF NEW TOWNS AND OTHER URBAN PROJECTS (1980 PRICES) (L.E Per Capita)

COMMUNITY	STAGE	POPULATION	LAND	INFRASTRUCTURE	COMMUNITY FACILITIES	HOUSING	TOTAL
I. NEW TOWNS							
1) TENTH OF RAMADAN	1	150,000	-	910	1713	1111	3734
	2000	500,000	-	1083	1713	1111	3907
2) SADAT CITY	1	41,900	-	741	505	903	2122
	2000	500,000	-	671	1424	903	2997
3) 15th OF MAY CITY	1	24,000	-	594	254	1014	1862
	2000	150,000	-	506	1696	1014	3216
4) 6th OF OCTOBER CITY	1	70,000	-	959	342	1725	3026
	2000	350,000	-	851	619	1725	3195
II. OTHER PROJECTS							
1) SUEZ CABANON PROJECT	2000	40,900	-	166	151	444	761
2) HELWAN NEW COMMUNITY (USAID)	1	30,000	452	990	1586	159	3184
	2000	110,000	123	270	422	414	1229
3) DEHWAKA PUBLIC HOUSING	2000	30,000	-	272	77	422	771
4) BERKET PUBLIC HOUSING	2000	250,000	-	272	109	660	1041
5) HELIOPOLIS COOP. HOUSING	2000	6500	646	225	NA	1816	2687
6) DELTA SETTLEMENT PACKAGE	-	400/ hectare	1250	581.5	427.8	552	2811.3
7) AVERAGE CURRENT UNDER STANDARDS	-	140/ hectare	3571.4	334.0	179.0	391.3	4489.42
8) MEDIUM HIGH DENSITY (1978 STANDARD)	-	280/ hectare	1785.7	621.0	427.8	552.0	3386.5
9) TARGET STANDARD (SADAT CITY)	-	104/ hectare	4840.0	1004.0	927.9	1042.0	7813.9

SOURCE: Sherer, Samuel. "New Towns and Satellite Cities - A Strategy for Decentralization of Urban Development," 1982, pp80.

TABLE 18

NEW COMMUNITIES PER CAPITA INVESTMENT (PER HOUSING INFRASTRUCTURE & SERVICES)
(In 1980 costs)



↓ ASSUMPTION : HOUSEHOLD INCOME AT 50% - LE 1065, AT 80% - LE 1700 HOUSEHOLD SIZE 4.8; LOAN TERMS; 12% INTEREST; 30 YEARS; PAYMENT 25% OF INCOME

SOURCE: PADCO, National Urban Policy Study, Final Report, Vol. 1, 1982, pp.165.

3.3.3. Community Facilities Standards

The difference in costs for community facilities in current new cities as compared to other existing cities are even greater than for infrastructure costs mentioned above. Table 19 gives the per capita costs for new cities community facilities and the same for other urban projects. It indicates that the community facilities cost of LE 1,713 per capita for Tenth-of-Ramadan City, LE 1,423 per capita for Sadat City and LE 1,512 per capita for Fifteenth-of-May City are over three to ten times higher than the standards developed in other urban areas. Table 17 further emphasizes the share that these standards costs represent of the total per capita development costs - almost 50% more than for other urban projects.

3.3.4. Land Disposition Policies

The ability of the new communities to finance themselves through land development, either profitable sale or lease, is critical to their development. If land is publicly owned and its price determined by bureaucratic procedures, the cybernetic mechanism of the market for setting prices, will not be achieved.⁹⁹ Although public land ownership could be a strong tool in land use development and control, public land was disposed in some of the new cities even before there were zoning regulations or detailed land use plans, and before land subdivision and regulations were approved.

In Tenth-of-Ramadan City, a dramatic experience occurred in this respect. For political reasons at former President Sadat's request,

TABLE 19

PER CAPITA COSTS OF COMMUNITY FACILITIES IN THE NEW TOWNS AND OTHER URBAN PROJECTS
(1980 PRICES)

(L.E. PER CAPITA)

COMMUNITY	STAGE	POPULATION	EDUCATION	HEALTH	OTHER	TOTAL
NEW TOWNS						
1. TENTH OF RAMADAN	1	150,000	643	228	842	1713
	YEAR 2000	500,000	643	228	842	1713
2. SADAT CITY	1	41,900	242	20	213	505
	YEAR 2000	500,000	610	321	493	1423
3. 15th OF MAY CITY	1	24,070	NA	NA	NA	133
	YEAR 2000	150,000	609	466	437	1512
4. 6th OF OCTOBER CITY	1	70,000	NA	NA	NA	342
	YEAR 2000	350,000	NA	NA	NA	619
OTHER URBAN PROJECTS						
5. SUEZ (CABANON) PROJECT		41,000	67	9	74	151
6. HELWAN NEW COMMUNITY 1 (USAID)	1	30,000	726	708	152	1586
	YEAR 2000	110,000	198	193	31	422
7. DEUWAKA PUBLIC HOUSING	-	30,000	NA	NA	NA	77
8. BERKET PUBLIC HOUSING	-	250,000	NA	NA	NA	109
9. HELIOPOLIS COOP. HOUSING	-	6500	NA	NA	NA	NA
10. DELTA SETTLEMENT PACKAGE	-	400 PERSONS/ hectare	40.6	258.6	128.6	427.8
11. AVERAGE CURRENT URBAN STANDARDS	-	140 PERSONS/ hectare	59.3	28.8	91.0	179.0
12. MEDIUM HIGH DENSITY (280 STANDARD)	-	280 PERSONS/ hectare	40.6	258.6	128.6	427.8

SOURCE: Sherer, Samuel. "New Towns and Satellite Cities - A Strategy for Decentralization of Urban Development," 1982, pp.78.

land was sold at an extremely low price. It was decided to announce the sale of land in the city, at LE 0.50 per meter (LE .50 = \$1 in 1977) and to LE 1.50 to LE 3.00 per meter for infrastructure according to the size of land.¹⁰⁰ In 1977, the government sold a large part of the city at a price not even close to the cost of provision of infrastructure.¹⁰¹ One government official made the point that while the Master Plan Study cost was two million dollars, most of the land in the city was sold for less.¹⁰²

In 1986, land is sold at LE 30 per meter in Tenth-of-Ramadan City (the highest land value in the new cities), while the cost of infrastructure is LE 50 per meter, the government subsidizes the difference in price.¹⁰³ Although Tenth-of-Ramadan City was planned to be an industrial one, no priority has yet been given to workers in the city regarding the allocation of housing. Obviously, it was not the poor but the middle and upper classes who were able to take advantage of this offer, many for speculative purposes.¹⁰⁴ There were 7,000 lots which had been sold in Tenth-of-Ramadan City in 1977 and 1978 of which construction was started in only 600, i.e. only 7% of the total land.¹⁰⁵

The inevitable result was that speculators who bought the land had no commitment to developing it. The government did not institute any legal control, nor were the purchasers under personal or economic pressure to do so.¹⁰⁶

It seems that the government felt that these enormous subsidies are required to encourage migrants to the new cities, but to date many purchasers do not contribute to the new cities' development.

Since the government owned the land it had a unique opportunity to use this major asset both to control and to finance urban development in the new cities.

The new cities authorities would be able to shape and control the use of the land for a considerable period into the future: it could reserve areas needed for public purposes, and it could capture for its financing needs a reasonable share of the gains from rising land values as the city develop. The latter benefit is important because in Egypt, local communities do not levy taxes of any consequence on real estate. The government should consider taxation on vacant urban land which is held for speculation in many cases.

Previous studies had recommended that governments should not sell land, but rather rent it in order to capture all future gains in value likely to occur because of rising land prices. But since the government's primary goal was rapid development, it did not aim to adopt disposition policies likely to exert a strong drag on the speed of development and, given the general investment situation in Egypt, it was not likely to get many private developers to build either residential or commercial facilities if it would not sell them any land. The possibility of receiving capital gains from rising land values was a major incentive for their participation in the development of new cities.

The government should sell land to developers and maintain strong enforcement of the speed of development. It should retain certain well-located tracts so as to capitalize on future land price rises. These tracts could be used as parking lots, playing fields, or parks, or even rented to low-intensity commercial purposes involving minimal

building coverage, until the government felt the time was ripe for higher-intensity commercial development.

As to industrial land, the government should tailor its policies to fit the needs of individual users and should adopt virtually any disposition arrangements that would encourage industrial firms to locate in the new cities. This industrial land should be manipulated not primarily to make financial profits but to create employment.

3.3.5. The Cost of Public Sector Housing Component

The previous discussion has concentrated upon subsidies inherent in the high standards of infrastructure and community facilities. Yet there is also a large subsidy allocated for housing constructed by the government. In Fifteenth-of-May City, the entire housing production is constructed by the government. Construction is financed through thirty years of government loans at 3% interest, while the present real (prime) interest is 14% per annum. This low interest rate must be considered part of the subsidy given by the government to the new cities program. Such a subsidy results in an enormous amount of investment tied up in housing.

It would be a more appropriate policy for the government to leave the task of housing provision to the more responsive and efficient non-government sector. The government's efforts could then concentrate upon providing service to the land. Public efforts should facilitate the supply of building materials, and provide small loans and technical assistance to low-income groups.

The government's public sector housing, as stated earlier, supplies only 6% of all housing in Egypt. It has never been possible for the government to meet the increasing housing demand. And the target income level now represents those well above the median income (in Cairo households LE 986 annually in 1982).¹⁰⁷

The informal sector finances the largest share of all housing produced in Egypt. The question becomes one of how the informal sector can be productively brought into the formal sector of new communities, while retaining its ability to respond to market forces and produce housing affordable to the majority of the poor.

At present, the government cannot produce new housing without heavy subsidies for target groups below middle class. The less affluent are housed in existing cities in housing delivered to them, made affordable by age, by the filtering process of the market. Since new cities would lack a stock of older housing, government subsidies will be high.

3.3.6. Cost Recovery

To date, limited action has been taken with regard to the cost recovery of the basic development costs of the new cities. High direct or indirect subsidies are apparent in the sales policies in land, infrastructure, and housing. In theory, only Sixth-of-October City is planned on a self-financing basis, but the level of expected cross subsidy from land sales appears to be high.

As Table 20 illustrates, the lowest level of cost recovery is in Tenth-of-Ramadan City. All of the residential land and 70% of the

TABLE 20
EXPECTED COST RECOVERY BY NEW TOWNS

CITY	POPULATION	PER CAPITA EXPENDITURES			PER CAPITA REVENUES ¹			TOTAL CAPITAL SURPLUS OR (DEFICIT) PER CAPITA	TOTAL SURPLUS OR (DEFICIT) L.E. MILLION
		INFRASTRUCTURE COMMUNITY FACILITIES	HOUSING	TOTAL	LAND	DWELLING UNIT	TOTAL		
10th of Ramadan City	500,000	2,796	1,072	3,868	35	1,252	1,287	(2,581)	(1,290)
Sadat City	500,000	2,041	349	2,390	222	903	1,125	(1,265)	(633)
6th of October City	350,000	1,472	1,333	2,805	4,134	1,725	5,859	3,054	+ 1,069
15th of May City	150,000	2,026	1,229	3,255	N.A.	N.A.	1,408	(1,847)	(277)

¹ The New Communities Law exempts most development in the New Towns from taxation, which could otherwise be an alternative source of revenue for the New Towns Authorities. Further, since cooperatives are expected to play a major role in new town development, the 1981 Cooperatives Law which excludes all types of cooperatives from local council fees removes another potential source of revenue. Finally, the New Towns Authorities are too new to have established policies about user charges, but if they adopt policies prevalent in other areas, these charges will be too low to recover capital costs. Therefore, under present policies it is unlikely that alternative revenue sources can materialize which will change this picture substantially.

SOURCE: PADCO, National Urban Policy Study, Final Report, Vol. 1, 1982, pp.166.

industrial land in Stage One have been sold at low prices, so that the amount of annual subsidy from the government has not fallen below two thirds of the annual budget even in years when the sale of land was the highest.¹⁰⁸

Based upon the estimated infrastructure and community facilities costs, Tenth-of-Ramadan City per capita expenditures for infrastructure and community facilities were LE 937 and LE 1713, respectively. A total return from land sales of only LE 35 per capita is anticipated. This represents a return of 4% on infrastructure and 1.3% on the combined infrastructure and community facilities costs. Total revenue from land sales was approximately LE 5.25 million, as compared to infrastructure costs of LE 136.5 million and community facilities costs of LE 256.9 million (a total costs of LE 393.4 million).

Thus, there is an approximate subsidy of 98.7% on the costs, (a subsidy of LE 388.1 million).¹⁰⁹ The extremely low level of cost recovery in the current new towns results in a sharp reduction of the amount of capital allocated for investment in urban areas.

3.4. POPULATION AND HOUSING STOCK

The present housing production in the new cities contrasts sharply with the proposed development programs. Current housing production is falling behind schedule; it is unaffordable and misallocated.

For example, a large number of employees commute to Tenth-of-Ramadan from Cairo. They cannot yet live in the new city as the

available supply of housing in the city is inadequate for their needs. Public construction of housing has progressed at a slower rate than scheduled and private residential construction has yet to start. The misallocation of land resulted in land being frequently purchased for speculation purposes. Also, the rate and type of housing construction there are inconsistent with the proposed objectives. The types of housing which have been built appear to be inconsistent with the needs of the intended residents, employees in the city.¹¹⁰

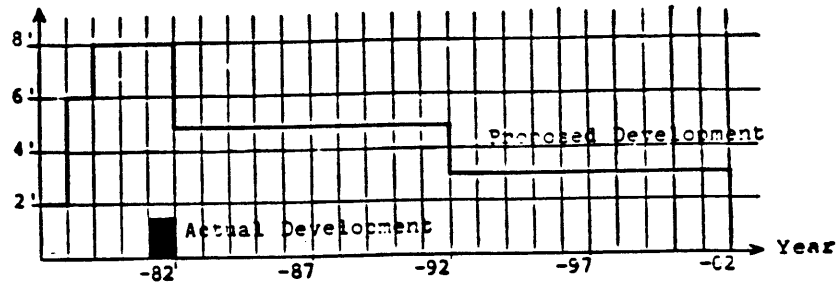
While a basic objective in the development of the new cities was to provide housing and services to those employed, that goal has not been achieved. The housing construction is far from sufficient for the needs of a large portion of the target population. Not only does population growth fall short of original projections, but 70% of those employed in the city, who are supposed to be the core of the community, live outside the city. Even with housing construction far behind schedule, unit upon unit of the built housing sits empty.¹¹¹

In contrast to a First Stage of population of 150,000 as initially projected, the population according to the official reports was only 3200 as of March, 1982.¹¹² Only 20% of the built units in Tenth-of-Ramadan City were occupied. Only 40% of those units which were sold are currently inhabited.¹¹³ As of March, 1982, there were 4200 persons employed in the city.¹¹⁴ Of these, less than 30% actually were living in the city (see Figures 14 and 15). The above situation exists in most other new cities (see Figure 16).

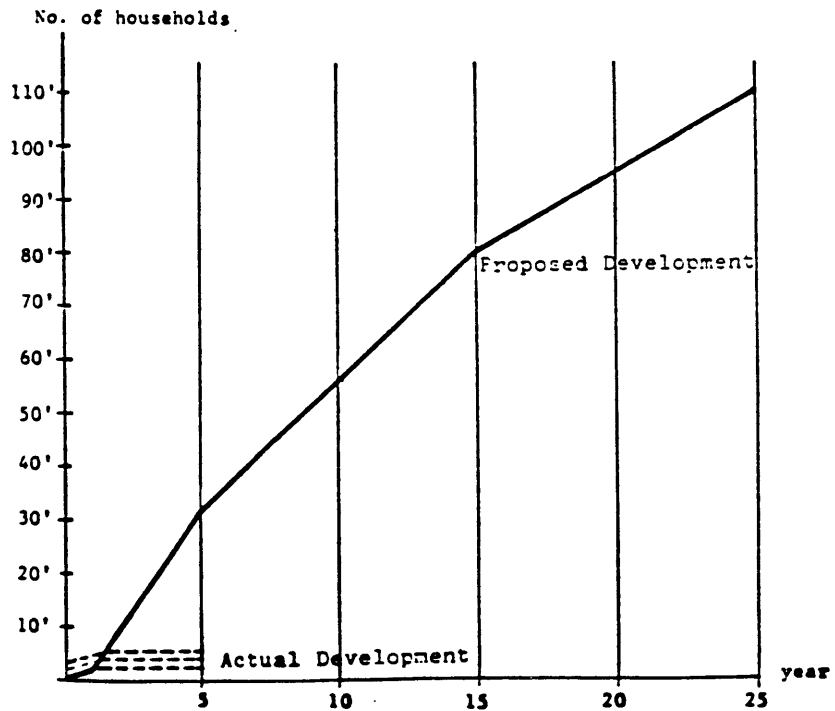
3.5. TARGET GROUP AFFORDABILITY

FIGURE 14

NUMBER OF HOUSEHOLDS MOVING TO TENTH-OF-RAMADAM PER YEAR



ASSUMED HOUSING CONSTRUCTION Program FOR TENTH-OF-RAMDADAM



SOURCE: Luchetti, Mary Jane Daly. "The Role of the Foreign Planning Consultant: A Case Study of Housing in Tenth-of-Ramadam." M.C.P. Thesis, M.I.T., 1983, pp.22.

FIGURE 15

HOUSING 1982 - FOUR NEIGHBORHOODS IN TENTH-OF-RAMADAM



SOURCE: Luchetti, Mary Jane Daly. "The Role of the Foreign Planning Consultant: A Case Study of Housing in Tenth-of-Ramadam." M.C.P. Thesis, M.I.T., 1983, p.67.

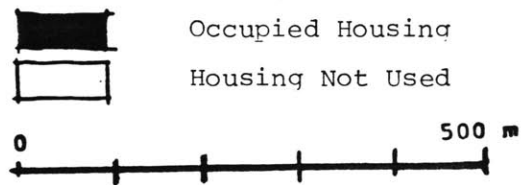
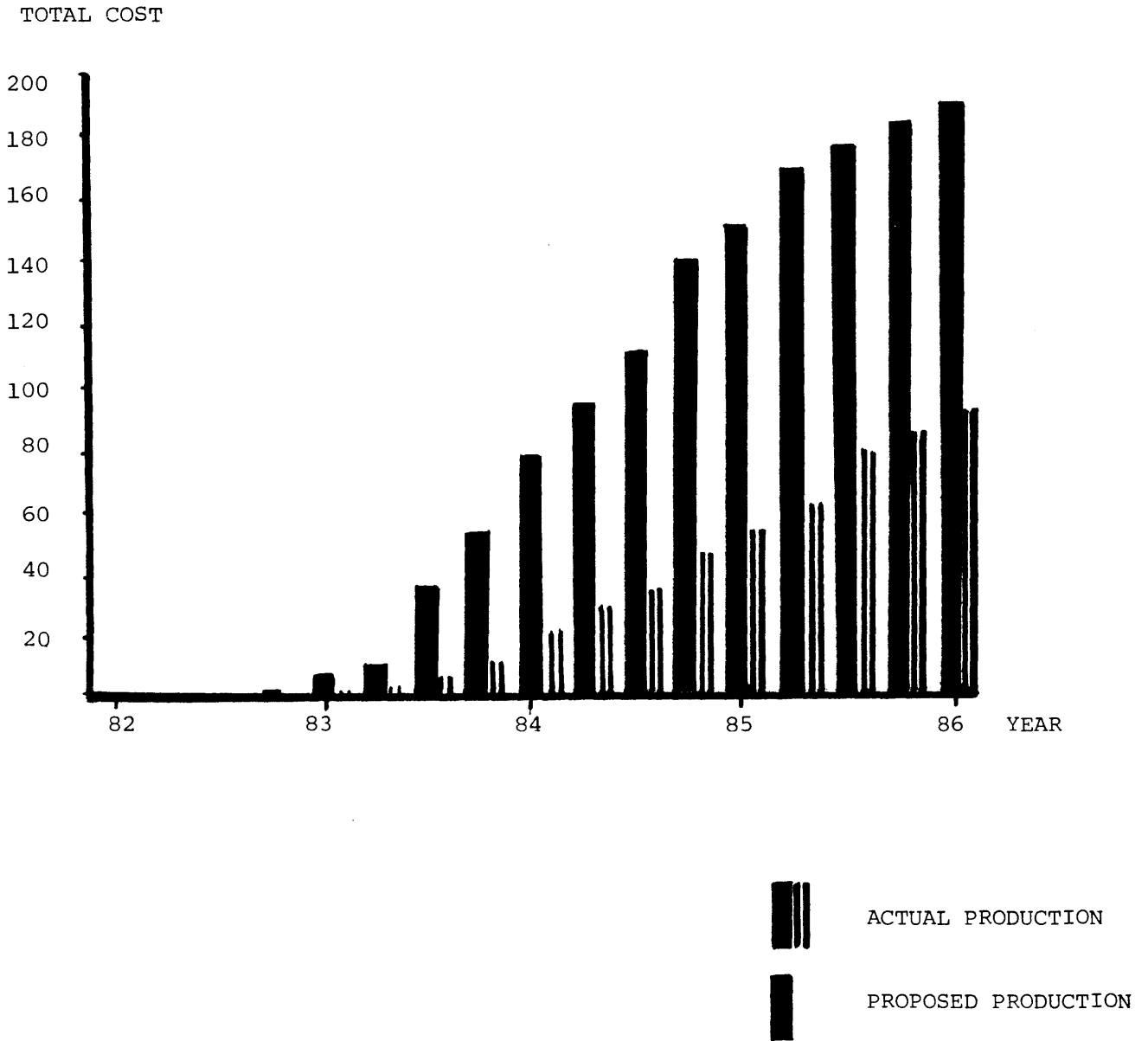


FIGURE 16

ACTUAL PRODUCTION OF HOUSING AS COMPARED TO PROPOSED PRODUCTION

MARCH, 1986



SOURCE PACER, The Construction Program for Sixth-of-October City, First Report-Current Status, Ministry of Development, June, 1986, PP.33.

3.5.1. Affordability of Housing in the New Self-Contained Cities

In viewing the housing programs for the self-contained new cities, about 37% of housing in Tenth-of-Ramadan City's First Phase will be core houses designated for households below the fiftieth income percentile (see Table 21). In Sadat City, the larger plots and unit sizes will be predominantly affordable by middle-income groups between the fiftieth and the eightieth percentiles. Housing for low-income households in Sadat City is to be provided by small apartments ranging in size from 25 to 47 sq.m. When the small apartments are considered, 95% of Sadat City's housing options will be affordable by income groups between the nineteenth and the seventy-ninth percentiles (including subsidies). In Tenth-of-Ramadan, on the other hand, 63% of its housing will only be affordable by income groups above the 76% percentile.

Figure 17 shows graphically for both Tenth-of-Ramadan and Sadat cities, the relationships between a given unit's selling price or cost (in the case of full cost recovery) and the annual household income required for affordability. It is apparent from the graph that the majority of dwelling units are not affordable by households with incomes less than LE 1,000 per annum - approximately the median household income for Cairo. None of the dwelling types are affordable for households with income below LE 1,000 at a full cost recovery.

3.5.2. Affordability of Housing in the New Satellite cities

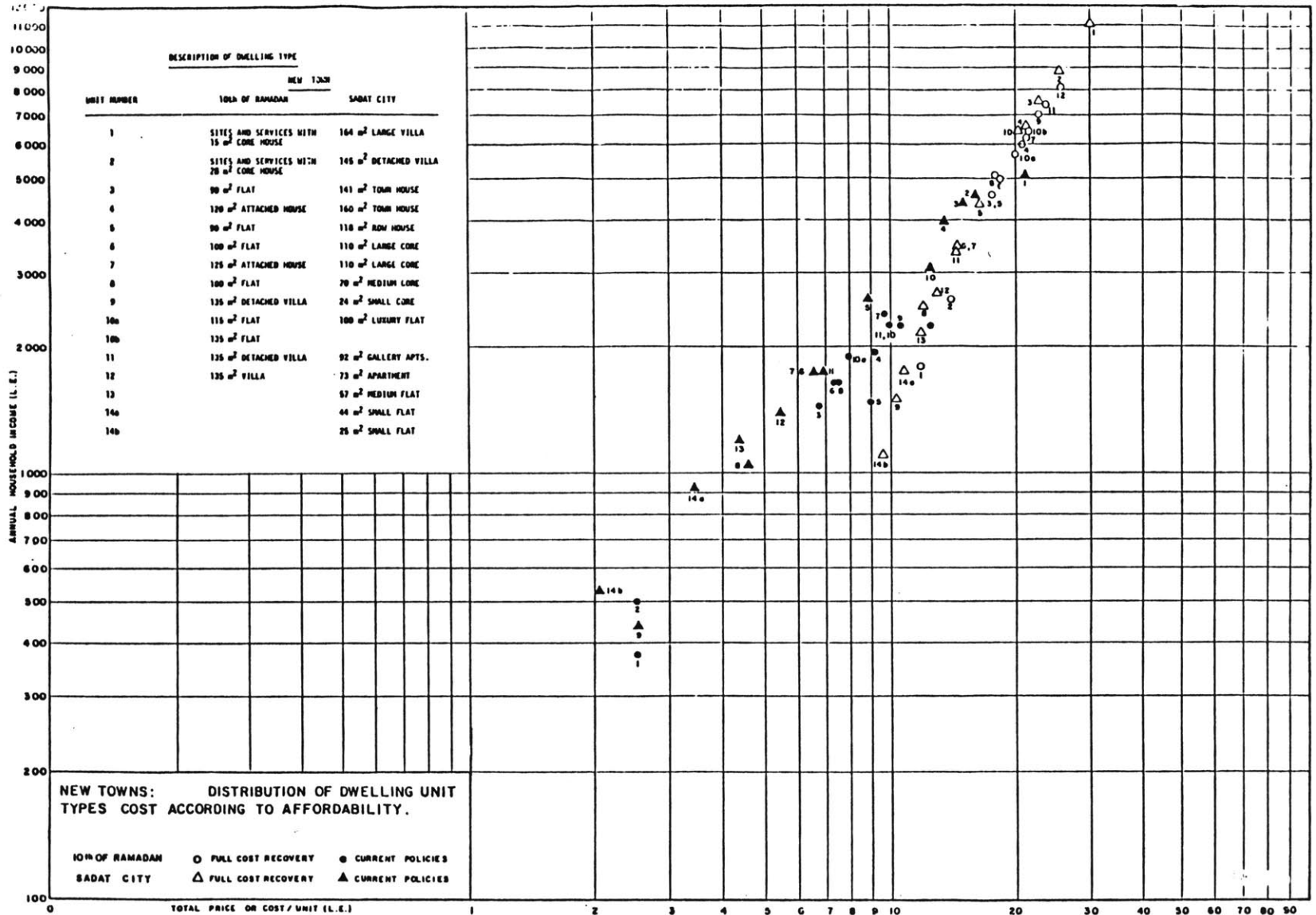
TABLE 21
ESTIMATED URBAN HOUSEHOLD INCOME DISTRIBUTION IN EGYPT

<u>PERCENTILE</u>	<u>INCOME PER ANNUM</u> L.E.
10th	420
20th	620
50th	1000
80th	1600
90th	2200

SOURCE: Sherer, Samuel. "New Towns and Satellite Cities - A Strategy for Decentralization of Urban Development," 1982, pp.114.

FIGURE 17

NEW TOWNS: DISTRIBUTION OF DWELLING UNIT TYPES COST ACCORDING TO AFFORDABILITY

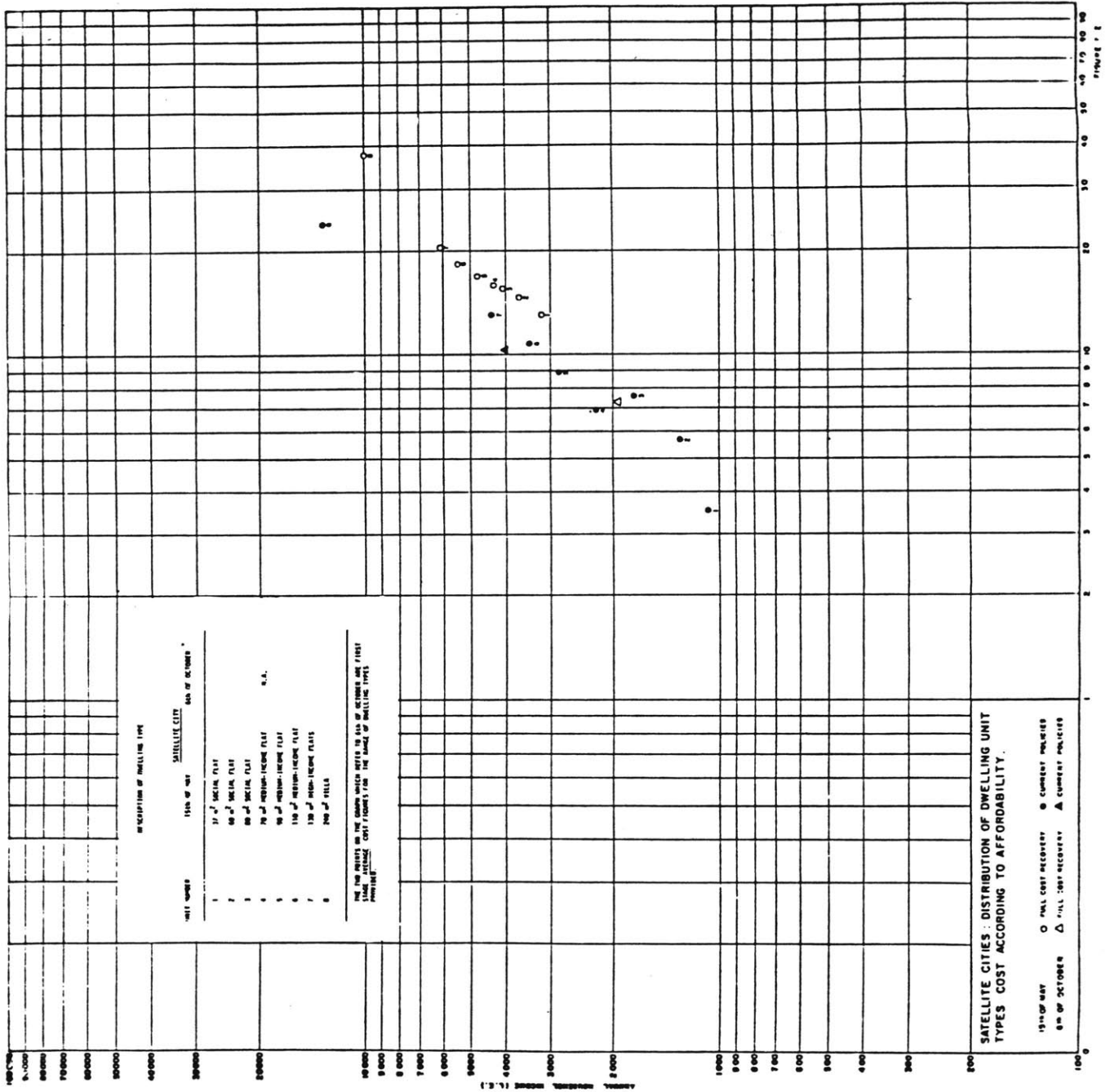


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SOURCE: Sherer, Samuel. "New Towns and Satellite Cities - A Strategy for Decentralization of Urban Development," 1982, pp.113.

FIGURE 18

SATELLITE CITIES: DISTRIBUTION OF DWELLING UNIT TYPES COST ACCORDING TO AFFORDABILITY



SOURCE: Sherer, Samuel. "New Towns and Satellite Cities - A Strategy for Decentralization of Urban Development," 1982, pp.118.

Housing in the satellite cities of Fifteenth-of-May and Sixth-of-October are even less affordable for those Cairo families with incomes below the median. Figure 18 shows that none of the dwelling types at Fifteenth-of-May City are affordable by households below the median income (LE 1,000). The graph shows that the least expensive type of unit costs over LE 13,000 and is affordable only for households with incomes of almost LE 3000. This income level corresponds to the 94.7 percentile of Cairo income distribution. In other words, only 5.3% of Cairo's households could afford the least expensive unit produced in Tenth-of-Ramadan City.

3.6. DEVELOPMENT CONTROL

The public sector is the main developer in the current new cities. It is hindered by the often-criticized bureaucracy, which seems to be unchangeable under local conditions. Such development projects often lack efficient management and responsible continuous implementation. In Egypt we see the typical imbalance between the ambitious aspirations of the national level urban planners and the grass roots reality of local planning, implementation, and control potential.

A long-run planning and action process can effectively accomplish desired goals only if it includes frequent evaluation of how successful it has been to date. Such an evaluation requires comparing actual performances with those rates of performances needed to reach the desired goals within the allocated time. Any particular areas in which actual performance has fallen behind targets should be analyzed.

This leads to revision of the goals, the action planned to attain the goals, the methods of accomplishing the planned actions, or some combination of these. Such a feedback process is essential if plans are to become more than mere rhetoric.

There were only two follow-up studies for the new cities, one for Tenth-of-Ramadan City in 1982, and the other is for Sixth-of-October City in 1986. Both studies strongly recommend further evaluation for current new cities.

3.7. ORGANIZATION AND MANAGEMENT REQUIREMENTS

The simultaneous execution of all the new cities projects has created a drain on the development potential of the country given the number of other development projects that need to be handled. The larger the size of the project, the more organization and managerial skills required for successful execution.

There are indications that the size of the new cities is already putting strain on the existing organizational capacity. The large scale of the new cities projects makes it difficult for them to be effectively controlled by the New Urban Communities Authority. Law No. 59 of 1979 gives the Authority broad-ranging powers for planning and control of development and management. However, given the scales of the new cities and the size of each phase of development, problems are already occurring in the coordination between the new cities' projects and the governorates. For example, the Alexandria Governorate is approving industrial and cooperative housing applications along the main road to New-Ameriyah City. This fact can

detract from the new city's potential for success, as such development which was not included in the initial plans might have a negative effect on the development of the new city.

Related to the above issue is the question of ongoing maintenance of facilities in the new cities and the local Government administration. Law No. 59 of 1979 and Presidential decree No. 351 of 1980 give the New Urban Communities Authority the power to act as the local government for the new city until the city is delivered to the control of the governorate. Fifteenth-of-May City, as a result of the active construction activities, it is being considered to have Stage One area (50,000 population) transferred to the Cairo Governorate as soon it is completed, while construction continues on the other stages of the city.

Experience in other parts of the world has shown that it is probably better for the Authority to maintain control over the new city for the entire period of construction, despite the administration burden thus imposed. Only in that way is it likely that the uniform development controls can be enforced, including the maintenance of buildings by their owners as well as maintenance of community facilities.

Local authorities of the new cities should have complete control over the financial resources of the new cities' communities. Without such control, the development of such communities will face development difficulties.

This chapter has been an evaluation of one particular policy of the current urban policies in Egypt. Because this evaluation of the current Egyptian new towns has been to a large degree a criticism, it

is necessary to make clear that it is not a criticism of the "New Towns" concept in general, as I believe that such a concept could be an effective addition to urban planning. But the building of such communities involve massive efforts and requires enormous outlays of capital with almost no prospect of financial return for a large number of years which Egypt can not afford at the present.

This evaluation is based on the judgment that the current New Towns policy will not achieve the Egyptian Government's goal of decentralization of the population growth and economic activities of the Cairo and Alexandria metropolitan areas by the year 2000.

4. CONCLUSION AND RECOMMENDATIONS

Although it has been argued that large cities of developing countries are more likely to generate net social benefits, the Egyptian Government has assumed that Cairo's growth was undesirable. Due to a population that exceeds ten million people, Cairo is facing many problems in every aspect: housing, transportation, infrastructure and other services. Furthermore, past government policies in these areas have resulted in a primate city that is completely mismanaged.

The long history of centralization in Egypt, coupled with large population growth and poor management of the economy has led to high concentration of population and economic activities in the Nile Valley and the Delta, especially in the two largest cities of Cairo and Alexandria. In turn, this urban concentration and the urbanization of agricultural land are the two factors propelling the Egyptian Government to develop decentralization policies.

Decentralization policies since 1974

The decentralization policy that the Egyptian Government adopted in 1974 involved the construction of eight new towns, of which three are self-contained and five are satellites of Cairo. The government also considered the development of the remote areas outside the Nile Valley and established plans for the development of the Suez Canal Zone, the Red Sea Coast, the High Dam Lake, the Sinai Region, the Northwest Coast of Alexandria and the New Valley of the Western

Desert. The common development constraint for almost all these plans was the capital required to finance the economic and infrastructural development of these regions.

The major constraints affecting the implementation of recent urban policies in Egypt are: the current urban and rural settlement distribution (which is determined by limited water resources), the lack of infrastructure and services outside the Nile Valley and the Delta, the current troubled economy and the insufficient institutional capacity.

The decentralization policy that has been adopted by the government is not achieving its goals in the planned time-frame. The twenty-six years between 1974 and the year 2000 is much too short a span of time to achieve the government's goals of decentralization. Egypt has to tackle its urban problems over a longer period of time.

The main mistake at the implementation stage was that the government was eager to pursue fast development simultaneously in several regions, many of them remote; such development required a large amount of capital. The government incurred huge debts to finance such mammoth projects and to create a strong political image in the country.

The implementation of urban policies in Egypt should be scaled-down and pragmatic, rather than based on an ambitious optimization approach aiming to achieve an urban equilibrium at one stroke. The government designed urban policies for a vast spatial territory, mistakenly believing that it could attain promising short-range results of decentralization. The government should re-assess the process of spatial transition and moderate the rate and impact of

extreme spatial shifts (from extreme centralization to extreme decentralization).

There has been no explicit national urban policy with an overall framework, but rather individual strategies for different regions that have not existed in a national framework. Scattered urban development projects aiming at decentralization without an overall national plan are hard to coordinate efficiently. They must be part of a national strategy and based on the comparative advantages of the region, as well as on a realistic appraisal of national resource constraints. Even though the decision to build and the process of construction and implementation of the current urban policies were started in 1974, it was only in 1980, after substantial capital and effort was devoted to the development of these policies, that the government instituted a National Urban Policy Study. A national urban policy study should have been planned first in order to provide an integrated planning framework for the entire nation.

Since 1974, government's urban policies have concentrated exclusively on the problems of urban decentralization and have ignored the fact that national economic policies (in such areas as trade, industry, and infrastructure) provide strong implicit incentives to locate in the dominant urban region. If cities other than the capital are not efficiently and effectively managed, their chances of attracting industry and migrants away from the capital region are very limited.

Cairo is still the center of culture and innovation, politics, administration, and economic power -- it has service advantages over 11 other urban areas -- and therefore is still attracting population.

It is important for the government to realize that city size is a result of the role the city plays in the country's economy. Any attempts to reduce Cairo's size will fail unless coupled with other policies of channeling some of its economic and administrative activities to other urban areas.

Financing the urban policies was projected from a sudden increase in foreign exchange from resources such as increased oil prices, workers' remittances, Suez Canal dues, foreign investments and tourism. These financial plans did not consider the consequences of the disruptions in such sources. Financial shortages during implementation, particularly in the case of the new towns, have resulted in delays, confusion, and higher costs.

The high development standards adopted in the government's current development strategies will result in a drainage of the monies available for investment in Egypt in the future. High standards could have been maintained successfully if the number of cities built was limited to only one or two rather than eight.

The abrupt, large-scale implementation of the New Towns policy without piloting it created major problems. Construction of these eight new towns all at once was like producing goods without prior marketing analysis or experimentation. The location of some of the new towns, costs and standards, housing policies, and development control are hindering the achievement of projected population targets for these towns. Project evaluation of the current programs of the new towns was not provided ahead of time. Evaluations were performed too late, if at all, thus controlling the cities's activities and integrating them with national targets did not occur.

The financial analysis or scheme for the new towns was neither clear nor accurate. Financial returns from these towns were not identified and costs were very high due to the large quantity and high quality standards of the cities. The urban policies were based mostly on demographic aspects (target population), while they should have been based for the most part on economic aspects, in terms of costs and benefits, as well as on future returns and the trade-offs involved.

In summary, the short time-frame, the lack of a national urban policy, the high development standards and the flawed financial analysis all created problems in implementing the decentralization policy.

Suggestions for future decentralization policies

While Egypt is facing urban concentration, it is also facing the challenges of promoting national economic growth and full utilization of its resources, yet at the same time it must promote regional equity and avoid or reduce excessive development disparities. These two objectives are in conflict with each other, particularly within a long-range development perspective. They require coordinated economic and spatial development policies and plans, at both regional and national levels, for an efficient distribution of population and economic activities.

The success of future decentralization in Egypt will depend on economic policies adopted by the government. It is crucial for the Egyptian Government to realize that an effective framework for urban policies requires integration of economic and social development

objectives, sectoral and spatial impacts, and short-range and long-range goals. Such integration requires a high degree of clarity, articulation and commitment on the part of policymakers of different levels and sectors of government.

In Egypt, political objectives promulgated by urban strategies are frequently in conflict with the forces created by national economic policies. Thus, while efficiency-oriented economic plans tend to be spatially biased, urban policies tend to underestimate the power of economic linkages and social forces, or to ignore their economic and institutional limitations. Integrating economic and urban policies, therefore, requires better government understanding of the consequences and limitations of the trade-offs involved. Economic decentralization will succeed in Egypt only if inter-personal and inter-regional inequalities are low, local government is strong, and locational and resource endowments are high.

To Plan means to think of problems before they occur; it should be seen as both innovation and preventive maintenance. Most of the urban policies in Egypt however, have been a combination of neglect and patch-up remedies.

The government's understanding of primacy and urban population concentration and the timing and conditions under which they occur has significant implications for the government's ability to predict future urban challenges and to design appropriate, flexible, long-range policies to face them.

National strategies of urban development will be seriously handicapped until the resources and capabilities of local governments are strengthened. The local government structure in Egypt needs to be

strengthened if it is to carry out its role in planning, execution and enforcement of sectoral development projects. The government must also improve training programs for public servants. Similarly, it must increase financial resources at each level of local government to facilitate urban policy implementation. Local governments lack adequate power and resources to effect major changes within their own boundaries.

The government should give full authority to each governorate to strengthen its local power and to control the wealth of its territory. Through such autonomy, future development can be motivated on the local level. The strategy for lightly-populated areas should be based on high pay-off investment opportunities on a project-by-project basis, rather than on a full regional development program to reach sizeable pre-determined target population objectives.

The government can also consider the change of boundaries of Upper Egypt's governorates. These governorates whose expansion is limited to the Nile Valley, could be enlarged by adding extra urban land from the surrounding desert. Such a change of boundaries, through enlarging the land under control of different governorates, would result in more resource allocation within each governorate.

The agricultural sector has been badly mismanaged for many years. Nationalization, pricing control policies, and non-enforcement of violations of the conversion of arable land to urban uses have caused a severe land fragmentation and a stagnation of agricultural activity, and hence have promoted migration to larger cities. The government should pursue vertical and horizontal production and there should be more enforcement of laws protecting arable land.

A key component of urban policies in Egypt should be the promotion of some of its secondary cities. Secondary urban centers can be strengthened through appropriate transportation policies, industrial estate policies, and, most important perhaps, the systematic development of organizational and information networks between these cities and the capital region. For example, banking networks, industrial and professional associations, and administrative structures should be promoted. Policymakers should not be mesmerized by the prestige and technological advances embodied in very large-scale projects, and as a result neglect the opportunities for less glamorous but cost-effective small projects. The indicators of economic development potential should include some of the following variables:

- Population size of the city and its hinterland, intended as a crude measure of agglomeration economies
- Measures of economic structure
- Industrial development potential
- Strength and diversity of the service sector
- Attraction for and, accessibility to migrants
- Depth of the regional resource base
- Quality and level of public services
- Fiscal strength of local government
- Supply of indigenous entrepreneurship

These secondary urban centers should not be built on agricultural land. There are some locations in the Delta where land is not adequate for agricultural uses -- for example, some areas of Kafr El-

Sheikh Governorate. Also, twin cities can be built on the Eastern Bank of the Nile across from Beni Suef, Minia, Assiut, and Sohag. Located close to the agricultural hinterland, agro-industrial projects can be constructed in these areas. Government intervention in development should be limited to establishing the infrastructure and initiating industrial projects in these areas. The government's efforts should not include the task of producing housing supply. This task should be left to the formal and the informal private sectors; government can facilitate the task through technical training and financial assistance.

The government should form a group to evaluate the current urban policies and recommend how it would be possible to reshape them in the future. The government should also develop adequate principles for selection criteria for future development.

All the above conclusions are applicable to Egyptian urban policies in general. The following are additional conclusions related directly to the new towns and can be summarized as follows:

Since capital and effort have already been invested, it is not economically wise to withdraw now from implementing these towns. New urban settlements must be viewed as innovative laboratories for testing and development of technological, social, economic, and institutional and other reforms which might be applicable to the expansion and rebuilding of existing cities. The new towns should be a tool for introducing policies that are different from those which exist in current urban areas. Such policies should aim at the modification of current laws in order to attract investors and migrants, and hence promote development.

Recommendations which might be helpful in improving the situation of the new towns can be briefly summarized in the following points:

- Detailed financial analysis for future returns will have to take place for each city.
- Agriculture and agro-based industries have to be promoted.
- Programs for training farmers for mechanized irrigation systems have to be initiated.
- Communications and services should be improved.
- Local control by residents must be provided.
- Statistical analysis for various aspects of the city's development should be provided.
- Integration of the informal and the formal private sectors should be investigated.

The role of the state is dominant in Egypt. The government has an inevitable influence through its policies, its choice of the location of infrastructure investment, and the public enterprises that it controls. It must clarify its objectives and strategies. A well thought-out strategy is a requirement for more rapid and satisfactory progress.

Choices of national urban development strategies will be determined in the political arena. Since national urban development strategies take a long time to implement, the commitment to geographical redistribution policies has to be maintained from one government to the next. Obtaining consensus among the key political groups is critical in order to prevent the strategy from being undermined by rapid shifts in objectives and policies.

It is critical to realize that the realities of system linkages and resource constraints in developing countries will always force upon us the central issues of planning: the pressure of trade-offs, the need to systematize priorities in a dynamic and responsible way, and the balance between satisfying immediate needs and maximizing long-range achievements.

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