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9. ABSTRACT

This rather thorough study of Egypt's health and socio-economic development examines the following topics: 1) history, culture, and geopolitics; 2) population characteristics and human resources; 3) health issues, policies, and problems; 4) Egypt's health system and health plans; 5) environmental services; 6) health manpower resources; 7) nutrition; 8) population programs; and 9) foreign assistance. There are a concluding summary and suggestions for improved health care. Among them research, planning, and evaluative strategies are seen as required urgently. For the improved training of health personnel, Egyptian physicians lack specialized training but it is felt that emphasis still should be on generalists. In addition, not nearly enough health technicians are being trained. Adequate supplies of potable water and adequate sanitation also are needed. Measures for preventing and eradicating disease are essential, as are family planning and nutrition programs. Finally, it was found that the Egyptian Ministry of Health is deficient in data collection and analysis, health planning and efficient health care delivery.

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SYNCRISIS:

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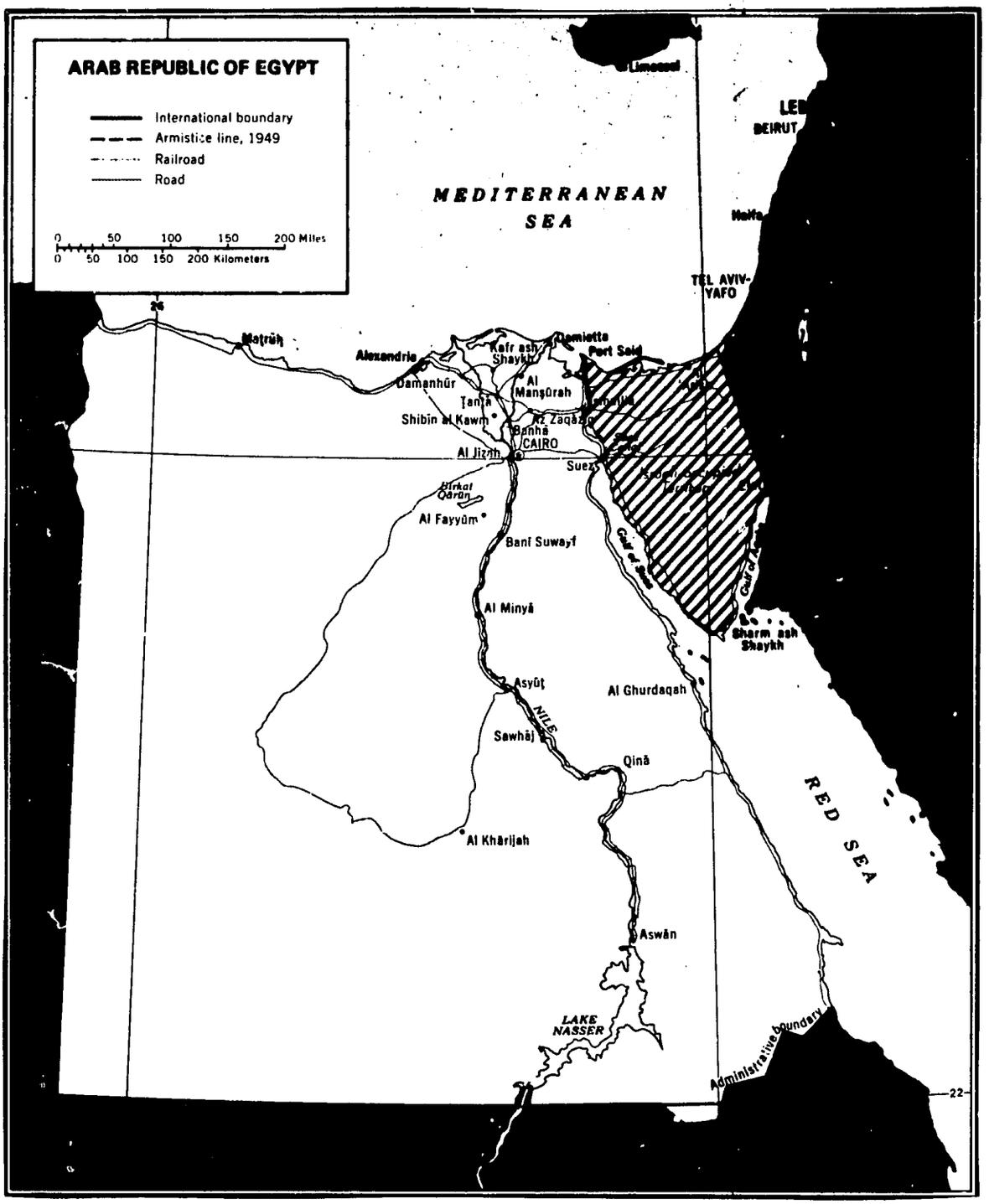
An Analytic Series on the Interactions of Health and Socioeconomic Development

XVI: ARAB REPUBLIC OF EGYPT

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
OFFICE OF INTERNATIONAL HEALTH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Limassol
BEIRUT
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SYNCRISIS

THE DYNAMICS OF HEALTH

An Analytic Series on the Interactions
of Health and Socioeconomic Development

XVI: THE ARAB REPUBLIC OF EGYPT

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PREFACE

This study was prepared within the Division of Program Analysis of the Office of International Health, Department of Health, Education, and Welfare, at the request and with the support of the United States Agency for International Development. It represents one of a series of profiles which describe and analyze health conditions of a country and their impact on socioeconomic development. The primary purpose of these studies is to provide a concise, organized, and up-to-date introduction to the health situation in a country for use by AID, as well as by the international health community as a whole. While these studies do not include recommendations for action, they provide a useful background for further analysis and program development.

Specifically, Syncrisis studies are intended to acquaint the generalist in development administration with (1) interventions in the health system of the country which will contribute to socioeconomic development, and (2) the effects of other developmental activities on health. To the specialist in comprehensive health planning, they will provide both a preliminary document for his work, and an indication of the sources of information available for health planning in that country. For the specialist in a specific aspect of health care, Syncrisis studies are intended to provide insight into the relationship of the subsystem with which he is concerned to the comprehensive health system and the larger society. For each of these professionals, Syncrisis studies are intended not as a final definitive document, but rather as a point of departure from which their own professional skills can be applied to develop activities that will benefit the country.

In addition to the principal target audience, which will probably include a few dozen persons for a specific country, it has been demonstrated that Syncrisis studies are useful to others. For this reason the studies are published and made available for sale to the public. Some consideration is given in the preparation of the documents to their possible use in health science education in the subject country, in international health education, and by scholars concerned with more general aspects of the country or with closely related sectors.

Syncrisis studies form an unusual resource for the student of comparative health systems. They present, in a uniform format, parallel descriptions of health systems in countries with widely varying cultural, social, economic, and government systems. It is hoped that in the future this aspect of the Syncrisis series can be of increasing value.

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I. THE ARAB REPUBLIC OF EGYPT: HISTORICAL, CULTURAL AND GEOPOLITICAL ASPECTS[1]

A. Physical and Cultural

1. Geography

The Arab Republic of Egypt (ARE) is situated in the north-eastern corner of the continent of Africa. The total area of the ARE is 386,200 square miles (1,002,000 sq. kms.). The ARE lies between Lat. 22° and 32° N and extends approximately 674 miles north to south and 770 miles east to west affording the country roughly a square shape, with the Mediterranean and Red Seas forming respectively the northern and eastern boundaries. Until 1967 Egypt also controlled the Sinai Peninsula across the Gulf of Suez providing an additional 25,000 square miles. Since 1967, however, the Sinai has been occupied by Israel and its status is uncertain pending negotiations.

Essentially, the habitable area of the ARE consists of a narrow, trough-like valley, between 2 and 12 miles wide, cut by the Nile River into the plateau of northeast Africa. The Nile Valley separates the two, major topographical divisions of the ARE, the Eastern and Western Deserts. The Eastern Desert rises sharply from the Nile Valley and is a treeless plateau with rocky hills rising 6,000 or 7,000 feet. The Western Desert, by contrast, covers 240,000 square miles and consists of shifting dunes, mountainous outcroppings in the southwest and several depressions in the central and northern part, the deepest of which is 450 feet below sea level. Some of these depressions contain oases with sufficient fresh water, together with some water delivered from the Nile, to support approximately one million Egyptians outside of the Nile Valley.

The Nile, almost 4,200 miles in length, is the longest river in the world but only 1,000 miles lie within the ARE. The Nile has two principal upper branches, the Blue Nile, rising in the Lake Tana region of northwestern Ethiopia and the White Nile, to the west and originating in Rawanda and Burundi near the equator in Central Africa. The Blue Nile delivers 58 percent of the Egyptian Nile's waters while the White Nile furnishes 28 percent. The remainder derives from a few tributory streams, the principal one of which is the Atbara in eastern Sudan. The confluence of the Blue and White Nile is at Khartoum, the capital of the Sudan. It is the Blue Nile fed by seasonal rains of the Ethiopian highlands, which caused the River to overflow its banks and to deposit fertile mud over the adjacent fields. It was this flooding, with its lifegiving silt deposits, which has proved to be such a determinant in the historical and cultural development of Egypt.

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[1] The following reference works, studies, and pamphlets were consulted in drafting Chapter I: Henry H. Avrout, Egyptian Peasant, N.Y.: Beacon Press, 1963; Henry J. Breasted, Development of Religion and Thought in Ancient Egypt, N.Y.: Harper, 1959; W.W. Cleland, The Population Problem in Egypt, Lancaster, Pa.: Science Press, 1936; Charles Issain, Egypt at Mid-Century: an Economic Survey, N.Y.: Oxford U. Press, 1954; Henry W. Jarvis, Pharaoh to Farouk, N.Y.: Macmillan, 1955; G. Lenczowski, The Middle East in World Affairs, Ithaca: Cornell U. Press, 1956; Thomas R. Little, Modern Egypt, N.Y.: Praeger, 1967; Kenneth Love, Suez, the Twice-Fought War, A History, N.Y.: McGraw, 1969; Peter Mansfield, British in Egypt, N.Y.: Holt, 1971; John Marlow, A History of Modern Egypt and Anglo-Egyptian Relations, 1800-1953, N.Y.: Praeger, 1954; Gamal Abdel Nasser, The Philosophy of Revolution, Wash., D.C.: Public Affairs Press, 1955; Uri Ra'ann, USSR Arms the Third World: Case Studies in Soviet Foreign Policy, Cambridge: M.I.T., 1969; P.J. Vatikiotis, Modern History of Egypt, N.Y.: Praeger, 1969; Keith Wheelock, Nasser's New Egypt, A Critical Analysis, N.Y.: Praeger,

In the period of the pharaohs, Egypt was divided into three sections in accordance with the geography of the Nile: Upper, Middle, and Lower. Upper Egypt consisted of the territory south of the cataracts around Aswan. Lower Egypt constituted that territory north of Cairo including the Delta. Middle Egypt comprised that large expanse of territory between Cairo and Aswan. Egyptians discarded the term "Middle" Egypt in the distant past, however, and for many generations have referred only to Upper and Lower Egypt, the division occurring at Cairo.

2. Climate and Vegetation

Climactically, the Egyptian year falls into two parts: a cool winter from November to April and a hot summer from May to October. Spring and autumn, as experienced in the temperate countries, are unknown.

The particular feature of the Egyptian climate, in addition to its dual seasons is its general aridity. Alexandria receives the most rain which amounts to only about 8 inches annually, while that part of Egypt between Cairo and the southern border receives virtually no rainfall except in those infrequent years when an unusual downpour will occur causing flash floods and considerable damage.

The temperature is very high during the summer, reaching between 100 and 120° F in the southern and western deserts. After sunset temperatures decline precipitously in the deserts. During the winter, for example, the temperature may drop to 32° F during the night. The Mediterranean coast has cooler conditions with approximately 90° F as a maximum temperature in Alexandria. Due to the large mass of desert, hot dry sandwinds (khamsin) occur frequently in the spring, raising the temperature by 35° in two hours while these winds reach 90 m.p.h. causing considerable crop damage.

Low rainfall and high temperatures throughout Egypt have forced the Egyptians to depend upon a substantial irrigation system deriving from the Nile to nurture their agricultural production. The irrigation efforts were conducted in conjunction with flood control programs and both have been permanent features of Egyptian history and current geopolitics. Hieroglyphic records suggest that the pharaohs about 2000 B.C. were already at work on flood control and irrigation projects. Over a century ago first French and then British engineers initiated a modern flood control and irrigation system which has constantly been expanded. Various barrages were constructed first in the Delta in conjunction with irrigation canals and then at Asyut, Isna and nag Hammadi during the early part of the 20th Century. Gradually the whole barrage-irrigation canal system was linked together to effect an organized irrigation-flood control system. Finally, the contemporary Egyptian Government sought to create the Aswan High Dam complex which was designed and launched in 1959 to provide Egypt not only an ultimate flood control and irrigation system but a vast hydroelectric power source for new Egyptian industrialization.

As one might suspect, vegetation is confined largely to the Nile Valley and the oases. Egypt has no forests due to its aridity and intense cultivation of fertile land. There are, however, some indigenous date palms which grow in clumps around oases or

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1960; Director, Foreign Area Studies, American U. (Ed.), Area Handbook for the United Arab Republic (Egypt), Wash., D.C.: USG Printing Office, 1970; The Middle East and North Africa 1973-74, Londcn: Europa Publications Ltd., 1974; Background Notes: Arab Republic of Egypt, Wash., D.C.: Dept. of State, 1972; Health Data Publications, No. 37, Egypt (UAR), Wash., D.C.: Walter Reed Army Institute of Research, 1968; Prof. M.M. Mahfouz, Minister of Health, Highlights of the Health Policy in the Arab Republic of Egypt, Cairo, 1973.

along the Nile or in cultivated groves. The remainder of the vegetation is sparse, being limited to alfa grass (esparto) and thorn trees of the wadies together with some flowers (lotus) and shrubs.

3. Religion

Egypt's 1964 constitution declared that Islam is the state religion but the constitution also guaranteed religious freedom, providing public order and morals were not violated. The ARE is now the largest Islamic nation in the Middle East. Ninety percent of the Egyptian people are Moslems (orthodox Sunni sect). Religious minorities include indigenous Copts (2.3 million), the descendants of the Seventh Century Egyptians who remained faithful to Christianity when the Arabs conquered Egypt in 641 A.D. There are also several other Christian groups including Maronite, Roman and Syrian Catholic, Greek, Syrian and Armenian Orthodox and Protestant Christians. There are also a few Jews.

4. Languages

Arabic is the official language of the ARE and is spoken by 98 percent of the population. Arabic is a Semitic language, related to Hebrew, Phoenician, Syriac, Aramaic and distantly to Berber and ancient Egyptian. There are three forms of Arabic currently in use in the ARE: a) classical, written primarily by religious scholars but seldom spoken; b) modern, the official language used for broadcasting public speeches and documents, and c) colloquial Arabic, with its many different, often mutually unintelligible dialects, used primarily in conversation.

Several indigenous languages are still used in Egypt. Berber is spoken in Scliva in the Western Desert; Beja is spoken by nomads along the Sudanese border while various Nubian dialects are spoken in Upper Egypt. Coptic, a direct descendant of ancient Egyptian, is still preserved in the Coptic liturgy.

Most educated Egyptians also speak either French or English, often with a preference for the former, which reflects the traditional French interest in Egypt. Governmental decrees are sometimes published in French, as well as Arabic, and newspapers in French have an important circulation in Cairo and Alexandria. Most commercial firms use French or English for various communications. More recently, German and Russian have also become better known.

B. From the Pharaohs to Modern Egypt

1. Geopolitical Determinants in Egyptian History

Several geopolitical elements, which have been termed "persistent" factors in the Egyptian experience, have played determinant roles in the unfolding of Egyptian history. The most important of these, of course, has been the reality of the Nile, an element which has always been the principal determinant in Egyptian national life.

Part of that reality has been the geographic location of the Nile. Since the Nile was relatively isolated by mountains, deserts and seas from the south, west, north, and east respectively, the opportunity to create a homogenous society free from late Neolithic invaders and early competitive societies of Mesopotamia was afforded the Nile Valley inhabitants. The Sinai "bridge" and the seas also would offer other, later "organized" societies of the ancient world opportunities for a Nile conquest but significantly such invasions only occurred after several millenia of the Egyptian national and imperial state.

A second reality and/or determinant has been the intimate association of the Nile Valley inhabitants with the natural phenomenon of the Nile itself. These people were

forced to accept their dependence on the annual Nile flood and life-giving silt carried by it to the adjacent fields. The attempted control, and exploitation of the Nile's water and silt necessitated cooperation and obedience to routine and authority. This economic dependence of the Nile Valley inhabitants, therefore, created an integrated relationship with nature affecting every aspect of their economy, social organization, religion and attitudes. From this fundamental relationship of man to nature still other more specific "realities" or determinants emerged.

One of these was the importance of religion to the Nile Valley dwellers. Early archeological evidence reflects their concern with the effect the gods might have had upon natural developments and later animal gods to whom they prayed and sacrificed for benevolent floods are ubiquitous. Significantly, it was also a religion with an obsessive preoccupation with life after death. It was not unusual, accordingly, that a society steeped in awe of the mighty river, prehistoric superstition and life after death, should create the god-pharaoh.

The god-pharaoh led to still another determinant, the merging of religion and politics. The god-pharaoh received not only divinity but became the symbol of absolute political authority over the state. He embodied the central authority of a people whose cooperation and obedience were required out of economic necessity. The result was a theocracy the real power in which was exercised by a small, aristocratic, authoritarian elite. Egypt, then, became an authoritarian state, and a planned society with a kind of state capitalism and a well-organized bureaucracy.

At the base of this theocratic pyramid, supporting it, was the fundamental "reality" or determinant, the fellahin. The fellahin is the Egyptian farmer who possessed no voice in his own governance but who constituted almost the entire population, worked the Nile fields and produced the country's wealth.

Finally, there are still two other determinants which influenced the course of Egyptian historical development, especially after the latter part of what is generally termed ancient history. The first, again, is the physical location of Egypt focussing, however, not on its isolation, an element which was no longer applicable since before the rise of Hellenistic Greece, but rather on its role as an intersection of land and sea routes from Africa, Europe and Asia. Indeed, the rise of other, more powerful Near Eastern States of the Fertile Crescent and the decline of the Pharaoh's Egypt, together with the advent of new technology of war and communication, invited invaders of the Nile Valley especially across the Sinai bridge.

And this new geographic determinant contributed to still another reality of the Nile, that of the foreign conqueror. Thus, from 525 B.C. until 1952 Egypt has been ruled, otherwise governed by or under the imperial influence of a foreign power. Analysts regard this determinant as both a cause and catalyst for contemporary Egyptian nationalism.

Again, then, the determinants of Egypt are significant in comprehending the course and present state of Egyptian society. They include: the geography, location, climate and physical phenomena of the Nile River Valley which initially was isolated from transgressors but later became a crossroads inviting invaders; the intimate association of the Nile Valley inhabitants with the natural functions of the Nile; the religion and early theocratic state; the stable and consistent role of the fellahin in Egyptian history; and the influence of the foreign conqueror after the late ancient period.

2. Dynasties and Foreign Conquerors

Archeologists believe that between 11,000 and 9,000 B.C. climactic changes drove late Neolithic man to settle the Nile Valley from whence the basic Egyptian ethnic type developed. The fellahin of today, despite millenia of foreign domination, is

anthropologically recognizable as the descendant of the Nile Valley dwellers of the period 9000 to 4000 B.C.

By 3100 B.C. the several separate tribes living in the Nile Valley had coalesced first into Upper and Lower Egypt and then into a united kingdom under Menes, a semi-legendary pharaoh-King. For the next 2500 years Egypt was ruled by a number of dynasties constituting the Old Kingdom (3100 to 2040 B.C.), the Middle Kingdom (2040 to 1567 B.C.) and the New Kingdom (1567 to 525 B.C.). It was during the Old Kingdom that the centralization of autocratic power in the pharaoh, the god-King, took place and the great pyramids were built. In the Middle Kingdom, Egypt enjoyed her "golden age of art and craftmanship." During the New Kingdom, Egypt turned imperial and expanded eastward, conquering Palestine, Syria, and the northern Euphrates Valley. But the pharaohs' imperialism gradually weakened and then exhausted Egyptian power. Cambyses, son of Cyrus the Great of Persia, thereupon conquered Egypt in 525 B.C., thus beginning an almost uninterrupted foreign domination of Egypt until the revolution of 1952.

Between 332 B.C. and 640 A.D. Egypt was ruled by Greek and Roman conquerers. The Hellenization of Egypt, undertaken by Alexander the Great and his successors, remained a superficiality, however, with the Greek administrators ruling Egypt as a small isolated minority during which time the Egyptian priest retained much of his power and the fellahin his identity. Roman rule was more profound, efficient and utilitarian. Roman culture, the Latin language and Christianity spread throughout Egypt. As the Roman Empire weakened, especially the central administration, Egyptian landlords became tax farmers, exploiting and dominating the fellahin and introducing Egypt to feudalism.

In 640 A.D. the Islamic armies exploded out of the Arabian peninsula, taking Syria and Egypt from Byzantium and then conquering westward to north Africa and Spain. The Arab Caliphates endured in Egypt until 1250 A.D. Islam produced a lasting effect on Egypt bequeathing to the Egyptians the new Islamic religion, Islamic law and the Arab language and transforming Egyptian culture with new institutional changes in marriage and property ownership. In 1250 the Mamluks, originally Arab mercenaries of Turkish and Mongol origin, relieved the Arab Caliphates of their power. As so often in Egyptian history, however, the Mamluks remained a separate military caste exercising little influence on the fellahin. In 1517 the Ottoman Turks crushed the Mamluk warriors and incorporated Egypt into the Ottoman Empire where it remained until World War I. Significantly, again, even though a Turkish viceroy ruled Egypt, in reality, the Mamluk's retained their feudal control and Turkish influence was minimal.

3. Modern Egypt: Colonialism and World Wars

Egypt entered modern world diplomacy in 1798 with Napoleon's occupation of Egypt. After three years the French occupation of Egypt was broken but, like the French Revolution's effect in Europe, it also significantly affected Egypt. The power of the Mamluk ruling caste was broken, Egyptian nationalism spread and Egyptian Muslim leaders began to participate in political life even though Egypt remained nominally under the Turkish sovereignty. French occupation was followed by indifferent Egyptian fortunes until World War I. Three successive, incompetent, corrupt Pashas (Turkish viceroy of Egyptian nationality) after 1850 not only ruined Egyptian finances but lost control of the new Suez Canal (opened in 1869) to Britain.

These Egyptian financial difficulties also permitted Britain to establish a protectorate over Egypt which nevertheless, tended to be enlightened with government, political and fiscal reforms.

The first World War finally broke nominal Turkish rule (the Ottoman Caliphate since 1517) but it was not until 1918 that a truly nationalist party, the Wafd-al-Misir, emerged to challenge the British protectorate. After years of negotiations, Britain declared Egypt independent in February 1922 but still exercised internal influence, retained control of

Egyptian foreign policy and remained responsible for the defense of the Suez Canal. Further negotiations by King Farouk led to an Anglo-Egyptian treaty in 1936 which theoretically terminated British influence in internal Egyptian affairs but allowed Britain to retain troops at the Suez Canal.

Egypt supported the United Nations in World War II and joined the UN in 1945. The war years witnessed Egyptian political sophistication, economic growth and ardent anti-British attitudes. This anti-imperial movement was temporarily set aside in 1948, however, when the British mandate over Palestine was surrendered and an Israeli proclamation of independence occurred simultaneously. Egypt, along with other Arab states, immediately took up arms against the Israelis.

C. Contemporary Egypt: Revolution and the Regimes of Presidents Nasser and Sadat

1. Revolution and Aftermath

The Egyptian Army, along with the other Arab armies, was defeated in this conflict with the newborn Israeli nation. The Egyptian defeat in the Israeli war of 1948-49 had dire consequences for the domestic situation in Egypt and, subsequently, upon Egypt's foreign relations. The defeat was instrumental in initiating a series of internal crises which resulted in the revolution of 1952 during which King Farouk abdicated. The coup d'etat deposing King Farouk, staged by Colonel Nasser and the "Free Officers," effectively terminated British influence upon Egypt and introduced an entirely new phase in Egyptian history.

2. The UAR Under President Nasser

By 1954 Nasser had assumed de facto executive authority over the Egyptian state and soon launched an aggressive foreign policy and radical domestic reforms. The objectives of the "Free Officers" who, under Nasser, controlled the Revolutionary Command Council and the government, included land reform, industrialization and modernization of Egyptian society along socialist doctrine while, in foreign affairs, they sought to promote pan-Arabism and to defeat Israel.

During the remainder of Nasser's leadership of the Egyptian Government (until his death in 1970) some economic progress and social reforms, especially in the early sixties, were achieved. But Nasser's leadership brought Egypt increasing difficulties in foreign affairs and a steady drift into the influence of the Soviet Union. In 1956 a Suez crisis was precipitated by Nasser's nationalizing the Suez Canal. Britain, France, and Israel attacked and defeated Egypt but U.S. and Soviet intervention restored the Suez Canal to Nasser's control. Thereafter, Nasser increasingly turned to the Soviet Union for financial, technical and military aid. Similarly, Nasser became increasingly hostile toward the West and prepared for another conflict with Israel.

That conflict erupted in June 1967 when Israel struck Egypt, Jordan and Syria. In a blitzkrieg of six days Israel decimated the forces of the three Arab States, occupied the Sinai Peninsula, the Gaza Strip, the Golan Heights and the West Bank of Jordan. This marked the nadir of Nasser's fortunes. Although his prestige suffered badly by this defeat, he retained the support and even adulation of the Arabs. He was in the midst of overhauling the Egyptian armed forces and expanding the economy in preparation for a new conflict with Israel when he died in September 1970.

3. President Sadat and the ARE

His successor, Anwar Sadat, was an original member of the "Free Officers." Initially, Sadat pledged to continue both the domestic and foreign policies of Nasser and indeed, has enjoyed more success in pursuit of these objectives than his predecessor. In

domestic affairs, Sadat has tempered socialist objectives with capitalist incentives and has encouraged foreign investment in the ARE. In foreign policy, although retaining Egypt's military ties with the Soviet bloc, Sadat has expanded economic associations with the West. Sadat's greatest success occurred in the Yom Kippur war with Israel in October 1973 when Egyptian forces were able to occupy the eastern bank of the Suez Canal and retain it in the armistice negotiations that followed. Since October 1973 the ARE's situation has continued to improve. Although there are now reports of increased inflation, Egyptian economic growth (GNP) seems to be expanding at about the 6-7 percent rate of the early sixties while substantial foreign aid has been pledged to the ARE. President Sadat's success appears to offer possibilities for resolving some of the outstanding issues inhibiting a peaceful settlement in the Near and Middle East (see Department of State's publication, "Background Notes: The Arab Republic of Egypt."

D. Elements of Egyptian Society

1. The Egyptian Economy

During the 19th Century and into the 20th, at least until the period following World War I, the Egyptian economy was a free enterprise economy based on agricultural production, principally cotton. Cotton production had undergone rapid development between 1880 and 1914 as it was increased by 250 percent and its value increased fourfold. During this period the modern economic infrastructure of Egypt was also created by the modernization of a vast irrigation system, creation of the railroad network, harbor construction, installation of public utilities for the principal cities, and development of a banking system.

During the nineteen twenties, the world-wide decline in agricultural prices adversely affected Egyptian cotton expansion in particular and other agriculture in general. Egyptians turned to light industrialization but this progressed only very slowly. In fact, the GNP in the thirties slipped below that of the previous decade as cotton exports continued to decline. After World War II, Egypt began to experience even more severe economic difficulties as population growth increased significantly. King Farouk's government tried to promote agricultural diversification and to expand industy, but Farouk was overthrown before this program could develop any continuity.

The new revolutionary regime that assumed power in 1952 gave considerable attention to economic development which was to be used to accomplish political and sociological objectives. The revolutionary regime's program included agrarian reform, land reclamation, the High Dam and accelerated industrialization. All of these programs were launched between 1952 and 1960.

It was not until the end of the decade, however, that the Egyptians began to utilize coordinated economic planning. Two five-year plans were launched, the first from 1960 to 1965, and the second to 1970. The objective was to increase the national income by 40 percent during the first five-year plan. By 1965, with heavy foreign borrowing, the objectives were fulfilled. The GNP for 1964-65, for example, was $4.7 billion, an increase of 8.7 percent over the previous year. Thereupon a more ambitious seven-year plan, to be completed by 1972, was launched. Even prior to the 1967 war with Israel, the lack of capital forced its reduction to a planned annual growth rate of 5.0 percent. The stunning defeat by Israel and loss of the utilization of the Suez Canal caused even this to be abandoned, however, and planning was undertaken on an ad hoc annual basis. The Egyptian economy, suffering a severe loss of foreign exchange due to the continued closure of the Suez Canal and a drop in tourism, was sustained in large part by financial assistance from Saudi Arabia, Kuwait and Libya.*

*See The Middle East and North Africa 1974-75, London: Europa Publications Ltd., 1974, pp. 280-281.

By 1970 the Egyptian economy had begun a very limited recovery from the losses of the 1967 war. In 1970 the Gross Domestic Product (GDP) had climbed to $5.7 billion or $168.00 per capita. Of this, agriculture contributed about 30 percent, government and other services 26 percent, industry 25 percent, and transportation, trade and finance 14 percent.

Between 1970 and the renewed war with Israel in October 1973, despite the substantial losses of revenue from the Suez Canal closing (£E 950 million est.), the Egyptian economy continued to record additional modest gains. In July 1971, President Sadat announced a ten year program of National Action designed to double national income within ten years to £E 5,000 million. But this plan was postponed in 1972 in favor of annual plans. The 1971-72 plan aimed at raising GDP by 5% while the 1972-73 plan set only a 3% increase for GDP.* As a measure of Egyptian progress, one report declared Egypt's GNP increased about 6.0 percent in 1973 to about $7.75 billion (compared to $4.7 billion in 1964-65). Output of textiles, steel, aluminum, and automobiles showed strong gains.

Further, the settlement attendant upon the Yom Kippur war brightened Egypt's economic future. An influx of investments and financial aid from other Arab states enabled the ARE to repay past-due bills for the first time in a decade. The Bank of Egypt was expected to receive an inflow of more than $500 million in convertible currency in 1974, equivalent to half the value of Egypt's 1973 exports. A substantial part of this financial assistance will be used to reconstruct the Suez Canal area, including cities, estimated at £E 3,000 million.

The following data provide a brief analysis of the ARE's most important economic sectors, including natural resources, agriculture, industry, trade and transportation.

a. Natural Resources

Egypt possesses a wider range of natural resources than is popularly assumed, although many are somewhat limited in quantity. Included are oil, phosphates, manganese, natural soda, salt, iron, talc, lead, walfronite, asbestos, chrome, and copper. Quarry products such as gypsum, kaolin, silica sand, limestone, sandstone, basalt, granite, and marble are also available for exploitation.

The total mineral production of the ARE in 1965, for example, was valued at $100 million. In 1973, oil production earned the ARE £E 93 million and until Israeli forces occupied the Sinai in 1967 oil production accounted for 90% of income from mineral resources. Most of the Egyptian oil is located in the Sinai but promising finds of petroleum have been discovered at offshore locations in the Mediterranean near El Alamein and in the Gulf of Suez. In 1973 Egyptian crude oil production amounted to 165,706 barrels a day. Until 1967 there were four refineries in Egypt, two at Suez and one each at Cairo and Musturud. Since that conflict, plans have been developed for construction of other refineries.

Other natural resources are also being exploited. The iron ore mines near Aswan are sufficient to support a productive steel mill at Helwan just south of Cairo. New coal discoveries in 1968 are expected to aid this industry. Quarry products and building stones are also worked extensively. In 1964 large deposits of sulphur were unearthed near the Siwa Oasis. Finally, an offshore strike of natural gas was made in the Abukir Bay near Alexandria in 1969.

b. Agriculture

Despite the changing structure of the Egyptian economy, in 1973 agriculture was still the largest sector employing about 52 percent of the economically active population.

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* Ibid., p. 285.

Cultivable land amounted to only 3 percent of the country's 386,000 square miles of area, mostly in the delta and Nile Valley. After completion of the High Dam complex cropped acreage was expected to increase by 30 percent.

The bulk of agricultural production is for the market place rather than subsistence. Three-quarters of agricultural income derives from field crops, the most important of which is long-staple cotton. Its production employs much of the available labor and occupies about 35 percent of the total acreage but comprises about 60 percent of the value of Egyptian exports. Egypt produces about 4 percent of the world's cotton and about 28 percent of its long-staple cotton. Egypt's cotton export trade has weakened since 1970, however, due to customers' increasing reliance on man-made fibers. Other crops include rice, which occupies a rapidly increasing area, other grain crops, wheat, maize, millet and barley, and sugarcane, beans, potatoes, and onions.

c. Industry

Industry was the most rapidly growing sector of the ARE's economy throughout the decade of the sixties. At the close of that decade, industry's share of the GNP was about 25 percent compared to about 10 percent at the time of the revolution in 1952. During this period the volume of both agricultural and industrial production increased almost four times. By the end of the decade of the sixties, the industrial labor force comprised about 30 percent of the total as compared with about 10 percent in 1952.

Before the 1952 revolution, industry was based primarily on agriculture, such as the textile, food-processing, and extractive enterprises. With the exception of textiles, all other industrial endeavors failed to meet domestic demands. Most of the enterprises were small and family owned and the vast majority of them had registered capital of less than £E 1,000. Industrialists, in most cases, were landowners who invested their proceeds in real estate, primarily in the acquisition of new lands.

But the 1952 revolution proved to be a turning point in the country's industrial development. The government established a Permanent Council for Development of National Production and placed key businessmen in sensitive positions on the Council. It was hoped that this would induce Egyptians to invest in existing plants and new ventures. The Permanent Council, for example, drew up the large-scale electrification project for using the hydroelectric capacities of the proposed Aswan High Dam. As a further step towards greater control and central planning, the government established the Ministry of Industry in July 1956, which was charged with creating a uniform industrial policy for the country and working out methods by which obstacles to industrial development could be eliminated. In January 1957 a National Planning Committee was established to prepare long-term programs for economic and social development in Egypt. Under this Committee foreign and Egyptian economists prepared the first five-year plan (1960-1965) referenced above.

The trend in Egyptian industry has been toward nationalization and large-scale state interest in industry. Nationalization of major companies led to the creation of conglomerates under the direct control of general organizations subordinated to various ministries. By 1965 all large companies had been nationalized and the government began to control all productive activities of small companies. The total number of "establishments" was 2,009 at the end of 1966, compared with 22,216 in 1944. The government has concentrated its efforts on the creation of new factories and on diversification of production. The primary motivation was to reduce the need for importation of smaller and simple machines and equipment as well as spare parts. The following summaries provide a brief insight into the effect upon Egyptian industry of the government's nationalization, planning and investment activities.

By the close of the decade of the sixties, despite the loss of the Sinai, oil had become the country's most important mineral resource. President Nasser sought to enlist the assistance of foreign oil companies in the West as well as Soviet geologists to locate and exploit Egyptian oil reserves. As a result of this policy, total Egyptian crude oil production reached 165,706 barrels per day as is recorded above. Most of this crude came from the Morgan field in the Gulf of Suez, but new fields are expected to come in from the Western desert, the Mediterranean coast and the Nile Delta. The GOARE is encouraging foreign companies to prospect for Egyptian oil in anticipation of having 50 million tons a year in production by 1982.* The capacity of Egypt's 4 refineries in 1974 was estimated to be 8.5 million tons.

The pattern of expansion for the oil industry was also espoused in every phase of manufacturing during the decade of the sixties. By the end of the decade Egypt's textile industry accounted for about one-third of the total volume of industrial production and about one-third of the total industrial labor force. Cotton weaving is carried on by a number of large firms, using automatic looms, and by countless small private firms. By the end of the decade Egyptian spinning and weaving mills were producing 140,000 tons of yarn and 100,000 tons of cotton and rayon fabrics per year. Other products of the textile industry include wool, silk and rayon fabrics. About 80 percent of the cotton products were consumed domestically but textile production is also a growing part of Egypt's export industry. Textiles accounted for 28.7% of the value of Egyptian manufactured output in 1970.

The Government of the ARE has also focused on light-industry production. The paper industry, with plants in Cairo, Alexandria, and Suez, was expanded throughout the sixties to meet new demands. By the close of 1968 paper production had increased from 20,000 metric tons in 1952 to 140,000 tons. Other major light industries include footwear, other leather goods, and tobacco.

During the sixties the metallurgical industry remained relatively small, confined to small plants, producing steel from scrap. The mill at Helwan had a capacity of 300,000 metric tons of steel annually. In May 1958, however, the ARE and the USSR signed an agreement to develop the Bahariya iron ore field and expand the Helwan works to produce eventually 1.5 million tons annually. In addition, the Soviets agreed to build an 100,000 ton per year capacity aluminum plant and a 20,000 ton per year ferro-silicon plant at Helwan. By the end of the decade the Helwan works was producing steel beams, sections, plates, sheet steel and reinforcing rods. By 1974 the Helwan complex was producing 900,000 tons of steel per year.

The development of the chemical industry originated from the demand for fertilizers and, in the early sixties, was devoted largely to the production of super-phosphates and nitrogenous fertilizers. With plants located at Cairo, Suez and Aswan, the chemical industry also expanded substantially by the close of the sixties so that in 1970 it accounted for 11.0% of the value of Egyptian manufactured products. The pharmaceutical industry has also grown rapidly and has become an exporting industry.

The construction and building materials industries have also expanded rapidly during the sixties. Due to nationalization, the number of construction firms were reduced from 2,470 in 1960 to 200 in 1969 but the labor force increased from 185,000 in 1960 to 345,000 in 1965 and then by about 3 percent a year thereafter. Production of building materials, partly due to the Aswan High Dam, also increased substantially in the sixties. The Helwan Cement Company, which began operations in 1969, increased Egypt's cement capacity by 300,000 tons, above the 4 million ton capacity in 1968.

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*Ibid., p. 290.

With respect to power sources, hydroelectric power is potentially of great importance as a source of electrification and was under large-scale development in the sixties as part of the High Dam project. The Aswan High Dam began operations in January 1971 with a capacity of 10,000 million kwh. per year. The total electric power output generated by thermal power stations could be about 3.7 billion kilowatts by 1975.

d. Nationalization, Free Enterprise, and the Structure of the Egyptian Economy

Prior to 1961 industry was an amalgam of large modern industrial plants and small tradition-oriented shops. There was also a group of medium-sized establishments whose position in terms of output and competitive strength was comparatively weak. The medium-sized establishments employed between 10 and 100 workers. The large modern plants numbered about 450 and each employed 100 or more workers. Most of the Egyptian industrial establishments were privately owned prior to 1961 and, while comparatively inefficient, these industries were able to produce a profit due to the high protective Egyptian tariff which sheltered Egyptian industry from outside competition.

In 1961, however, in a series of nationalization measures, the Egyptian Government assumed control of all large enterprises and limited individual share holdings in firms to a market value of £E 10,000 and took over all shares in excess of that amount. The private monopolies continued as the government merely assumed ownership or a controlling interest in existing firms. All of the enterprises of any importance in each individual sector were then concentrated under a single public agency, each known as a general organization, under the control of various ministries. There remained, however, a small private sector composed largely of the small tradition-oriented shops.

Thus, after 1961, in practice, the government controlled production policies, fixed most of the prices and rates in the public interest, and took all or part of any monopoly gains. These regulations affected both the public and the smaller private sector. The regulations also tended to reduce industrial initiative. The lack of initiative together with distorted prices set by the government, caused inefficiencies and financial losses within many industries and, of course, adversely affected the general economy. These inadequacies, however, were counterbalanced by the high protective tariff which permitted the relatively inefficient industries to compete with foreign firms. Finally, all productive activities took place within the framework of a comprehensive plan which actually consisted of three plans: a decennial or long-term plan; a five-year plan; and an annual plan, all of which were prepared and coordinated by the National Planning Committee, the Permanent Council for Development of National Production, and the Ministry of Planning. It was the President of the ARE, however, who made the final planning decisions. Thereafter, the Ministry of Planning had responsibility for implementing the plan targets.

e. Foreign Trade and Balance of Payments

As Egypt entered the decade of the seventies, foreign trade showed substantial improvement. For the first time since World War II, the annual import-export account showed a surplus of £E 47.4 million in FY 1968/69 but did not improve gold holdings, reduce foreign indebtedness or increase available hard currency abroad. Rather, it was accomplished by restricting the importation of desired consumer and capital goods. This resulted in a setback in the standard of living and a lack of capital investment, raw materials, and spare parts from overseas which caused dislocation and delay in the economic expansion, especially in planned industrialization.

Moreover, domestic retrenchment was accompanied by continued expansion of trade with the communist bloc and by reduction with the West. Cotton remained the primary commodity sold to foreign markets while, in return, the ARE imported large quantities of food-stuffs to feed its growing population.

In 1951 the external trade deficit was -24.6 million £E. In 1960 it was -65.4 million £E. In 1965 it had increased to -180.0 million £E. In 1969, however, this trend was dramatically reversed to show a positive balance of +47.4 million £E. But for 1970 through 1972, the trade deficit returned with -£E 11 million, -£E 57 million and -£E 22.6 million for these three years respectively, all of which reflects the pressure of the growing Egyptian population.

f. Transportation

By the close of the decade of the sixties, the transportation network was under severe strain because of industrial development, large-scale land reclamation, and urban growth. The ARE's transportation system consists of the Nile River, supplementary canals, a railroad system, and a road system, the latter being the weakest link in the whole transportation system.

In 1969 Egypt had about 4,500 route miles of railroad track. Most of the main lines were in the Nile Valley or the Delta. Upper Egypt is served by a double track line as far as Aswan and the Delta has a rail net connecting all the main cities and towns. New rail construction between the iron-rich Bahoriya Oasis and Helwan is under way.

Inland waterways total about 2,000 miles divided almost equally between the Nile and the canals. The Mahmudiya Canal connects the Delta while the Ismalia Canal connects Cairo and Ismalia.

During the sixties the government exerted a special effort to improve the Egyptian road system, since about 50 percent of all freight and 35 percent of all passengers were transported by road. Of the country's 29,000 miles of roads, about 12,000 miles were paved by the close of the decade, with 17,000 miles of unimproved surfaces.

Egyptian cities from Alexandria southward to Aswan are served by a domestic Egyptian airline, Misair. At the end of 1964, one U.S. flag line, Trans World Airlines, had regular services to Cairo International Airport.

g. Labor

At the close of the decade of the sixties, the labor force totaled about 9.7 million or approximately 29 percent of an estimated population of 32.5 million. Available statistics reveal that in 1968 about 50 percent of the labor force was engaged in agriculture; 11.1 percent in industry and mining; 10.3 percent in trade and finance; 7.3 percent in personal services; 4.4 percent in transport and communication; 2.8 percent in construction and 2.8 percent in the armed services. The rate of participation of the general population in the labor market has risen from 44.7 percent in 1960 to 46 percent in 1969. Women constitute about 8 percent of the labor force.

Unemployment represents a major national problem, however. After a temporary declining trend during the early 60s, unemployment rose from 8.9 percent in 1967 to more than 11 percent in 1969. Unskilled farm laborers and intermediate-level white collar workers in the cities account for the bulk of the unemployed. Farmers looking for temporary work during the slack season between planting and harvesting and the diminished use of agricultural wage labor on the small land plots allocated in the reform of 1952 have increased the number of rural job seekers. The majority of rural workers in search of employment migrate to Alexandria or Cairo but few find employment. Added to the pressure on the labor market were some 400,000 persons evacuated from the Suez Canal area.

Unemployment problems are also accentuated by the inability of university graduates with liberal arts degrees to find jobs. In response to the general unemployment and to the university groups of unemployed, the government has provided for the creation of 240,000 new industrial jobs in its economic development plans and has adopted a policy of guaranteeing jobs to all university graduates by placing those who cannot find jobs in government service. This latter device is not satisfactory for the long-term, however, since the government offices are already overstaffed and the graduates' training is not used.

Industrial developmnnt programs, on the other hand, are hindered by a severe shortage of skilled workers and intermediate-level technicians and administrators. By the early 70s it has been estimated by the National Planning Institute that Egypt would need 440,000 semi-skilled workers, 139,000 skilled workers and 213,000 intermediate-level technicians. In order to respond to these needs, the government initiated new vocational training programs and tried to discourage the demand for academic secondary education. By the beginning of the 70s, however, these measures were only showing limited success, while productivity still remained relatively low. In the long-term, however, manpower resources represent one of the ARE's greatest economic assets.

h. The Egyptian Economy in Retrospect

The data recorded above reflect substantial progress by the Egyptian economy since the revolution of 1952. But in many respects, the Egyptian economy, hampered by war and the deficiencies of any lesser developed country, gives the impression of recently being aroused from a long lethargy. It may not be the sleeping giant of the Near and Middle East, but due to its substantial and largely untapped natural resources and huge manpower potential, it can easily become one of the dominant economies of this region. An important step in that direction was undertaken by President Sadat in 1973 when he inaugurated a new economic policy of "liberalization" of the economy. In short, he sought to curtail the socialization of the Egyptian economy and open it up to attract foreign capital for development projects, the most important of which was reopening the Suez Canal. As is recorded below, Sadat's NEP has been relatively successful.

To illustrate some of the progress already achieved, as well as future potential, some additional data from 1973 are noteworthy. Agricultural production increased about 5 percent in 1973 over 1972. Experts believe that increase would have been substantially greater had there not been a fertilizer shortage. A new variety of wheat, "Giza 155," contributed to significant increases in the wheat yield, from 1.63 million tons in 1972 to 1.85 million tons in 1973. Vegetable production increased from 5.3 million tons in 1971 to 5.9 million tons in 1973. Production of tangerines and grapefruit for export doubled in the period 1965-1973.

In foreign trade, Egypt also registered solid gains in 1973. Striking increases in world market prices for cotton and rice pushed Egypt's total agricultural exports over the $1 billion mark for the first time in 1973. Large contracts for Egyptian cotton were made with China, Japan and India. Expansion in exports of textiles, oranges, furniture, cosmetics, and alcoholic beverages to the USSR were valued at more than $250 million in 1973.

2. Egyptian Government and Political Structure

The Government of the ARE continues to remain republican in form as envisaged and established upon the overthrow of the monarchy by the Free Officers in 1952. The Constitution from which this government structure derives, has evolved through successive forms with amendments especially in 1956, 1958, 1964, and 1969. The present draft was

approved by referendum on September 11, 1971. Thus, executive authority is vested in the President who is also the Chief of State and Supreme Commander of the Armed Forces. He is nominated by the People's Assembly and elected by the populace for a six-year term. He appoints Vice-Presidents, the Prime Minister and Cabinet Ministers. The President has emergency powers to issue decrees which have the force of law when the People's Assembly specifically so delegates such powers, by a two-thirds majority vote. Upon the death or resignation of the President, the Speaker of the People's Assembly assumes the office.

The members of the unicameral People's Assembly are elected by universal adult suffrage for indefinite terms. The People's Assembly (previously called the National Assembly) is required to meet at least 7 months of the year. The Assembly may withdraw its confidance from the Prime Minister and his government, in which case the question of confidence is referred to a general referendum. The People's Assembly also may be dissolved by the President whose action then must be ratified by public referendum.

Egypt's judicial system is based to a significant extent on French legal concepts and methods, but the legal system also derives some of its concepts from Islamic codes. The Higher Constitutional Court is vested with control over the constitutionality of laws and regulations. Its members are appointed by the President.

For administrative purposes, Egypt is divided into 25 Governorates or Provinces, each headed by a Governor appointed by the President. Local government is exercised by means of town councils and village (rural) councils operating under the provincial governors. The executive of the councils are appointed by presidential authority; some of the members are elected while others are appointed.

Historically, a dominant executive has been the principal feature of Egyptian political life since the first dynasties. The Free Officers continued this tradition after 1952 in their efforts to secure the objectives of the political and social revolution they launched that year. Thus, despite the rhetoric of the several versions of the Egyptian Constitution, political power was retained in the office of the presidency where it was effectively exercised by President Nasser. Political power extended down from the presidency through an executive bureaucracy of civilian and military administrators and technicians and carried to all areas of Egyptian life by the Arab Socialist Union (ASU), Egypt's only political party.

When President Sadat assumed power in 1970, he inherited much of the power and status enjoyed by former President Nasser. Since 1970, President Sadat has substantially strengthened his position by promotion of economic and social development and his limited military and larger diplomatic victories emanating from the Yom Kippur War of 1973.

3. Social Organization in the ARE

Until the 1952 revolution land ownership, rather than any principle of inherited status, had been the primary source of social status in both urban and rural areas. Status was not characterized by a system of fixed classes or by an aristocracy based on inherited titles and associated lands, but depended upon the amount of land one inherited or acquired. The social cleavage separating the wealthy and politically powerful landlords from the majority of landless villagers before 1952 was widened and intensified because this aristocracy was largely of foreign origin. Between these two extremes existed a small, urban, middle-class group, composed both of foreign and native origin. Most important, however, was the emergence of an indigenous professional and salaried class, including military men, for this segment of the middle class provided the foundation for the modern political and technical elite.

When the Free Officers seized power in 1952, their principal target was the old elite. The royal family and those closest to it were divested of lands, and the holdings of

lesser landlords were eliminated or drastically reduced. All titles of class and nobility were abolished. With the loss of their privileges, large numbers of wealthy people withdrew from public life or emigrated.

As a result of the political, economic and social changes instituted by the Free Officers movement, five distinct social classes appear to have emerged from 1952 to comprise Egyptian society. These are (a) the new, modern elite; (b) the new middle class; (c) the lower middle class; (d) the urban lower class; and (e) the rural fellahin class.

The growth of direct government ownership and control of the economy eliminated the possibility that an upper class based on industry, commerce and finance would emerge. Instead, there emerged a new class who would and could serve the government in technical capacities. Thus, the new upper class consists of political, technical and managerial elite. Most are directly employed by the government or work for organizations owned and operated by the state.

The small but growing new middle class is essentially a bureaucratic class whose members work for the government or for large quasi-government organizations. Within this class are large numbers of young men who have migrated from the rural to urban areas. They are college or university educated and are a well-trained cohesive element and enjoy great prestige in the society.

A lower middle class, comprising the lower ranks of the civil service, merchants, journalists, teachers, and skilled workers has recently emerged from the rural masses. These persons have some formal training but this training may be classical and is not technical and therefore not saleable in the modern technology desired by the state.

Unskilled and manual workers represent a large segment of the urban population and form the bulk of the urban lower class. Many are first or second generation urbanites, with no definite source of income and little stability.

The rural population composed of the majority of the Egyptians, the fellahin, is not subject to the rigid class structure in the urban sense. These are largely landless Egyptian farmers wherein the family continues to be the basic social unit. Even the fellahin's traditional role is being affected by the government's programs of land reform and political activism, however.

Land ownership is no longer the primary basis for social status or upward mobility. During the sixties, instead, new criteria emerged to determine upward mobility. The most important of these criteria is education in commerce, industry, science or government. Education, together with individual aggressiveness now serve to gain a position, an occupation in government or commerce which will command a salary to give one upward mobility. It is the beginning of an egalitarian process but the process should not be overemphasized. It is still severely limited by the state of the economy and the educational advantages available.

4. Education

As one might expect from a developing country with dynamic leadership, especially one in the throes of a continuing political and economic revolution, the GOARE's attitude toward education is highly progressive. The GOARE regards education as one of the most important vehicles for promoting national consciousness and for popularizing the objectives of the 1952 revolution. Thus, building on the pre-revolutionary base, the Nasser regime has expanded the educational system at every level in a determined effort to eliminate illiteracy and provide the technicians required to build the new Egypt.

Traditionally, the administration of education has been highly centralized. The Ministry of Education supervises all public and private pre-primary, primary and secondary

institutions, including those offering teacher training and vocational courses. The Ministry also prescribes curricula, appoints teachers, and administers examinations. The Ministry is assisted, however, by other government agencies such as the Organization of the Development Plan and the Arab Cooperation Department that have special interests in Egyptian educational development.

a. Primary and Secondary Education

Schooling begins at the age of 6 and consists of a 6-year course in primary education at coeducational institutions. In 1971-72 the total enrollment in primary schools was 3,873,297. In 1967 there were 7,812 schools at this level but facilities were lacking in several hundred villages. The curriculum included religion, reading, writing, grammar, history, geography, elementary science and arithmetic. Much time is devoted to studying the Arab language because of its extreme diversity among classical, written and spoken.

Upon completion of primary school, students may continue their education through a 3-year preparatory level and a 3-year secondary level. Preparatory and secondary schools are not coeducational and are divided respectively, into a general academic and vocational programs. A science or a liberal arts program is offered in the general academic course while the vocational program is divided into technical, commercial and agricultural training. In 1967 there were 1,204 schools at the preparatory level, of which 17 were technical institutions. There were 470 schools at the secondary sevel, 198 of which offered technical training. In 1971-72 there were 927,703 students enrolled in general and technical preparatory schools. There were also 312,489 students in general secondary and 289,812 in technical secondary schools.

b. Higher Education

Students must pass final examinations in order to graduate from the primary to the preparatory level and from the preparatory to the secondary level. Students in the academic program of the preparatory level who fail to pass the final examination usually switch to the vocational programs. Examinations for the general secondary certificate, terminating the academic secondary course and constituting a prerequisite for university admission, are regarded as the most difficult.

In terms of enrollment and facilities, higher education has shown dramatic growth since the 1952 revolution. University enrollment increased from about 80,000 in 1960 to an estimated 144,500 in 1968. By 1971-72 higher education enrollment included 241,690 students and 27,247 in teacher training. In addition, over 10,000 Egyptian students attended universities abroad. The majority of students were enrolled in academic programs leading to degrees in the liberal arts, political science, law and commerce. Enrollment in the faculties of engineering, agriculture, science and medicine accounted for about 30 percent of the student body. In 1966, about 58 percent of a total of 17,973 graduates earned bachelor degrees in the liberal arts and economics.

There are four state universities, the oldest of which is Cairo University, founded in 1908. In 1968 it had an enrollment of 57,440 and a faculty of about 2,300. Other state universities include Alexandria University, founded in 1942, Ain Shams University, founded in 1950 in Cairo, and Asyt University, founded in 1957. Two additional universities are planned at Monsura and Tauta. Cairo, Alexandria and Ain Shams Universities have faculties of science and medicine, with the two former also having faculties of pharmacy and dentistry. Further, Cairo and Alexandria Universities have faculties of medicine operating at the planned sites of Mansura and Tauta, respectively.

In addition, there is the Al-Azhor University, Egypt's oldest university, a

traditional institution for the preservation of Islamic culture. Originally it was devoted only to training Muslim leaders in Islamic culture, but in 1961 was completely reorganized and given modern faculties, engineering, medicine, etc. Finally, the American University of Cairo is a private, nonsectarian institution founded in 1819. It has the standard faculties plus a Center for Arabic Studies.

The academic program for a bachelor's degree at all universities is 4 years. In engineering and medicine it is 5 and 7 years, respectively (see subsequent sections for more details on medical, nursing, dental and pharmacological education). Masters and doctorates are also offered by these universities.

c. Problems in Egyptian Education

Islam has always attached great value to scholarship and learning but a tradition of rote learning has accompanied Islamic education and, of course, conflicts with Westernized teaching and experimental methods. Thus, the emphasis on memory, on eloquence and diction have tended to obscure substance and thus caused severe difficulties for Egyptian students, even on the university level, in adjusting to modern education and its techniques.

The fellahin also equates education with religious knowledge. Many fellahin have only just begun to realize the necessity of learning to read and write in order to overcome their traditional poverty. This accounts in part for the continual low literacy rate in Egypt, about 32 percent in 1968. Although there is a growing awareness of the benefits to be derived from education, technical education is still associated with manual labor and so held in disfavor. Thus, there is a continuing requirement for technicians in the Egyptian economy which, for this and other reasons, remains unfulfilled. Among the other reasons are the expense involved in maintaining sons in Cairo to obtain a university education.

Finally, there appears to be a continuing unrest among Egyptian university students for several reasons: (a) new, tougher standards of education; (b) the higher costs involved in obtaining an education although tuition is generally free; and (c) lack of jobs for many university graduates, especially in liberal arts and underemployment for those who can find jobs.

5. The Armed Forces

In 1969 military strength, including regular and auxiliary forces, was approximately 200,000. The bulk of this strength was in the army. The navy had about 10,000 men and the air force about 15,000 men. These forces were largely equipped with Soviet material. The mission of the armed forces was to prepare to wage a successful conflict with Israel in conjunction with its Arab neighbors, i.e., recover the territory lost to Israel in 1967. As we have seen, of course, after losing three engagements with Israel in twenty years, the armed forces performed more successfully in the Yom Kippur conflict of 1973 and did recover a small portion of the Sinai in the diplomatic negotiations that followed, at least sufficient territory to reopen the Suez Canal.

The reasons for the improved performance of the armed forces include: (a) better and more liberally supplied Soviet equipment such as ground-to-air missiles, new tanks, etc.; (b) improved training by Egyptian and Soviet officers; (c) better staff work and command performance; (d) improved morale among the troops; and (e) far better discipline in the the ranks. Thus far, the armed forces have remained loyal to the President, who is the supreme commander, and have been a stabilizing factor in the new Republic.

The armed forces, however, have represented a substantial drain on the nation's economy. The budget for 1969 was £E 230 million excluding £E 170 million used to deal with the

side effects of the 1967 war such as handling 500,000 refugees. One benefit derived from this expense, however, has been improved medical care, an element explored below. Nevertheless, in 1967 the defense budget represented about 7 percent of the Egyptian GNP and 15 percent of the national budget. If anything, these percentages have increased since 1967 and constitute a serious drain on civilian services such as expanded medical care. *

*See "Tactics: How the Arabs Scored Their Surpise," Newsweek, October 22, 1973, pp. 85-86 for an analysis of the Egyptian Armed Forces during the Yom Kippur War.

II. CHARACTERISTICS OF THE EGYPTIAN POPULATION AND HUMAN RESOURCES[2]

A. Egyptian Population

1. Ethnic Background

The Egyptian population is substantially homogeneous, almost all being Egyptian Arabs. There is a small number of Arabized Egyptian Nubians and Sudanese. More than 92 percen are Sunni Muslims. The historic Coptic Christian affiliation constitutes about 7.2 per cent of the population.

2. General Population Data

In mid-1970 the population of the ARE was estimated to be about 33.0 million persons. At prevailing rates of population increase, this figure could reach about 74 million by the year 2000.[3] By the beginning of 1974 the population had reached approximately 36.1 million people, making Egypt easily the most populous in Africa (after Nigeria).[4] Although population density for Egypt as a whole is approximately 88 persons per square mile, 99 percent of the people are compressed into 3.5 percent of the country's area in the Nile Valley and the Delta. The population density in these locations is one of the highest in the world - 2,400 persons per square mile.

The overall crude death rate and the infant mortality rate have declined sharply since World War II. Life expectancy has risen to 53.5 years (males) and the annual birth rate of about 36 per 1,000 was generating, by 1970, an annual growth rate of about 2.5 percent. At least 43 percent of the people are under the age of 15 years and the birth growth rate has been sustained for two decades. Males exceed females by a small margin (18.3 million males to 17.8 million females in 1974) but the latter have a slightly longer life expectancy. Neither emigration nor immigration is a significant factor in Egypt's population.[5]

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[2]General sources utilized in preparing Chapters II and subsequent chapters included the following: Basic Statistical Information of Health Services, Cairo: Ministry of Healtl 1974; Statistical Abstract of Arab Republic of Egypt, 1951/1952 - 1971/1972, Cairo: Central Agency for Public Mobilization and Statistics, 1973; The National Family Planning Program of the Arab Republic of Egypt: A Sector Review, Washington, D.C.: IBRD, 1973; Country Profiles: United Arab Republic, New York: Population Council, 1969; "Manpower and Population Planning in the Arab Republic of Egypt," I-IV, by John Waterbury, Fieldstaff Report, American Universities Field Staff, 1964.

[3]See Family Planning Program (IBRD), op. cit., p. viii.

[4]See Basic Statistical Information of Health Services, p. 1; thereafter cited as Basic Statistical Information, op. cit., p. ___.

[5]See Family Planning Program (IBRD), op. cit., pp. 1-8 and Basic Statistical Information, op. cit., pp. 1-5 for data used in this chapter.

3. Urban and Rural Composition of the Egyptian Population and Distribution Trends

As in any modernizing society, urbanization and industrialization are growing faster than rural population and agriculture. While a current rural-urban migration exists, it does not appear to be as strong as in many developing countries. The two largest cities (Cairo and Alexandria) are attracting most migrants, although the much smaller but rapidly industrializing Suez area may actually be showing a more rapid growth rate. It appears, for example, that over a third of Cairo's recent annual growth of 4.5 percent to 5.0 percent is accounted for by migration. It appears that over 70 percent of all net migration from other provinces was to metropolitan Cairo with 15 percent going to Alexandria.

In addition to its four major cities - Cairo, Giza, Alexandria, and Suez - there are 124 cities and towns with populations of 25,000 or more and just over 4,000 villages. The size/distribution of villages and their populations are as follows:

Percent	Population
4.7% have populations of 10,000-20,000	3.7 million
66.2% have populations of 2,000-10,000	15.8 million
29.1% have populations of less than 2,000	1.2 million
	20.7 million

The data available show that in 1974 the GOARE considered 42.6% or 15.4 million of the Egyptian population as urban, living in 128 cities and towns. 57.4% or 20.7 million lived in rural areas (with 4,100 villages).

Thus, it would appear that Egypt has a high birth rate in relation to available land and resources. If the present rate of increase continues, the Egyptian population will reach well over 70 million by 2000 and the population density of inhabited areas will double, a very depressing prospect considering it is already the highest in the world. Egypt also suffers from "overurbanization," i.e., excessive migration of rural dwellers to cities prior to adequate expansion of urban employment opportunities. Additional data and projections are recorded in Chapter IX, Population Programs.

B. Human Resources[6]

Most economic analyses of the 50s and 60s emphasized the fact that Egypt was a labor surplus country and was likely to become more so in the future. More recently, however, a new argument has been increasingly heard that surplus labor in the rural areas is not really as great as had previously been assumed. And Egypt would experience increasingly large deficits in skilled manpower at all levels. In any event, the following seem to be the pertinent points in relation to the dimensions of Egypt's problem of too much and too little.

1. The degree of underemployment in agricultural communities for the slack periods of the year (October - February) is exacerbated by overemployment during the peak seasons (March - till September);

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[6]See "The Demographic Jigsaw," by Abdel K. Omran, Ceres, Vol. 7, No. 4, July-August 1974, pp. 19-21 for relevant data on various aspects of Egyptian overpopulation, including adequate use of human resources.

2. Given a high rate of economic growth, Egypt could experience severe shortages of some kinds of manpower (technical, supervisory and managerial personnel), a situation which has already developed in some urban areas;

3. On the other hand, the "revisionist" economists who see certain human resources shortages also concede that unskilled labor will probably remain in surplus despite increased economic development;

4. The solution both to shortages of "technicians" and the oversupply of unskilled manpower seems to lie in the two elements of economic development discussed above:

   a. redistribution of rural unskilled from agricultural areas that have a real, not an imagined, surplus; and

   b. extensive technical education to turn the surplus labor at least into skilled workers suitable for all types of commerce and industry. These processes have to be slow but must be steady if the GOARE are to solve the dilemma of adequate use of Egypt's human resources.

III. THE EGYPTIAN HEALTH ENVIRONMENT, I: ISSUES AND POLICIES

A. Health Status of a Developing Nation

In the foregoing sections, the data suggest that Egypt is essentially a developing country. Due to its long history, cultural progress, growing industrialization, influence on its neighbors and sophisticated educational tradition, it also shares some of the achievements and many of the problems of the more advanced, industrial nations. The Egyptian health environment can similarly be described. The Egyptians suffer principally from some of the same endemic diseases and conditions, such as Schistosomiasis, Intestinal diseases and overpopulation, that affect lesser developed countries. They also face increasing environmental problems and the respiratory and cardiovascular diseases of the industrial states.

The endemic diseases and overpopulation adversely affect the Egyptian health environment and are more critical for the Government of the Arab Republic of Egypt (GOARE) than are those adverse health conditions typical of the industrialized world. Therefore, there are recorded briefly in Chapter III those health problems and conditions most acutely affecting the Egyptian health environment. In the subsequent chapters the circumstances of those health problems, and other significant health problems as well, and the policies undertaken by the GOARE to improve the Egyptian health environment are explored in some detail.

1. Immediate and Critical Health Problems

a. Most Critical Diseases

1. Schistosomiasis (Bilharziasis)[7]

This is the foremost endemic disease afflicting the Egyptian people. It is present throughout the country and there is danger of its increasing as a result of expanded irrigation in connection with the Aswan High Dam.

2. Gastrointestinal Diseases[8]

Gastrointestinal diseases are endemic and prevalent over most of the country. Unsanitary practices, polluted water supplies and contamination of food by flies all contribute to the spreading of these diseases. The GOARE believes gastrointestinal diseases are sapping the vitality of the rural population.

b. Diseases of Infancy and Childhood[9]

Children's diseases have occured in epidemic proportions in the recent past and this situation continues. Epidemics of measles and diptheria have resulted in high mortality.

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[7]See L.J. Fogel, M. Maxfield and O. Sullivan, Epidemiologic Consequences of Schistosomiasis in Egypt, Washington, D.C., 1970, pp. 17-19; in 1965 it was estimated that over 14 million Egyptians suffered from this disease but that 60% of the population would develop the disease in the early 70s as the Aswan complex was completed.

[8]Basic Statistical Information, op. cit., p. 4; diseases of the digestive system was the leading cause of death in 1970.

[9]Family Planning Program (IBRD), op. cit., p. 5; see also W.A. Hassouna, Integrated Services: An Instrument of Health Policy Aimed at Forming the New Egyptian, Cairo, Institute of National Planning, 1973, p. 4; in the sixties the death rate for Egyptian children under 1 year was 172 per 1,000 or 44.7% greater than in the U.S.

c. Typhoid and Paratyphoid Infections

The GOARE Ministry of Health recorded a total of 15,127 cases of typhoid and paratyphoid in 1967.

d. Malaria

While the incidence of malaria has been reduced from 127,444 in 1967, malaria is still in the Delta and central regions of the country.

e. Trachoma

Trachoma, although declining in recent years, continues to be significant, especially among pre-school and school age children.

f. Tuberculosis[10]

Although tuberculosis control campaigns have been well established throughout Egypt, only a decade ago the number of annual cases reported was over 6,000 with over 2,400 deaths. It is believed, however, that there is significant underreporting of this disease.

g. Environmental Health Conditions

The GOARE Ministry of Health considers environmental health conditions, including excreta and waste disposal and the provision of pure water, of immediate and critical importance.

2. Long-Term Elements in the Egyptian Health Environment

In addition to the critical health problems recorded above, which require immediate and urgent attention, there are a number of other diseases (bacterial, viral and parasitic) which are not of endemic proportions or of unusually high incidence but which, nevertheless, are of continuing concern to the GOARE's Ministry of Health. These diseases and the resulting morbidity will be reviewed in detail in Chapter IV. In order to control endemic diseases, resolve other pressing health conditions and upgrade the general health of the Egyptian people as part of Egypt's national development, there are several other long-term elements in the health equation which must be progressively resolved by the GOARE. These elements, referenced briefly below, require both quantitative and qualitative upgrading if the GOARE is to respond positively. These elements are: (a) manpower training; (b) health facilities and medicines; (c) financing improved health care; (d) encouraging continuing supplemental private health care and assistance from multinational and bilateral agencies; (e) biomedical research, including statistics; and (f) health planning.

a. Manpower Training[11]

It has been estimated by WHO that 1,500 Egyptian physicians were graduated in 1967 from Egypt's seven medical schools and that number had increased to about 2,200 by 1969. The Minister of Health, Minister Mahfouz, reported that the number of graduating physicians has increased again to 3,500 in 1974-75. In 1967 there were about 15,000 registered Egyptian physicians of whom 3,000 were serving abroad. At that time there were 27 nursing schools that offered 3 year courses in nursing training. During the past several years, due to the severe shortage of nurses, a

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[10]See Mahfouz, op. cit., p. 2.

[11]See Rose A. Britanak, Trip Report, Washington, D.C., December 1974.

new program, involving 123 Technical Nursing Secondary Schools, was initiated.[12] The Ministry of Health plans to graduate 5,500 new nurses in 1975. There are also several schools for various health technicians, midwives and nursing assistants. The GOARE's Ministry of Health appears to believe the physician manpower is only slightly insufficient and that scheduled modifications in training will compensate for this. The GOARE also hopes that its new nursing program will aleviate the shortage of nurses. Nevertheless, the quality of both the physician and nursing training has been called into question by Western physicians.

b. Health Facilities and Medicine

During the decade of the sixties, health facilities, especially the rural health infrastructure, improved substantially as a result of heavy investment in this area by the GOARE, as well as by the service rendered from the increasing number of graduate physicians who staffed the new facilities. The rural health service includes two kinds of facilities, a rural health center with 15 to 20 beds and a rural health unit. In 1969, there were 600 rural health centers and 1,834 rural health units. This rural health system then was probably serving upwards of 23 million rural Egyptians. In 1964, there were, we estimate, 1,249 health units representing an approximate increase of 600 units in 5 years.[13]

A 1965 report emphasized the inadequate number of rural health facilities and the urgent requirement for more facilities. A later report estimated that a total of 3,800 rural health units would be required to reach a target of 5,000 rural Egyptians per unit serving a rural population of 19 million. These figures require revision as the population increases. Again, this problem will be treated in detail in subsequent sections but this is to illustrate by way of introduction something of the dimensions of the Egyptian health delivery problems.

The Ministry of Health also finds its efforts to improve the quality of Egyptian health frustrated both by a quantitative and qualitative lack of drugs. This lack of adequate medicines has been evident for some time but corrective measures (by purchase abroad or by the Egyptian pharmacological industry) have not been adequate.[14]

c. Financing Improved Health Care

Two critical economic factors in Egypt have and will continue to determine the resources available for investment in the health sector. These are the pressures exerted on the GOARE budget by recent military and social services requirements and pressures brought to bear on the Egyptian balance of payments. The level of expenditures by the GOARE expanded at an average annual rate of 18 percent from 1960-66 and at 9 percent from 1968-1970, the latter figure representing a rate three times that at which revenues increased. These expenditures were financed not by deficit financing, which would lead to inflation (prices rose only 2 percent per year during 1960-1970), but by shifting resources from investment to consumption.[15] Government

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[12] Ibid., p. 4; see also Basic Statistical Information, op. cit., p. 15 which cites 131 Technical Nursing Secondary Schools

[13] See Report of Health Sector Assessment Team: Egypt, January 18, 1975 - February 2, 1975, p. 7.

[14] See Dr. J. C. King, OIH, Trip Report, January 6, 1975.

[15] See "Egypt's Mounting Problems" by Jim Hoagland, the Washington Post, October 6, 1974, in which he surveys the Egyptian economic and political climate one year after the Yom Kippur War. Hoagland claims that the ARE has been increasingly troubled by economic

expenditures were about 21 percent of GDP in 1970. All of this reflected a tight fiscal position on the part of the government at the beginning of the present decade. Thus, Egyptians believe that funds for financing improved health care must come from abroad (see below) either by outright grants or loans on very soft terms, although some improvement in the trade deficit might be expected in the future from reopening the Suez Canal, tourism and use of newly uncovered oil deposits.

d. Encouraging Private Health Care and Assistance from International Agencies and Bilateral Associations

There is limited private health care now available in Egypt. Most of the hospitals are maintained by the Ministry of Health and have been since 1964 when private hospitals owned and operated by religious societies were nationalized. According to a recent report by the Minister of Health, however, there are still a small number of private clinics and hospitals, especially maternity hospitals, and maternity homes, that are permitted to operate under the supervision and control of the Ministry of Health. Some of these private institutions are identified below. Given the transitory nature of Egyptian health planning and the GOARE commitment to social action, it would be doubtful that the private sector is being fully utilized, especially in family planning, child and maternal care. The private sector, therefore, should also be carefully evaluated as to its capability to complement the government operated health institutions.

For a number of years Egypt has received health assistance from international organizations such as the United Nations, the WHO (World Health Organization), UNICEF (UN International Children's Emergency Fund) and the FAO (Food and Agricultural Organization) both in public health education and in disease control programs. According to the WHO "Proposed Programme and Budget Estimates FY 1974" the combined WHO estimated obligations to Egyptian health programs in FY 1972 were $516,255, in FY 1973 totalled $1,231,159, and in FY 1974 were proposed at $1,255,704. These sums were obligated for such diverse uses as tuberculosis control, schistosomiasis control, environmental health, public health services, nursing education and family planning.

Not only will such WHO funding most likely be continued but will probably be increased in the subsequent years. Undoubtedly, the GOARE's Ministry of Health have used these funds productively to complement its own budget, which increased from £E 6.7 million in 1952 to £E 36.8 million (£E 1 = $1.80) in 1969. Beyond this assistance, the GOARE anticipates substantial bilateral aid from other Arab states and perhaps from western countries, including the United States. This possibility is discussed in some detail below and would probably be provided as cash grants by the Arab nations to be used for the construction or reconstruction of medical facilities and in the form of technical assistance from the western nations.

e. Biomedical Research Including Statistics

All laboratories and medical research projects are under the supervision of the Supreme Council for Scientific Research (see organization of Egyptian medical services below). In 1967 there were eight laboratories in Cairo and one in Alexandria conducting biomedical research and providing laboratory and diagnostic support to hospitals and clinics. These laboratories conduct research in clinical pathology and bacteriology, perform food and water-testing services and manufacture vaccines.[16]

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problems since October 1973. He cites a rise in the consumer price index of 25 percent since "the war," limited educational funding especially for medical education and the loss of 60,000 acres of cultivated land per year to urban sprawl as examples of economic retrogression.

[16]The United States Naval Medical Research Unit Number 3 (NAMRU 3) for many years has

Given the urgent demands for health care services and the facilities and trained personnel to provide these services, it would seem impractical for the Ministry to anticipate spending the sums required to undertake basic research even in such areas as cancer and cardiovascular diseases. For a time it would seem mandatory to rely upon the knowledge afforded by the research underway in the more advanced industrialized countries. In the area of biomedical statistics, however, an immediate effort by the GOARE would probably be desirable or even mandatory since the collection and analysis of Egyptian health data is currently insufficient. This inadequacy, it is believed, stems in large part from the limited manpower and financial resources devoted thus far by the MOH to the various health data systems.[17]

f. Health Planning

Health planning, which has been defined as a process which systematically considers health needs and alternative strategies to accomplish national objectives, has been sorely neglected in the ARE. Priority objectives are established, de facto, by heads of departments, divisions, sections, etc., wherein they decide the activities their operational units should undertake during the projection period. A budget is then submitted to finance this level of activity.[18]

Due to the particular organization of the GOARE budget process and the utilization of the above planning units in that process, short-term planning activities are present in and do affect the Egyptian health enviornment. But such an ad hoc approach is hardly satisfactory and the GOARE health officials have expressed their intent to strengthen Egyptian health planning institutions and methods for incorporating health plans in the new five-year development plan for 1976-1980.

B. Synopsis of GOARE Health Policies

The ARE is faced both with immediate and critical health problems, such as Schistosomiasis and Intestinal diseases, as well as long-term health adversities, including environmental and cardiovascular diseases that afflict more advanced industrial societies. In order to meet the challenges of this kind of a health environment, it is apparent that the GOARE must cope with such fundamental elements as manpower training, sufficient medicines, better health facilities, adequate biomedical data, appropriate health planning, and the means with which to finance an expanded health program. Further, it is also apparent that the GOARE, like all developing countries, is groping and searching for the specific methods to facilitate promoting the kind of expanded health program which Egyptian health problems demand. Nevertheless, whereas the GOARE is still seeking the most appropriate methods to solve some of its specific health problems, it has annunciated a general health policy and specific goals which it hopes to attain.

The GOARE's Minister of Health has observed that social development must proceed concomitantly with health improvement. Progress in the field, he believes, can only be achieved in conjunction with similar concurrent progress in education, housing, public sanitation and transportation. Thus, the GOARE's health program is to be considered as one sector of a total economic development plan for the ARE. Logically, then, barring a disastrous epidemic, funding would not be derived from other development sectors to promote some specialized health area since this would unbalance the total economic development plan. Finally, the Minister maintains that in order to integrate the health sector into the total economic plan,

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carried out research projects in Egypt in cooperation with the Ministry of Health.

[17]See Dr. Iwao Morijama, Trip Report, January 8, 1975, p. 2.

[18]See Dr. Joseph Davis, Trip Report, January 16, 1975.

a reliable statistical system must be developed and this must have first priority (comments on this strategy are recorded below).

Among the specific goals of the GOARE health plan, which is to be integrated into ARE economic development, are:[19]

1. implementation of emergency health services during war;
2. providing better services in hospitals and specialized institutes;
3. providing basic health care to Egyptian farmers which was previously nonexistent;
4. attacking endemic diseases including - bilharziasis, tuberculosis, trachoma, malaria, nutritional and gastrointestinal diseases;
5. control of communicable diseases;
6. raising the standards of "scientific and technological knowledge and experience of health personnel;" and
7. promoting medical and operational research in the field of public health.

[19]Derived from an Egyptian document entitled, Health Services in Arab Republic of Egypt, Cairo, 1972, p. 8.

IV. THE EGYPTIAN HEALTH ENVIRONMENT, II: SURVEY OF SIGNIFICANT EGYPTIAN HEALTH PROBLEMS

In Chapter III an effort was made simply to delineate those diseases, the prevalence of which was of critical importance to the health of the Egyptian people. Subsequently, those issues of a long-term nature which have a determinant effect upon the Egyptian health environment were also mentioned. Here, in Chapter IV, we are seeking to provide a survey and relevant summary, of all significant diseases and illnesses afflicting the Egyptian populace beginning with those diseases of a critical nature, proceeding to those of less importance and thence to general issues embracing several problems but which are essentially of a health nature and which are adversely affecting the economic, political and social progress of the ARE. Some of these latter issues such as family planning, nutrition, environmental problems and health services are dealt with as individual issues later in this paper due to their complexities.

A. Critical Health Areas: Diseases Severely Afflicting the Egyptian Populace

1. Schistosomiasis

Virtually all public health officials believe that the most serious health problem in the ARE today, as it has been for a number of years, is Schistosomiasis (bilharzia).[20] The disease is more prevalent today than ten years ago, having been exacerbated by an increase of placid waters from the increased irrigation canals and Lake Nasser resulting from the High Dam at Aswan. The placid waters are extremely important, since they serve as the breeding grounds for snails, the host carrier of bilharzia. These carrier snails can multiply at a rate which will increase their numbers 50,000 fold in four months and it is believed that now the snails have infested the entire 300 mile shoreline of Lake Nasser.

The Schistosomiasis infections result from both the Schistosoma haematobium and Schistosoma mansoni. In the northern and eastern part of the Delta, reaching as far as Cairo, it was estimated in the 1960's that about 60 percent of the population was infected with Schistosoma haematobium and many others were infected with Schistosoma mansoni. Many have double infections. In the Nile Valley from Cairo to Asyut, 50 percent of the people are infected with Schistosoma haematobium while it was estimated that during the sixties one in every 22 persons in the northern part of the Delta died of this disease.[21] In all, WHO estimated that before Lake Nasser and the High Dam became operative, about 14 million out of the 32 million Egyptians were afflicted with the disease. Since then, of course, new canals have been added.

Schistosomiasis haematobium is regarded as the more serious of the two types of bilharziasis and in this type the principal organ involved is the urinary bladder. In Schistosomiasis mansoni the eggs of the parasite are deposited almost entirely in the capillaries and venules of the large intestine or lower portion of the small intestine. Although death frequently occurs from this disease, more often the afflicted person is condemned to live in growing pain and exhaustion. The chronic sufferer becomes steadily weaker from stomach cramps and damage to the heart, lungs and liver. He may contract cirrhosis, bladder and kidney infections or cancer. Exhaustion frequently limits his work day to three hours. Moreover, there is no lasting cure for bilharzia since anyone can be reinfected at anytime.[22]

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[20] See Health Data Publications, op. cit., p. 45 and Schistosomiasis in Egypt, op. cit., pp.17-20.

[21] Ibid., p. 17; estimates of the number of Egyptians infected with either Schistosoma type or both vary according to the researcher. Several sources have concluded, however, that in 1965 in the northeast Delta, 85% have one or both species while in the rural areas irrigated perennially, 50 to 60% of the population have one or both types of Schistosomiasis.

[22] Ibid., pp. 11-16; for a more complete description of symptoms and treatment of Schistosomiasis.

The ARE's Ministry of Health is attempting to control Schistosomiasis by two avenues: early diagnosis and treatment and control and elimination of snails from placid water (irrigation canals and Lake Nasser). As to treatment of the disease, the number of cases treated normally fall substantially short of the numbers diagnosed and the numbers of infected cases receiving full treatment is even smaller than the numbers presented for treatment. Still, despite inadequate staffs, diagnosis and treatment is undertaken through out-patient services, hospitals, rural health centers and units.

The control of the snails, and of the irrigation systems to keep them free of snails, is undertaken by the Endemic Diseases Department through its specialized officials and engineers and field teams. The plan of eradication of the snail has been developed by stages starting with the main feeder canals and gradually extended to canals and water channels of an entire provincial irrigation system. Mechanized equipment and proven effective chemicals are employed in the control program. Moreover, Egyptian technicians are now experimenting with an electrical barrier to be used initially in the principal feeder canal(s) to prevent further introduction of snails into smaller canals. The Egyptians seem to have considerable hopes of success with the electrical barrier.

2. Gastrointestinal Diseases: Intestinal Parasites, Diarrheal Diseases and Dysentery

Although the incidence of Intestinal Parasites, and especially Ancylostoma (hookworms), is on the decline generally, very considerable infection exists all over Egypt. Diarrheal disease including acute gastroenteritis, also presents one of the most important public health problems in the ARE. Undesirable practices and conditions (defecating and urinating in or near streams, canals and other collections of water); lack of potable water; insufficient refrigeration; lack of sanitary control of slaughter houses; presence of swarms of flies and improper disposal of wastes and refuse keep the incidence of these diseases very high. Until these conditions are corrected there seems little likelihood of successfully reducing these diseases which, some experts believe, may still be the leading cause of death in the ARE.

3. Diseases of Infancy and Childhood

Children's diseases occur in epidemic forms periodically in the ARE.[23] Infantile diarrhea accounted for more than half of the infantile deaths in rural areas during the sixties. Measles occurs in epidemic cycles every two years. Although the situation has improved slightly, in 1963 there were reported over 5,400 cases of measles with over 1,200 deaths. Mumps, whooping cough, chickenpox and German measles occur with moderate incidence but frequently in epidemic forms. All of these diseases are underreported, health officials believe. Diptheria also constitutes a significant problem with over 1,300 cases reported in 1964. The Ministry of Health has ordered mandatory immunization against the diseases of children between 1 and 10 years of age but immunization is performed only sporadically.

4. Typhoid and Paratyphoid Infections

Typhoid and paratyphoid fever occurred frequently in the ARE during the last decade. Health officials estimated that the annual rate of typhoid was about 1,500 cases per 100,000 population. Many of the Egyptians, it is believed, continue to be fecal carriers of Salmonella typhi, other strains of salmonella and shigella organisms.

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[23]See Nector Correa and Wafik A. Hassouna, Planning for Health of Infants and Pre-School Children in Egypt, Cairo: UNICEF, 1970, p.1; the ARE has a death rate for children in the age 2-3, over 44 times higher than that of developed countries.

5. Malaria

In 1964 there were 16,181 new cases of malaria reported in the ARE. By the year 1973-74 the incidence of malaria had dropped to an annual figure of approximately 10,000 cases. During the early sixties the infection rates were reported to average one to five percent in Upper Egypt and three to ten percent in the Delta. The majority of infections were caused by Plasmodium virax but the most important vector was and remains Anopheles pharoensis. The control of malaria is the responsibility of the Endemic Disease Department and of the Ministry of Health which, by 1968, had established 225 units for malaria control. The Ministry reported to WHO that the incidence of malaria had been reduced to 3,000 cases annually by the close of 1969.

Nevertheless, the WHO is concerned again about the new Lake Nasser serving as a breeding ground for the Anopheles Gambia, described as the most effective carrier of malaria in Africa. Thus, the Ministry of Health has undertaken unusual measures to prevent the Anopheles Gambia from breeding on the idyllic inlets and swamps of Lake Nasser. Several malaria stations have been established on the Egyptian-Sudanese border and travellers coming from Sudan are sprayed with insecticides.

6. Trachoma

During the early part of the last decade and for centuries prior to that time, trachoma was a most serious affliction in many parts of the ARE. Trachoma was not alone in causing serious eye infection, however. Dust, sand, wind, glare and heat, together with general unsanitary conditions, contributed to one of the highest rates of blindness in the world as well as over 80 percent of the rural population with impaired eyesight. The Ministry of Health has advised the WHO that the incidence of trachoma and general eye infection has been steadily reduced due to the better care at the maternal and child health centers and health units. The WHO has warned, however, that the Ministry must continue its campaigns of antibiotic treatments at the centers and units if this disease is to be controlled and further reduced.

7. Tuberculosis

In the early part of the sixties tuberculosis was also one of the major health problems in the ARE. In 1963, 5,680 cases of pulmonary tuberculosis were reported with 2,200 deaths. But health officers believe this to have been a gross underreporting. On the contrary, they felt the probable deaths from tuberculosis ranged from 20,000 to 30,000 per year. They believed that during this period, positive tuberculin reactions among adults in Egyptian cities would have reached 95 percent.[24]

Since the early sixties, however, tuberculosis control campaigns have been well established with mass x-ray surveys and BCG vaccinations undertaken. As a result, the Ministry has advised the WHO that the incidence of tuberculosis has declined substantially.

8. Environmental Health Conditions

The critical inadequacies of environmental sanitation which, as reported above, are responsible to a great extent for the high incidence of gastrointestinal and diarrheal diseases, are being exacerbated by increasing industrial pollution. In an effort to overcome these inadequacies, the GOARE, with assistance from UNICEF, has launched a large piped rural water supply program. It is to be extended into the latter half of the seventies.

The GOARE also held a national conference in Alexandria in May 1973 on industrial

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[24]See Health Data Publications, op. cit., pp. 46-47.

pollution of the environment. As a result, the GOARE initiated new controls on industrial pollution especially in the control of waste-water effluents from municipal sewers and industrial plants and in the control of solid waste disposal. WHO has assisted the GOARE in control of waste-water effluents since 1969.

B. Other Bacterial, Viral, and Parasitic Diseases of Concern to the GOARE[25]

1. Bacterial Diseases

a. Meningococcal Meningitis

Sporadic cases and localized outbreaks of meningococcal meningitis were reported in Egypt during the sixties. In 1963, for example, there were 1,667 cases reported. These reports may have been low, however, as the incidence of the disease, mortality rates and distribution in the country are unknown.

b. Skin Diseases

Skin infections are common in the ARE. Etiologic agents include the usual bacteria and fungi found eleswhere. One of these, Tinea favosa causes favus, complicated by heat, sunlight, wind and sand.

c. Acute Respiratory Disease

Respiratory illnesses of all kinds were common in the ARE during the sixties. Pneumonia and bronchitis were reported to be major causes of death in Egypt during this decade. Coxsackie and influenza viruses were also associated with frequent outbreaks of acute respiratory disease. According to a 1974 GOARE publication, diseases of the respiratory system were responsible for about 19% of all mortality in the ARE in 1970.[26]

d. Venereal Disease

As in all Near Eastern countries, venereal disease also occurs in the ARE. Gonorrhea is the most common type, but syphilis and chancroid are also widespread.

2. Arthropod - Borne Viral Diseases

a. Sandfly Fever

Sandfly fever, transmitted by the bite of a sandfly (Phebotomus papatasii), was reported to occur throughout Egypt during the sixties. This disease is most common in northern Egypt and in the Suez region where antibodies against the viruses have been found in up to 50 percent of the population. The peak incidence usually occurs in August but cases start appearing as early as March.

b. West Nile Virus Infection

Disease due to West Nile virus infection is not especially common in the ARE but infection with the virus is common, especially among children. When the disease

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[25]See Ibid., pp. 34-47 for best available summary of diseases afflicting the Egyptian population. See also Planning for Health of Infants, op. cit., pp. 3-4, especially chart on p. 4 showing principal diseases affecting infants and children in the ARE.

[26]See Basic Statistical Information, op. cit., p. 4.

appears it resembles dengue clinically or sometimes encephalitis. The virus is transmitted by Culex mosquitoes in the Delta and Nile Valley.

c. Sindhis Virus Infection

Sindhis virus was reported to have caused mild to moderate febrile disease in the ARE during the previous decade. Neutralizing antibodies against this virus are commonly found in a high proportion of Egyptians in many localities. The true incidence of this infection is unknown, however.

3. Other Parasitic Diseases

a. Filarial Infections

There was reported to be a high incidence of filariasis due to Wuckereria bancrofti in the eastern portion of Egypt's Delta. Onchocerciasis was occasionally reported from the Sinai Peninsula due to the presence of the felarial parasite Onchocerca volvulus in the skin, subcutaneous or other tissues of man and is characterized by fibrous nodules.

b. Intestinal Protozoa

Amebiasis was reported to be endemic in Egypt during the last decade and in some areas as much as 90 percent of the population was infected with Entamoeba histolytica.

c. Leishmaniasis (Kala azar)

Cutaneous leishmanasis, caused by Leishmania tropica was also reported to be endemic in a localized area of the Delta northeast of Cairo. Its vector is a sandfly, Phlebotomus papatasii.

d. Intestinal Helminths

Infection with intestinal worms is common in Egypt but the exact role of these worms in the causation of disease is unknown. About half of the population had been judged to be infected with hookworm (Ancylostoma duodenale). Infection with Ascaris lumbricoides a roundworm was reported to be less common but was prevalent in the central and southern parts of the Delta. Other roundworms commonly encountered include Enterobius vermicularis (pinworm), Trichuris trichiura (whipworm) and Trichostrongylus species. Infection with Heterophyes heterophyes (intestinal fluke) is common around the brakish lakes of the northern portion of the delta where it is acquired by eating inadequately cooked fish.

C. Other Diseases Subject to Increasing Control by the GOARE

1. Anthrax

Occasional cases of malignant pustule in people were reported in the ARE. Anthrax is known to occur among sheep in Egypt. Ministry of Health vaccination programs during recent years have substantially reduced this disease, however.

2. Cholera

Egyptian health authorities have not reported an outbreak of cholera since 1947. Other public health officers believe, however, that cholera remains a threat to the GOARE despite the precautions taken such as strict control measures at Egyptian ports, use of cholera vaccines and special attention given to pilgrims visiting and returning from Mecca.

3. Hepatitis

In 1964, over 10,000 cases of infectious hepatitis were reported in the ARE. The peak incidence of the disease is in December and it decreases through early spring. Viral hepatitis is endemic, occuring mainly among Egyptian children but with a higher incidence among foreign visitors. It is believed to have declined somewhat in recent years, however.

4. Leprosy

Leprosy was reported still to be in evidence in the ARE during the last decade. The Ministry of Health estimated that there were approximately 30,000 lepers in Egypt and that facilities in the sixties were not completely adequate. At that time, Egypt had two leprosaria, near Cairo and Alexandria, with a total of 1,600 beds.[27]

5. Poliomyelitis

In 1964 there were reported 404 cases of paralytic poliomyelitis in the ARE. The disease, at that time, was endemic throughout the country and reached its peak incidence in the spring. The majority of cases occurred in children under two years of age. The Ministry of Health has since intensified its immunization program but recent data on the incidence of the disease is unavailable.

6. Rabies

American health officials also believe there is considerable incidence of rabies in the canine population throughout Egypt. Human cases are frequently reported. At the present time there appears to be no efficient rabies vaccination or canine control program.

7. Rickettsial Diseases

During the past decade the GOARE reported only a small number of typhus (louse-borne) cases. Public health officials believe, however, that there was gross underreporting of typhus especially since body lice have developed a resistance to DDT.

On the other hand, health officials report that the murine (flea-borne) typhus reached endemic conditions in Egypt during the sixties. Louse-borne typhus was more prevalent in the Delta while flea-borne occurred more often in slum areas of cities.

8. Smallpox

Again, smallpox has not been reported by Egyptian health officials in over a decade but U.S. public health officials believe this is another case of not reporting the disease. In any event, they believe smallpox represents a potential threat to the ARE, at least.

9. Tetanus

During the last decade tetanus was common to Egypt. In 1963, for example, 710 deaths from this disease were reported. Many of these deaths occur in the very young.

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[27]See Statistical Abstracts, op. cit., p. 106; in 1972 there were reported to be 1869 beds for leprosy cases; See also Basic Statistical Information, op. cit., p. 10, which reports that in 1973 there were 203,806 outpatients undergoing treatment for leprosy, while there were only 85 in the GOARE Leprosaria.

D. Degenerative and/or Chronic Diseases

1. Rheumatic Heart Disease

Data is not available to discern whether or not rheumatic heart disease is increasing or decreasing. It is prevalent in Egypt, however. In 1963, for example, 4,404 deaths were reported by the Ministry of Health due to chronic rheumatic heart disease. It is further believed that much of the rheumatic heart disease was generated from streptococcal disease, data on the incidence of which is unavailable in Egypt.

2. Hypertension, Ischemic Heart Disease and Myocardial Infarction

Coronary heart disease has acquired a new importance in Egypt during the past decade. Although no accurate statistics are available, there is a distinct impression among various health officials that it has become an increasingly common cause of death in the ARE. This impression has activated studies by cardiologists[28] who have dispelled some common beliefs about its development in Egypt, i.e., that it is more prevalent among the upper middle classes than the lower urban classes. Otherwise, they have uncovered the same factors in Egypt, hypertension, smoking, diet and lack of exercise, as are prevalent causes of heart disease in the industrial countries.

3. Cancer

Again, no data is available showing the quantitative increase in cancer in the ARE but, at least, more evidence of its prevalence is now available.

The Cancer Institute at the University of Cairo now has an expanded program of epidemiological investigation and research as well as new training programs. Some data on cancer should be available soon as the work in the university medical centers increases.

E. Maternal and Child Health

1. Infant and Child Mortality

A health indicator of great significance is the level of infant and child mortality. For a country with a relatively well-developed health system (see below), these figures are still high in Egypt, perhaps double that which experts think they could reasonably be under Egypt's conditions.

Infant mortality (the numbers per thousand dying within the first year of life) is 118, which compares with 130-140 in Kenya and India and 30-40 in Malaysia and South Korea. In the decades of the thirties and forties, the rate was around 180. Child mortality (1-4 years) is 39. The primary causes of these high rates, according to the WHO, are gastrointestinal disease (in summer), respiratory disease (in winter) and poor nutrition associated with excessively long breastfeeding.[29]

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[28]"A Retrospective Study of Some Risk Factors in the Epidemiology of Myocardial Infarction in Egypt," by A. M. Badrau, M.D., and A. H. Sorour, M.D., The Journal of the Egyptian Public Health Association, XLVII, No. 4, 1972, pp. 221-230.

[29]See Planning for Health, op. cit., p. 4; in a comparison of death rates, among infants and children for unidentified diseases, between the ARE and the Netherlands, Sweden and the U.S., the ARE had a rate of 3,246.4 per 100,000 in 1968 compared to a rate of 516.6 per 100,000, the average for these three countries.

2. Maternal Mortality

Another unusually high figure is maternal mortality which is about 9 per 1,000. This mortality rate is perhaps 5 to 10 times what WHO officials believe it should be. This is a reflection of the unusually high proportion of births which occur at home with only a traditional village midwife in attendance. While the midwives are often skilled and much valued by villagers, they lack training in anticeptic practice and work under adverse home conditions.

3. GOARE Policy

Present policy of the Ministry of Health is to discourage continuation of the midwife system and to convert home deliveries to attendance by trained assistant nurse midwives (ANMs - see Health Manpower Resources below). The Ministry also hopes for increasing use of the largely unused beds provided in rural health facilities. The latter objectives are likely to be reached only very slowly and the present village midwife system is likely to continue for many years. The WHO has suggested, therefore, that there is a strong case for rethinking the role of the village midwife, her training and her possible integration into a family planning role (see Population Programs below).

There are, of course, a number of other elements in improving the mortality rates and health of infants, children and women. These encompass such diversities as environmental conditions, metabolic disorders, prevention, detection and treatment of chronic illnesses, studies of fetal growth, better general health care and nutrition. These elements, we feel, are covered adequately in one of the several chapters to follow.

F. Mental Health

Mental Health, we believe, represents a relatively low place on the Ministry of Health priority list. Nevertheless, there are evidences that the Ministry recognizes the existence of problems in this area. There is, for example, a "drug" problem in the ARE, although it does not appear to be of the magnitude prevalent in the West. It is confined largely to the use of hashish and marijuana. Cocaine and heroin are not in wide usage. Of additional interest is the increase in the care provided in the mental health area. The number of beds at Ministry of Mental Health and Psychiatric hospitals has increased from 4,100 in 1960 to 5,354 in 1970, an increase of 31 percent.[30]

G. War Inflicted Illness and Care of Refugees

The GOARE has advised that the Suez Canal zone was composed of three Governorates (provinces) containing 1,095,000 Egyptians while the Sinai was composed of one Governorate with 112,214 people. According to the GOARE the canal zone alone had 14 hospitals and 23 rural health units plus other medical facilities.

All of this was destroyed in the 1967 and 1973 conflicts with Israel and presumably, most of the inhabitants of the canal zone became refugees. We have no data on how the GOARE is caring for these refugees but these refugees must number well over 500,000. The GOARE has calculated that it would require over $35 million to rebuild the Canal Zone medical facilities.

There are other areas of major concern to the Ministry of Health, of course, which have not been included in this chapter since they require special and more detailed treatment. Included are nutritional problems, population and family planning, environmental services,

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[30]See Statistical Abstract, op. cit., p. 105; by 1972 the number of beds occupied by psychiatric patients had increased to 5,868 with 36 psychiatric clinics.

health manpower and health delivery services, all of which exercise a significant effect on the Egyptian health environment. These issues are dealt with in Chapters V through IX.

V. ORGANIZATION AND FUNCTIONING OF THE EGYPTIAN HEALTH SYSTEM: NATIONAL HEALTH PLAN

A. Organization and Operation of the ARE "Provincial" Administration

It is worthwhile to examine very briefly the organization and operation of the Government of the Arab Republic of Egypt on the provincial, district and local levels since the organization and administration of the Ministry of Health follows this same pattern. Thus, the ARE is divided into twenty-five governorates (regions or provinces). The governor of each of the governorates is appointed by the President. Each of the governorates, in turn, is divided into a number of districts termed "markaz," the total number of "markaz" being 123. At the district or "markaz" level there is a district administration.

Decentralization to the district level is a comparatively recent event in Egyptian public administration. Nevertheless, it has been extended down to the town level over the past several years. At the town level there is now a village council which is responsible for direction of all village activities.

B. Background Organization and Administration of the Ministry of Public Health

1. Evolution of the Egyptian Public Health Service

In 1936 the Egyptian Government formally created the Ministry of Public Health.[31] Prior to this date health activities were performed by the Ministry of Interior. Shortly after the establishment of the Ministry, plans were prepared to construct a few out-patient clinics for the rural population on a proportion of one clinic for 50,000 fellahin. Some ten such clinics were actually established, staffed by a physician and a nurse. The urban population was expected to use the hospitals in the provincial cities.

Another step in the progress of health care for the Egyptian people was taken in 1940 when the Ministry of Social Affairs initiated a program of building social centers. The program under which these centers were operated was designed to provide the rural population with various kinds of social services including out-patient health care and maternal and child health care. During the course of this program approximately 130 such social centers were created.

The next step occurred in 1942 when the Egyptian Government prepared a comprehensive health program designed to serve the entire Egyptian population. In 1943 a health survey was completed which tried to take into account the health requirements of Egyptian villages as well as urban areas. This survey led to the creation of two new departments in the Ministry of Health, a Department of Rural Health and a Department of Public Health Engineering. The Department of Rural Health soon prepared plans for rural health centers, one center for every 15,000-20,000 population comprising about 4-5 villages. These health centers, 700 of which were then planned, were to have an elementary laboratory to examine blood for parasites, a pharmacy and 15 beds and were designed to provide out-patient services and to deal with local endemic diseases. In the subsequent several years, 270 such rural health centers were built and they provided the basic physical plant for the Egyptian rural health service.

After the revolution in 1952, co-ordination among the several ministries was improved when in 1954 two supreme councils, composed of representatives from the various ministries, were established. The first was a Permanent Council for Public Services and

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[31] Derived in part from "Evolution of Health Services in the United Arab Republic," by Dr. P. M. Kaul, WHO Consultant, EM/PHA/126, LIAR, January 1970, pp. 4-8.

included all social services like health and education and the second was a Permanent Council for Production. The experience thus gained led to the creation of a Ministry of National Planning in 1958. This Ministry of National Planning together with the Permanent Council of Public Services drew up three five-year plans, 1960-1975.

This ministerial cooperation was reflected most auspiciously at the rural social (health) centers which combined health services with social services, education and agricultural promotion serving up to 20,000 persons each and housed in a common building. These centers led to the creation of the current local system of government, that is, the village councils which have jurisdiction over the operation of the social centers.

Experience, however, showed that the population on the periphery of the areas served by the social (rural health) centers were being neglected. This led directly to the current plan of rural health services developed in 1961-1962 designed to insure service to all of the rural population. The plan thus provided for the creation of rural health units, satellites around the rural health center, each unit to serve up to 5,000 people, thereby establishing a unit in about every village. Each unit was to provide only outpatient service and to be staffed with a medical officer, two assistant nurse-midwives, one assistant sanitarian and one assistant laboratory technician.[32]

In 1952 there were 222 rural health centers with a ratio of one center for each 50,000 of rural population. By 1970, with the addition of the rural health units, there were 1,250 units and 585 centers with a unit ratio of 1:10,000 population. In 1962 the plan called for construction of 2,500 facilities (RHC's and RHU's in a 1:3 ratio). In 1970 it was decided to increase this by another 400 facilities. In 1974, 2,140 health facilities had actually been constructed comprised of 587 Rural Health Centers and 1,553 Rural Health Units. The plan called for completion of all the health units by the middle of 1975.[33]

While these health services and facilities were being developed for the rural areas of Egypt, similar development was underway in the urban areas. It was recognized very early in the planning stage that the urban hospitals would be inadequate to treat the ever increasing urban population. As a result, MCH (Maternal and Child Health) Centers, Health Offices and Health Units were planned for the Egyptian urban areas. By 1971 there were 210 MCH Centers plus an undetermined number of Urban Health Offices and Urban Health Units in the densely populated urban neighborhoods.[34]

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[32] Ibid., p. 8; the rural health centers' functions changed somewhat after the units were established, serving more as an in-patient center or dispensary. The center's staff consisted of 2 physicians, 1 nurse-midwife, 2 assistant nurse-midwives, 1 sanitarian, 1 assistant sanitarian and 1 lab technician.

[33] See Davis, op. cit., annex: Rural Health Services in the ARE. See general health facilities (Chapter 7) for a composite summary of all Egyptian health facilities.

[34] See the Family Planning Progrmm (IBRD), op. cit., pp. 36-37; Staffing for the MCH Centers includes 1 physician, 1 nurse, 8 assistant nurse-midwives (ANM's), 1 pharmacist, 1 social worker and auxiliary personnel. The Health Offices have 1 physician, 1 nurse, 1 nurse assistant, 1 sanitary engineer and auxiliaries. The Urban Health Units have 1 physician, 2 assistant nurse-midwives, 1 assistant sanitarian, 1 lab technician and auxiliaries.

2. Central Administration

The Ministry of Health, headed by a cabinet minister, is divided into several departments.[35] There are five Under-Secretaries of State under the Minister of Health, some of whom may be in charge of more than one of the following departments of the Ministry:

a. Rural Health Services (Department of)

b. Preventive Medicine Services

c. Endemic Tropical Diseases

d. General and Special Hospitals

e. Pharmacy

f. School Health

g. Public Health Laboratories and Production

h. Medical Commission

i. Licensing and Registration of Medical Practitioners

j. Pharmacists and Licensing of Private Hospitals and Pharmacies

k. Local Health Services (acts as a liaison body between the Ministry of Health and provincial health departments)

l. International Health

In addition to these departments, the Ministry of Public Health has established certain standing committees which act as expert bodies and meet regularly to advise the Ministry of Health. These standing committees, for example, include those on:

a. Schistosomiasis

b. Rural Health Programs

c. Communicable Disease Control and Quarantine

The membership of these expert committees is not restricted to officers of the Ministry of Health but also includes experts from medical colleges, teaching institutions, research institutions and from the army medical services.

The Ministry of Health establishes the technical policies and plans the programs which are then implemented by the governorate health administrations and by the district and rural health services. The Central Administration is responsible for supervising the technical policies and programs throughout Egypt and is also responsible for the recruitment and staffing of the health services throughout the country. The governorate health administrations are responsible for the administration of the personnel of the health services in their area.

The budget of the Ministry of (Public) Health has been rising steadily and even

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[35] See Kaul, op. cit., pp. 4-5.

precipitously since the Revolution. In 1952-1953 it was 6,761,000 Egyptian pounds but for 1969-1970 it had grown to 43,397,000 Egyptian pounds and continued in 1971-1972 to increase to LE 60,000,000 (the 1969-1970 public health share of the national budget was about 9%).[36]

3. Governorate Level

Each of the twenty-five governorates has a health department under a Director-General or an Under-Secretary of State. Each of the governorates also has Assistant Directors of Public Health who handle at least five of the major health programs, i.e., a) rural health services; b) medical care; c) communicable disease control; d) endemic disease control; e) school health and f) supply and administration, etc.

The chart on the following page shows the structure of the Health Directorate of the Fayoum Governorate and is illustrative of the health organization on the governorate level.[37]

4. District Level

During the course of the organization of the Ministry of Health, an effort has been made to decentralize the administration by transferring some responsibilities from the governorate to the district level. This has been accomplished especially for rural health programs by appointing an Assistant Director for Rural Health (single responsibility) and moving him to the district level from the governorate level (see above). In addition, a senior nurse-midwife, a senior sanitarian and a senior laboratory technician have also been moved from the governorate to the district level.

The team thus established at the district level is intended to be the supervisory staff for district and rural health work. This team is supplied with vehicles for mobility to facilitate their supervision at the village level of the rural health centers and the rural health units. The Assistant Director for Rural Health, of course, reports directly to the governorate's Director General or Under-Secretary of State.

5. Rural Health Program

The development of the Egyptian rural health program, which has been a tedious and difficult but ultimately rewarding procedure, was delineated for the most part in the previous section of this chapter on the evolution of the public health service. It might be useful to summarize the highlights of that development, however.

During the late thirties the then Egyptian Government decided to establish outpatient clinics for the rural population with one clinic for 50,000 rural people. Although the Ministry of Health was established in 1936, it was not until the midst of World War II, in 1942, that a comprehensive plan for a countrywide health program was drafted. A Rural Health and Medical Care Department was created and with it a new plan to create rural health centers, one for every 15,000 people. Seven hundred such centers were initially planned. These health centers were to provide supervision for outpatient clinics and were to deal with local and endemic diseases as well as to provide for a small hospital. About 270 centers were constructed in the subsequent decade.

After the Revolution of 1952, steps were taken to integrate health and social services

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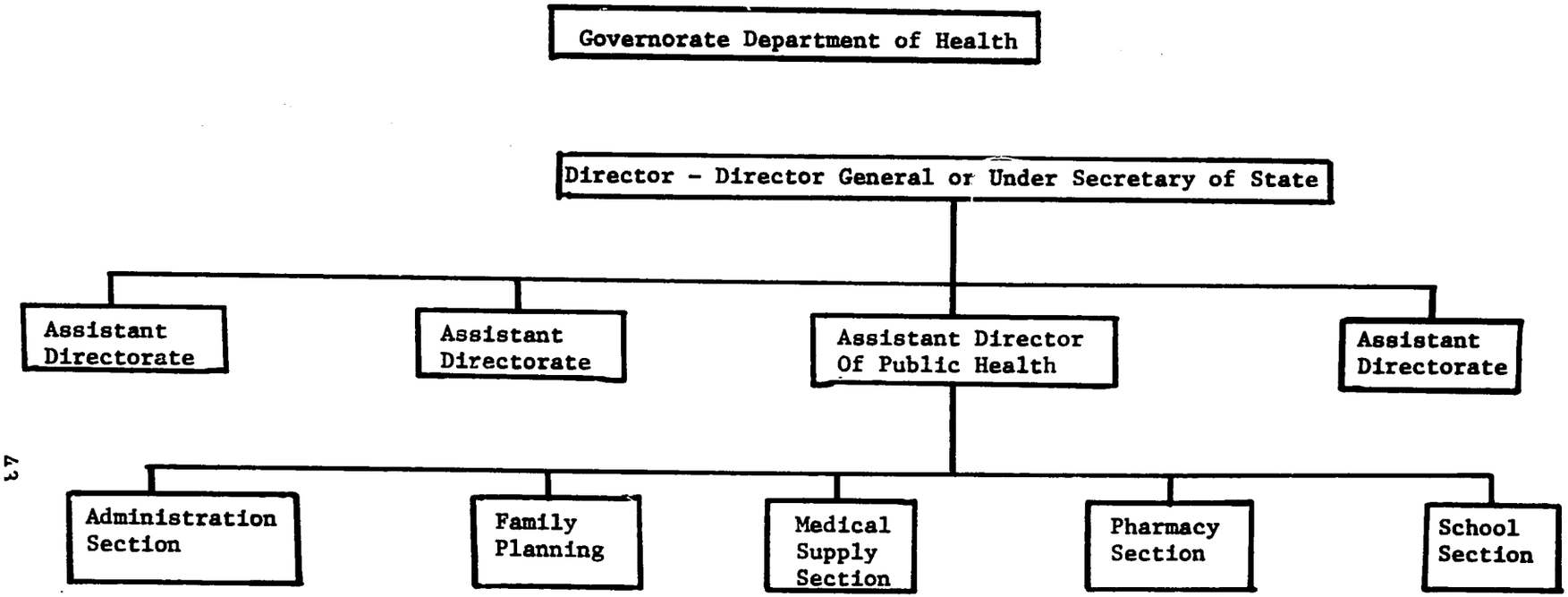
[36]See Family Planning Program (IBRD), op. cit., p. 29; Basic Statistical Information, op. cit., p. 6; and Area Handbook: UAR, op. cit., p. 440.

[37]Kaul, op. cit., Annex II.


Governorate Department of Health
Director - Director General or Under Secretary of State
Assistant Directorate
Assistant Directorate
Assistant Director Of Public Health
Assistant Directorate
Administration Section
Family Planning
Medical Supply Section
Pharmacy Section
School Section

through a Permanent Council for Public Services on which all interested government agencies were represented. As a result of this centralized cooperation, rural health centers were combined with social, educational and agricultural service units serving 20,000 people. These combined units later were merged into the present day local government system, that of the village council, which may represent one village or several closely grouped villages but which also contain representatives from the national government ministries.

The experience gained in the villages by the combined units and later the village councils dictated the rural health program which was developed in 1961-1962. Since it was learned that the health-social centers failed to reach the people on the periphery of the area served (about 5 villages), it was decided to establish rural health units each of which would serve up to 5,000 people on an out-patient basis. These units were given a staff of one medical officer, two assistant nurse-midwives, one assistant sanitarian and one assistant laboratory technician. (See the organizational chart on the following page)

The current plan of the GOARE, as recorded previously, provides for the expansion of rural health services, utilizing centers and units, to provide health care for the entire population. The rural health center may be independent or combined with social services but will be designed to serve 20,000 people. The staff for these health centers will include two physicians, one nurse-midwife, two assistant nurse-midwives, one sanitarian, one assistant sanitarian, one laboratory technician, cooks, orderlies and a driver. It would have 20 beds for in-patients. The center was expected to supervise three to five rural health units each covering up to 5,000 people. Thus, in this rather circuitous manner, the total number of health facilities increased from 737 in 1960 serving 21,000 people per facility to 2,140 facilities in 1974 serving less than 10,000 people per facility. A new national health plar announced in 1971 called for the construction of another 1,200 additional rural health units, the addition of 18 mobile health education units and a total of 700 rural health centers and/or combined units.[38]

C. The GOARE National Health Plans

In Chapter III, there were recorded however succinctly, the principal goals of the GOARE health plans. It will be recalled that these goals included providing basic health care to the rural areas of the ARE, attacking endemic and communicable diseases and increasing the knowledge and skill of health personnel. In 1971 the GOARE made available a "National Health Plan" for 1972-1974, noted above, in which several precise data were set forth with which, presumably, the aforementioned goals were to be achieved.

Generally, the goals of the GOARE health planning, annunciated in 1971, provided for the improvement of the Egyptian health environment in the following five categories:[39]

1. Urban Health Care Facilities

2. Rural Health Delivery Systems

3. Provincial and District Hospital Delivery of Health Services

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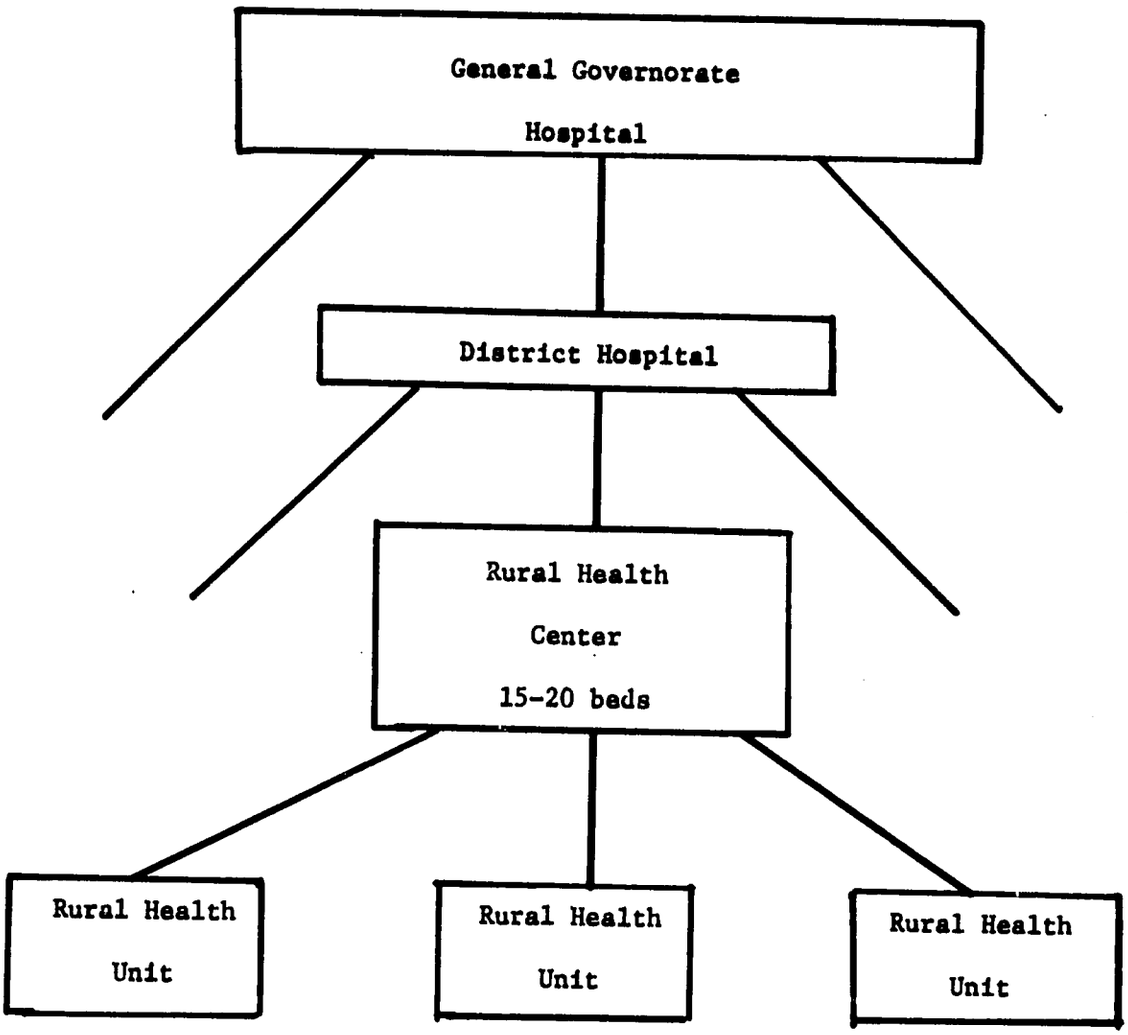
[38]See Davis, op. cit., Annex, and Kaul, op. cit., p. 8. The data appearing in Kaul's report appears to be somewhat dated and was superceded in part by the trip reports. In a plan announced in 1962 the GOARE called for a total of 700 rural health centers and 2,500 rural health units. This was later revised apparently to increase the rural health units to 3,700.

[39]See Davis, op. cit.


General Governorate
Hospital
District Hospital
Rural Health
Center
15-20 beds
Rural Health
Unit
Rural Health
Unit
Rural Health
Unit

4. Health Manpower Planning

5. Environmental Sanitation at the Rural Village Level

The following are the specific goals of the National Health Plan of 1972-1974 together with recent recommendations adopted by the MOH:

The National Health Plan, 1972-1974[40]

1. The establishment of 1,200 additional rural health units;

2. The establishment of 600 urban integrated health units. This is a new type of center;

3. The establishment of 600 urban mother and child health centers;

4. The expansion of MCH facilities in 240 rural health centers and/or combined units at the rate of 80 each year. This process will involve the conversion and utilization of half the number of beds available in the centers for maternity and MCH cases;

5. The establishment of 6 general and 8 district hospitals with a capacity of 3,400 beds, 20 percent of which will be used for maternity and obstetrics cases;

6. The expansion of the capacity of existing general hospitals by 4,350 beds, 20 percent of which are intended for maternity and obstetrics cases;

7. The creation of 60 mobile health clinics to serve remote and sparsely populated areas;

8. To strengthen and expand health education through the organization of effective educational programs in all 700 rural health centers and/or combined units and by the addition of 18 mobile health education units at the governorate level;

9. To continue and expand the training programs of the personnel needed to staff the centers which will be established during this period;

10. Continue to promote rural sanitation projects to provide potable water and improve excretia disposal (the Fayum water supply experiment, discussed below, would be continued to accumulate and analyze data on the health impact of various sanitation programs);

11. To improve the planning capabilities of the MOH with respect to organization, trained manpower and health input into the preparation of the current five-year plan (1976-1980); and

12. Expand the MOH health data system by infusing substantial increases in funds and manpower, focussing on collecting data on the health care delivery system.

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[40]Derived from "Plans of Operations for a Health Services and Training Project in the United Arab Republic," UNICEF, 1971; see also several trip reports by King, Davis, et al cited above.

VI. ENVIRONMENTAL SERVICES

A. The Responsibility for Sanitation Services in the GOARE

Until 1951 responsibility for sanitation services was lodged with the Ministry of Health. In 1951, however, a Ministry of Housing and Public Utility was created and given responsibility for housing, public works, sewerage works, licensing of shops and other forms of institutions which require inspection. A committee was established in the central administration and at the provincial level to coordinate this work between the Ministry of Health and Ministry of Housing and Public Utility.

As a result of this coordinated effort there has been a logical division of labor between the two Ministries. The Ministry of Health has been given the role of setting standards for water purity and for sewerage effluent and providing technical guidance for sanitary facilities. The actual construction of improved housing or of water works and sewerage disposal plants is the responsibility of the Ministry of Housing and Public Utility. Thus, the GOARE have been working on several environmental projects through the above committee for the past decade or longer.

B. Environmental Sanitation Projects

One of these projects involves the provision of pure water to the village population. The policy has been to provide stands with a water tap in villages at a ratio of one water tap stand to every 300 villagers. By 1970 this program was about 85 percent completed. In 1974 this program had been completed whereby almost every village in the ARE has at least one water tap.[41] Although this represented substantial progress, it apparently is still inadequate for other domestic purposes beyond drinking water. Accordingly, the rural population continues to use canal and river water for bathing, washing clothes and utensils. This continues to be a highly dangerous source of contamination for the rural Egyptians.

For a number of years there has also been a program to improve excreta disposal through the installation of latrines in villages. Pre-case latrine bored hole slabs have been constructed by special teams in some of the Rural Health Centers. Initially they were distributed free so as to encourage building latrines in villages but later provided at 50 percent of cost. Responsibility for this program, in recent years, was given to the village councils.

Similarly, the Ministry of Housing has mounted apartment housing projects for urban areas and other rural housing projects over the past 15 years. The Ministry of Health clears all legislation prepared for the provision of housing by the Ministry of Housing and Public Utility.

Despite the latrine program and the rural housing projects, little significant progress has been achieved in the rural areas. The latrine program has not influenced any large rural areas while the rural housing has really been confined to new housing for resettlement areas in connection with the High Dam at Aswan. But even here the opportunity to incorporate excreta disposal and better water provision was not introduced.

The GOARE clearly recognizing that the endemic diseases will remain until better sanitation is provided rural villages, has placed considerable emphasis on environmental services in its health planning in recent years. In that connection the MOH is sponsoring an experiment in 75 villages in Fayum Governorate to double the number of community water taps. The experiment is a joint effort of UNICEF and the MOH to determine if the fellahin can be induced to clean with tap water instead of contaminated canal and river water and to accumulate data on the effect of this program.

[41] See Davis, op. cit., section on rural sanitation.

VII. HEALTH MANPOWER RESOURCES

A. Background Data: Medical Facilities and Health Personnel

In the previous chapters, Egyptian medical facilities and health personnel were touched upon principally in general terms in connection with the economy of the ARE and only specifically with respect to the available rural health services. There follows the most recent and comprehensive data available on health facilities but most particularly on Egyptian health personnel regarding numbers, available training, quality of training and projections wherever possible.

1. Glossary of Egyptian Medical Facilities[42]

   a. Rural Health Units - Located in villages with populations of about 5,000, they provide outpatient services.

   b. Rural Health Centers - Each center has 15-20 beds for inpatient care including deliveries and minor surgery and serves a population of 15,000-30,000 (ideal objective is 20,000);

   c. District Hospitals - There are about 10 to 12 district hospitals in each governorate, located in the district headquarters. Each has 70-150 beds and serves a civil district (markaz) of 100,000-150,000 population;

   d. General Hospitals - Each governorate has a 400-bed general hospital located in the capitol;

   e. Maternal and Child Health Centers - Located in all quarters of the cities these centers formerly were housed in premises built for other purposes, thus no standard has emerged;

   f. Outpatient Clinics - A new type of unit in the system, the clinic has developed in all quarters of the cities.

2. Quantity of Egyptian Medical Facilities

   In 1952 Egypt already possessed 90 general hospitals.[43] By the close of 1968 Egypt had 175 general and district hospitals not including the few remaining private hospitals. In 1968 there were 68,000 hospital beds. At that time the hospital bed per thousand population was 2.25, a good ratio for a developing country. Since 1968, the ARE has acquired still more medical facilities including an increase of 14 general and district hospitals for a total of 189 in 1974. The following table provides a delineation of Egyptian (MPH) medical facilities as of the beginning of 1974:[44]

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[42] See Family Planning Program, (IBRD), op. cit., Annex 35, p. 3.

[43] See Kaul, op. cit., p. 9.

[44] See Basic Statistical Information, op. cit., p. 8.

Units and Beds of M.P.H. (1/1/1974)	Units	Beds
General and District hospitals	189	22100
Polyclinics	26	---
Chest disease hospitals (401 beds included in G.H.)	52	8552
Chest dispensaries and mobil units	92	---
Mental and Psychiatry (138 beds included in G.H.)	35	6272
Eye disease hospitals (1486 beds included in G.H.)	158	3043
Infectious disease hospitals	72	6565
Endemic disease hospitals (1127 beds included in G.H.)	162	1283
School health hospitals	3	424
School health polyclinics	47	---
School health units	168	---
Rural Health Centers	587	8353
Rural Health Units	1,553	---
Health bureaux	302	---
Maternity and child health centers	214	484
Health education centers	43	---
Food control units	82	---
Quarantine centers	31	245
Leprosy hospitals	77	1830
Skin disease hospitals (20 beds included in G.H.)	51	95
Medical institutes	8	532

3. Health Personnel in the ARE

Health Profession	1967 Totals[45]	1972-1974 Totals[46]
Physicians	14,343	15,069[47]
Dentists/Dental Surgeons	1,561	n.a.
Dental Assistants	537	n.a.
Professional midwives	2,256	n.a.
Assistant midwives/Auxiliary midwives	11,306	n.a.
Assistant midwives (7,099)		
Practical midwives (4,207)		
Professional nurses	2,039	4,000
Assistant nurses/Auxiliary nurses	14,837	n.a.
Assistant nurses (5,152)		
Practical nurses (9,685)		
Pharmacists/Clinists	4,489	n.a.
Veterinarians/Veterinarian Surgeons	1,590	n.a.
Auxiliary Sanitarians	1,393	n.a.
Physiotherapists/Physical Therapists	58	n.a.
Auxiliary Technical	3,099	n.a.
Laboratory Personnel/Radiographers/ X-ray Technicians	437	n.a.

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[45]See Kaul, op. cit., pp. 9-10.

[46]See Britanak, op. cit., p. 3 and Basic Statistical Information, op. cit., p. 6.

[47]Ibid., p. 6; includes dentists and pharmacists as well. This figure may be too conservative since another source estimated total number of physicians at 30,000 in 1975.

4. Staff of Rural Health Services

Health Profession	1960	1969
Physicians	566	2400
Sanitarians	230	359
Practical Midwife	--	103
Assistant Midwife	1214	4258
Laboratory Technician	566	1602
Assistant Sanitarian	--	1021

B. Training of Health Personnel

1. Physicians

The ARE has seven medical schools, each of which has its own teaching hospital.[48] Medical faculties exist at five universities: Cairo, Alexandria, Assiut University, Ein Shams University and Al Azhar University. Two non-university based medical schools are located at Mansurah and Tanta.

The physician's curriculum is for six years with instructions and texts in English. By law, the young graduate physician is required to serve for a minimum of two years with the Rural Health Service. As recorded previously in the discussion on education, since the Revolution of 1952 university enrollments have increased substantially. This heavy enrollment has begun to present serious academic problems. Moreover, although this large matriculation in the medical schools has resulted in approximately 3,500 young physician graduates each year, recent Egyptian reports suggest that some of the governorates and the rural health services do not have sufficient numbers of physicians.

2. Nurses

There are essentially three types of nurses training in the ARE which produce nurses for the Egyptian health system: a) the High Institute of Nursing curriculum given at two locations, Cairo and Alexandria; b) the Technical Health Institute curriculum at Cairo and Alexandria; and c) the Technical Secondary Nurse Program given at 131 locations.

The curriculum at the High Institute of Learning is a five year curriculum leading to a B.S. degree. Admission is made after 12 years of general education.

The curriculum at the Technical Health Institute, at Cairo and Alexandria, is for three years and the candidate is awarded a diploma upon completing this program. Candidates are admitted after 12 years of general education.

The curriculum of the Technical Secondary Nurse Program, located at 131 schools in the ARE, requires 3 years to complete. Candidates are admitted after 9 years of general education.

The High Nursing Institutes (2) planned to graduate 150 nurses in 1975 while the

[48] Ibid., p. 15.

Technical Health Institutes (2) planned to graduate 50 nurses. The 131 schools providing the Technical Secondary Nurse Program anticipated graduating 5,500 technical secondary nurses in 1975.

3. Midwives

Graduate nurses may specialize as midwives which requires two additional years of training. Five nursing schools attached to university teaching hospitals provide such courses. Many of these highly-trained midwives are utilized in hospital obstetrical wards.

4. Assistant Nurses

The ARE, at the end of 1969, had 29 schools to train assistant nurses. Most of these were attached to nursing schools. Training was for one and a half years and was usually in one specialty, (pediatrics, midwifery, etc.). About 550 assistant nurses were graduated each year. During 1973-1974, however, this program was eliminated and integrated into the full diploma level program (3 years).

5. Assistant Nurse Midwives (ANMs)

There are 22 schools to train ANMs, usually located in the capitals of the governorates. Admission is the same for assistant nurses, (diploma from the intermediate school) and the course is for 18 months with both theory and practical training provided. Some 250 ANMs graduate each year, far too small a number to meet the requirements of the expanded ARE health programs.

6. Auxiliary Personnel

In addition to the principal members of the Egyptian Health profession discussed above, the ARE is training a number of auxiliary personnel to serve in Egypt's expanding health programs. Included among these auxiliary personnel are health visitors, laboratory assistants, dental assistants, administrative assistants and sanitarians. There are, for example, nine schools for training health visitors with between 430 and 450 graduates per year. There are also schools at Cairo, Assiut, Alexandria and Monsurah for training the other auxiliary personnel.

a. Laboratory Technicians, X-ray Technicians and Dental Technicians

The curriculum given at the above locations, is two years for the laboratory technicians and presumably the same for the others. WHO visitors have observed, however, that the laboratory technicians course, for example, needs to be purged of clerical training, such as typing, and more microscopic training substituted.

b. Sanitarians

This is a two year curriculum which relates more to the prevention and epidemiology of disease and less on environmental health activities. The obvious result is that the sanitarian does not obtain the correct orientation respecting his future responsibilities. Thus, he frequently serves more as a physician's assistant than a promoter of better excreta and refuse disposal.

C. Health Manpower and the Future of the ARE Health Programs

The foregoing data have delineated the substantial investment in health manpower training programs undertaken by the ARE during the past two decades. They also reflect the acceleration of this training over the past five years. Despite this admirable effort, Egypt is still deficient in some areas of health manpower with respect to quantity of personnel

while the quality of recently trained personnel leaves something to be desired.

The number of physicians graduating from Egyptian medical schools in 1975 is expected to be about 3,500.[49] With the accelerated training of physicians since 1970, there were probably about 30,000 registered physicians in the ARE at the beginning of 1975, although this represents an educated estimate and cannot be officially verified. About one third of these physicians, between ten and twelve thousand, are believed to be serving abroad. In addition, the ARE anticipated that the accelerated and expanded nursing training programs would graduate about 5,500 nurses in 1975. There does not seem to have been a similar increase in the numbers of supporting health manpower personnel, midwives, auxiliary personnel, lab technicians, x-ray and dental technicians and the desperately needed sanitarians.

Despite the increases recorded above there may still be shortages of physicians, nurses, assistant nurses and midwives as well as known shortages of other health disciplines in several of the rural areas of the ARE. As late as 1972, for example, a study by the ARE[50] concluded that in Damietta there was a shortage in 1972 of 100 physicians and in Quena, a shortage of 345 physicians. There was an even greater shortage of nursing personnel, however. In Damietta, for example, there was a shortage of 60.7 percent while in Quena the shortage was 60 percent.

By 1975 it is quite probable that the physician shortage in the rural areas may well have been aleviated both by the large numbers of recent physician graduates and the system of allocation of new physicians by the ARE. The Ministry of Health requires all physicians to serve at least two years wherever the Ministry requires their services.[51] There still remains a dearth of physicians in various specialties, however.

As for the quantity of nurses for the future, a 1972 ARE study found that there were 4,000 graduate nurses in the ARE which prompted the Ministry of Health and planning authorities to set a goal of 28,000 graduate nurses in approximately 5 years by graduating about 6,000 nurses per year in 146 nursing training schools.[52]

There is no evidence that similarly expanded and accelerated programs for training health personnel in other disciplines has also been undertaken by the ARE despite recommendations to this effect. There remains at this writing, therefore, severe shortages of supporting health personnel, such as midwives, technicians and sanitarians, as well as other required personnel such as medical librarians, health education administrators and equipment maintenance technicians.

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[49] Britanak, op. cit., p. 7.

[50] Integrated Health Services: A Study of Health Services in Quena, Damietta and Shubra Al Khema, ARE Ministry of Health, 1973, p. 100.

[51] Report of the Joint Working Group on Medical Cooperation, October 28 - November 1, 1974, Manpower.

[52] Ibid.; Egyptian traditions concerning female nurses insured a shortage, however. After they marry, female nurses were not permitted to work after the arrival of their first child. This may no longer be pursued, however.

It is in the quality of the professional medical personnel that the Ministry of Health appears to have expressed its greatest immediate concern, however. As a consequence of the expansion program of the Ministry of Health the entire system of medical education and training has been forced to make severe adjustments that have overtaxed its resources.[53] At the medical school level enrollment has increased substantially, schools have been expanded and new schools planned. The student-faculty ratio has risen, laboratory space is inadequate, hospital facilities are overtaxed, classes are huge (1,000) and there is need for curriculum reform.

Similar conditions prevail in the expanded nursing training programs.[54] Nursing training facilities are overtaxed and experts in this field believe the nursing curriculum requires substantial revision. The current curriculum has too many hours and appears to be difficult for the capacity of the students enrolled. There also seems to be a lack of adequate instructional media and nursing instructors. There is also a lack of adequate supervision of the student nurses in their practical and clinical training at the hospitals. Beyond the training problems, it has also been determined that the nurses, once practicing, spend almost half of their time on skill level activities that could be performed by non-nursing personnel thus resulting in further misallocation of still scarce nursing skills.

Recommendations have been proferred both by foreign consultants and Ministry of Health professionals for correcting the quantity and quality imbalances in health manpower recorded above. These include:[55]

1. Better educational techniques including the use of teaching aids;

2. Redesign of curriculum at all levels but especially to handle large student medical classes;

3. Added support of basic science faculty;

4. Improvement of medical libraries perhaps in cooperation with other national libraries of medicine;

5. Immediate training of medical record librarians;

6. Analyses of health manpower requirements with particular focus on training of technicians, i.e., the most appropriate training for the largest number of technicians;

7. Development of a new group of health training administrators;

8. Extensive training in skills required for equipment maintenance and repair;

9. Acquire critically needed equipment and supplies, especially that for diagnostic laboratories, radiology and anesthesiology; and

10. Formalize training so as to give degrees in critically short areas such as:

    a. Masters of Public Health, with emphasis on planning and health economics

    b. Hospital Administration (B.S.)

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[53] Ibid.

[54] Britanak, op. cit., p. 2.

[55] Report, Joint Working Group, op. cit., Manpower, p. 2.

c. Health Education and Nutrition (B.S.)

d. Clinical Specialties.

VIII. NUTRITION

A. General Status

By the standards of some developing countries, the Egyptian people, including the large fellahin class, do not suffer from caloric deficiencies. The daily caloric intake per person at the close of the decade of the sixties was estimated to be between 2,600 and 2,800. Because meat and green vegetables were consumed only in small quantities by a large segment of the population, cereals supplied about 80 percent of the caloric and 50 percent of the protein intake. Thus, due to maldistribution of certain foods and traditional preferences for foods lacking in certain essential nutrients, dietary deficiency diseases appear among both the fellahin and urban workers.

B. Staples and Other Foods[56]

Maize bread is the main staple, but millet and wheat are more widely used for breadmaking in the southern portion of the country. The rest of the rural diet consists mostly of cooked beans, lentils, rice, raw onions, turnips, peppers and cucumbers. Eggs and a course, sour variety of cream cheese made of water buffalo or goat milk and preserved in salt water are consumed occasionally. Because meat is expensive, it is regarded as a delicacy by the fellahin and eaten, at most, once a week. Some families serve it only at festival times or when an animal has been killed by accident. Pork, regarded as unclean and prohibited by Koranic injunction, is eaten only by Copts and by the nonindigenous minorities. Fish is available to those living on the banks of the Nile, along the Mediterranean coast, and on the shores of Lake Qarun, near Faiyum, some 50 miles southwest of Cairo.

Tea is the main beverage. Coffee is more expensive and is better known in the cities than in the countryside. Black tea, a popular beverage consumed by both adults and children, is obtained by boiling tea and sugar into a black, syrupy liquid; it is a powerful drink, detrimental to both stomach and nerves. The leaves of the kat (a type of shrub) are chewed, smoked, or used for tea for its mild stimulant effect on the central nervous system.

As a rule, the fellahin eat three meals a day: at sunrise before leaving for work, at 10:00 a.m. in the fields, and at dusk after returning home. At the midmorning meal in the field, the fellahin may be seen sitting cross-legged on the ground, eating with their fingers from a communal bowl, and drinking from a bottle passed from hand to hand. The evening meal, the principal meal of the day, consists of a hot dish such as broad beans cooked in oil (foul), a thick soup made of the malukhiya (a pot herb) leaf, or green peppers stuffed with rice (falafil). These dishes are also popular with urban groups and are served by many of the inexpensive restaurants catering mainly to industrial workers. The better-off families in the cities vary their diet with meat several times a week; they have also acquired a taste for many Western foods.

C. Some Effects of Malnutrition in the ARE

During the decades of the fifties and sixties, surveys undertaken by health personnel in the ARE and reported in an Egyptian nutritional publication,[57] showed comparatively widespread growth retardation in the ARE. In studies conducted in the rural areas of the Nile Valley,

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[56] Derived from Area Handbook for the UAR, op. cit., p. 124.

[57] Bulletin of the Nutrition Institute, II, #1, Cairo: The Nutrition Institute, 1966, pp. 50-51.

it was reported that the mean height and weight of school children in these several oases and villages were retarded by two full years behind similar mean data for Cairo school children. By the same token, the mean height/age and weight/age for poor Cairo children were 1 full year behind American children of similar age.

The Egyptian health researchers also observed a correlation between growth retardation and blood hemoglobin in these several areas investigated. They concluded that both growth retardation and anemia prevalent among children in the ARE resulted from chronic malnutrition.[58]

Other studies seeking to determine the accessibility of required vitamins were also undertaken in oases west of the Nile at the beginning of the sixties. The results revealed a high prevalence of deficiency signs of Vitamins A, C and B-complex plus the anticipated lack of animal protein. These deficiency signs took the form of Angular lesions, Cheilasis, Glossitis, Gingivitis and various skin manifestations.[59]

Other examples of nutritional deficiencies and malnutrition could be cited. The GOARE, however, is well aware of these deficiencies of the recent past and of their continuing nature. It is promoting nutritional information through its rural and urban health care units and centers. Strenuous efforts are also being made to increase food production and to promote family planning, all of which have a bearing on the nutritional status of the fellahin. The GOARE, however, has not shown any inclination to undertake extraordinary programs to promote a better nutritional status. Rather, in keeping with its economic development programs, it has proposed to integrate its nutritional planning into its agricultural expansion programs and await the natural improvement in nutrition which more agricultural production should initiate.

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[58] Ibid., p. 51.

[59] Ibid., pp. 114-124; the two oases were Kharga and Dakhla, both situated 200 and 400 kms. west of the Nile opposite Luxur.

IX. POPULATION PROGRAMS

A. Statistics, Projections and Economic Development

1. Statistics

When the first reliable census was taken in Egypt in 1897, Egypt's population was enumerated at 9.7 million. In 1968, the population of the ARE was estimated to be slightly over 32 million and by 1972-1973 it was estimated to have grown to over 34 million.[60] Since 1897, the Egyptian population has been growing at an ever increasing rate. Before World War II, the rate of natural increase was 1.6 to 1.7 percent. Since World War II, semi-officially at least, it has increased to 2.5 percent which it reached in the sixties with a very low net emigration.[61] Unofficially, by the early seventies it was believed to be much higher.

The post World War II increase in the growth rate was accounted for almost entirely by a reduction in general mortality rates. There was no fall in fertility rates until 1967. While the fertility decline of the last several years is encouraging, it may be temporary or even inaccurate due to statistical error. For the 1960s, as we noted above, it is believed the rate of natural increase averaged about 2.5 percent. In 1970, according to GOARE statistics reported by the WHO, the crude birth rate was about 36 and the crude death rate was about 15, with the rate of natural increase about 2.1 percent. The WHO, however, casts doubt on this rate of growth observing that it will take several years to confirm the accuracy of this apparent decline.[62] In fact, the Population Council believes that by 1970 the rate of natural increase had reached 3.0 percent.[63]

2. Projections

A perspective on Egyptian population growth is provided by the number of years required to add 10 million people, as recorded immediately below:[64]

In 1900, the Egyptian population was 10 million;
In 1950, after 50 years the Egyptian population was 20 million;
In 1966, after 16 years the Egyptian population was 30 million, and
In 1977, after 11 years the Egyptian population will be 40 million.

If the present rate of increase continues, by the year 2000 Egypt would have over 70 million people. Population density of 950/km2 in the inhabited area, which is already the highest in the world for any comparable area, would then be 100 percent greater

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[60] See Country Profiles: UAR, op. cit., pp. 1-2.

[61] Area Handbook for the UAR, op. cit., pp. 69-70; see also National Family Planning Program (IBRD), op. cit., pp. 6-7; the first modern census was taken in 1882 and counted about 7 million people but its reliability was open to question due to unstable domestic conditions in Egypt at that time.

[62] Ibid., p. 7.

[63] See Country Profiles, UAR, op. cit., p. 2.

[64] National Family Planning Program (IBRD), op. cit., p. 7.

than it is today. With additional, usable and available land extremely scarce, even with that to be added by the High Dam, increasing density would mean small landholdings and much larger cities.

Two other projections of interest have been established by demographers to attempt to illustrate the likely range within which Egypt's future population will be, both of which differ from the projections recorded immediately above.[65] These projections use the same assumptions about the future decline in mortality but differ in their assumptions as to the rate of Egyptian population growth. Thus, while the point hardly requires belaboring, some statistics on the effect of the population growth upon the economy may be in order.

The growth of the Egyptian population from about 13 million in 1917 to 22 million in 1952 resulted in a precipitous decline in Egyptian per capita income since the economy did not progress at a comparable rate. This trend was arrested by the Revolution of 1952. The 1952 per capita income of $86.00 increased by 36 percent during the next eight years. At constant prices the annual compound rate of growth in per capita income by 1960 was 2.37 percent and from 1964 to 1965 it was 3.9 percent.[66] The GNP for 1964-65 was $4.7 billion or an increase of 8.7 percent over the 1963-64 level. Egypt's GNP for 1973 was $7.75 billion or an increase of 6.0 percent over 1972. By 1970, Egyptian per capita income had been raised to $168.00.

Thus, the Egyptian economy demonstrated substantial growth between 1960-65 but then, presented a lackluster performance in the last part of the decade, 3.3 percent in 1968, only to revive again by 1973. Nevertheless, President Sadat has announced that during the seventies the Egyptians must double their national income which can only be achieved by an annual growth rate of 7 percent and an annual investment of 20 percent. It should be noted that only in one year, 1964-65, did the Egyptian GNP reach or exceed 7 percent (GNP growth was 8.7 percent in 1964-65). In virtually all of the remaining years since 1952 it was below 6 percent. Moreover, with the Egyptian population in 1973 well over 34 million and increasing at between 2.0 and 3.0 percent annually, it is difficult to envisage the Egyptian per capita income increasing at or near the rate of 3.9 percent, which it achieved in the banner year 1964-65, unless the 7.0 percent GNP increase is held constant during the decade of the seventies.[67]

The Egyptian population increase also places almost intolerable burdens both on the educational system and the labor force. As to the demands on the Egyptian educational system of this exploding population, a few statistics will illustrate the dilemma. Assuming the most pessimistic population increase of about 3.0 percent and a population of some 58 million in 1988, one demographer has calculated that about 4.5 million children, ages 6-11, will not be enrolled in school.[68]

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[65] Ibid., pp. 7-8; these projections were compliled by Dr. Thomas Frejka, a demographer with the Population Council.

[66] Country Profiles, UAR, op. cit., p. 2.

[67] See reference to Hoagland's article in the October 6, 1974 Washington Post reporting current Egyptian economic difficulties, in Chapter III above.

[68] Waterbury, op. cit., II, pp. 11-12.

The following table provides illustrative years and numbers.

School Enrollment, Ages 6-11[69]

Year	Enrollment	Eligible	Deficit
1964-1965	3,294,000	4,863,000	1,569,000
1974-1975	3,980,000 (est)	6,509,000	2,529,000
1984-1985	5,148,000 (est)	9,500,000	4,352,000

This condition is further complicated by the problem of misplaced training or lack of specialized training. As recorded in Chapter I, there is a desperate shortage of technicians in the Egyptian economy. By 1970, for example, it was estimated that there was a need for 281,000 technicians but in the whole period of 1960-1970 only 137,000 technicians were graduated. This situation could be exacerbated in the future efforts to "educate" masses of new children.

We have already encountered the problem of idle workers or underemployed workers in the Egyptian economy. This situation, of course, will also worsen under a heavy population increase. Again, the following table illustrates the problem.[70]

Deficits and Surpluses in Percentages of Projected Labor Supply

Type	1965	% Def/Sur	1975	% Def/Sur	1985	% Def/Sur
Managers and Professionals	207,920	+1.1	369,500	-18.0	595,970	-41.0
Technicians	295,480	-28.9	356,850	-144.4	510,130	-251.0
Clerks	297,030	+20.6	393,690	-24.5	559,580	-65.6
Skilled	940,400	-12.9	1,369,200	-45.2	1,916,320	-89.3
Unskilled	6,366,170	+3.9	8,920,760	+18.3	11,868,000	+31.3

B. The Ministry of Health Population Program

1. Background

According to the study prepared by the Population Council,[71] the development of an Egyptian population policy occurred in four stages:

a. 1922-1951, the stage of indifferent awareness

b. 1952-1961, the stage of experimentation

c. 1962-1965, beginning of a population policy

d. 1966-present, stage of attempted coordination.

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[69] Ibid., p. 12, Table 8; see also National Family Planning Program, op. cit., Annex 4, pp. 3-4 for the WHO future school projections which they have made with the annual increase of 1.7 percent.

[70] Waterbury, op. cit., p. 6, Table 4.

[71] Country Profiles: UAR, op. cit., pp. 3-6.

Since 1953 the Revolutionary Government seemed vaguely aware of the need for population programs of family planning and propagandized for population control. But in reality during the decade of the fifties the government did little to restrain population growth. In fact, due to the rising standard of living population increases were actually fostered and, unknowingly, promoted.

Then, on May 21, 1962 President Nasser stated that the "population increase constitutes the most dangerous obstacle facing the Egyptian people in their drive towards raising the standards of production in their country in an effective and efficient way. Attempts at family planning deserve the most sincere efforts by modern scientific methods." This statement marked the beginning of a national population policy. It was the Charter statement from which GOARE planning began.

But implementation of a program of family planning had to wait until 1965. In November 1965 a Supreme Council for Family Planning was established. Subsequently, volunteer groups called the Egyptian Family Planning Association and the Cairo Joint Committee for Family Planning were created.

2. Objectives

It was not until 1967 after a national conference conducted by the Ministry of Social Affairs that specific objectives of population control were set forth. These growth targets were established as follows:

a. 1968 - 2.35 percent

b. 1969 - 2.25 percent

c. 1970 - 2.10 percent

d. 1975 - 1.7 percent

As recorded above, however, demographers strongly suspected that by 1970 the growth rate was still hovering around 3.0 percent.

3. Organization

The Presidential Decree of November 13, 1965 established the Supreme Council for Family Planning, chaired by the Prime Minister and composed of eight ministers and the head of the Central Agency for Public Mobilization and Statistics. The Supreme Council was the policy making body and its decisions after approval were final and effective for all ministries, governorates and other governmental organizations. Several committees report to the chairman and assist him in managing the council.

In 1966 the Prime Minister decreed that governorate level family planning committees were to be formed and chaired by the governor with representation from several governmental departments and the private sector. The family planning committees were charged with executing the decisions of the Supreme Council's Executive Board. The governorate executive bureau (one in each governorate) has the director of health as the president and the director of the executive bureau of family planning as the Administrator. In February 1966 there had been created 1,991 family planning services. By October 1968 there had also been established 2,667 family planning centers. These centers which served upwards of three-fourths of the people were also supplemented by mobile services.[72]

[72]See National Family Planning Program (IBRD), op. cit., pp. 18-20; the Executive Board has a headquarters staff of about 165 plus a total field staff of 200 stationed in the capitals of each of the 25 governorates. The Board's Regional Offices have a staff of 8 to 10

4. Operations

The governorates were given day to day supervision of the family planning programs. Primary importance has been given to the oral pill with the IUD receiving secondary emphasis. The IUD program was mainly urban as only 17 of the 600 physicians trained for IUD insertions were in rural areas. Abortions and sterilizations may be performed to save the life of the mother but neither are part of the family planning program. Clinics operated by the Egyptian Family Planning Association also provide other types of contraceptives.

The budget for the family planning program was LE 800,000 ($1,840,000) in 1968-1969. This was used for the purchase of raw materials and the manufacture of contraceptives, payment of incentives, publicity salaries and operating expenses. In December 1967 there were 3000 physicians, 1,200 social workers and 4,300 nurses in the program.[73]

5. Accomplishments and Problems

By October 1968 the GOARE reported that 88,144 IUDs had been inserted (85,000 in urban areas) and there were 254,437 using oral contraceptives. In addition, 100,000 IUDs were distributed to private clinics where about 50,000 were inserted. By 1971, however, IUD insertions had dropped to 4,000 per month from 5,000-6,000 per month in 1967. In 1967, 800,000 cycles of oral contraceptives were sold through private pharmacies.

As to results, a study reported a drop in birth rate from 58.1 to 31.6 and 54.3 to 37.1 from 1963-1967 in two villages with family planning services and from 55.9 to 46.0 in a village without such services. At the same time the national birth rate declined gradually and steadily from 42.8 to 39.3.

Nevertheless, as the frequently cited IBRD analysis has suggested, the results of the ARE Family Planning Program have been extremely modest if not somewhat discouraging. In 1966, for example, pill users registered with government clinics numbered 170,000 per month. By mid-1971 this figure had only increased to 360,000 per month. The IBRD analysis assumes, therefore, that in order to have held births constant during the period 1966-1971, between 85,000 and 90,000 additional new acceptors would have had to have been recruited based on an increase of 27% per year of the 4.2 million married women in 1966 in the fertile age years or 450,000 new acceptors (after allowing for dropouts) over the 5 year period. Although the data are inconclusive, the IBRD believes that the ARE recruited only part of this number and that "the absolute number of married couples not practicing contraception is increasing."[74]

The problems faced by the Egyptian family planning program appear to include the following:

a. Shortage of foreign exchange to purchase raw materials for the production of oral contraceptives;

b. Lack of adequate staffing since most of the staff are only part time, compounded by administrative problems which include organizational difficulties in the Supreme Council's Executive Board;

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workers and the Regional Bureaus are responsible to the Executive Board in Cairo. The Regional Offices are assisted locally by an advisory Governorate Committee headed by the governor of the province. "An interested and active governor can make a very big difference in provincial programs" according to the IBRD analysis.

[73] See Country Profiles, UAR, op. cit., p. 5.

[74] National Family Planning Program (IBRD), op. cit., p. 20.

c. Lack of studies and data on population with which to develop new plans and programs;

d. Inability to involve the school system in contraceptive education;

e. The need to involve the national media in the contraceptive program since its involvement to date has been extremely limited. There appear to be few religious objections to the program and the public, when informed, appears interested; and

f. The gravest problems, of course, are not financial, administrative or professional. Rather, they involve commitment and incentives. There are recent indications that the GOARE has become increasingly aware of the dangers to Egyptian economic and social development from excessive population growth but, hitherto, the Egyptian Government failed to render the family planning the resource priority it deserved. As far as incentives are concerned, the GOARE has utterly failed to convince the fellahin or urban proletariat of the advantages to be derived from successful family planning. Suggestions have been proffered involving the mass media to get this message to the rural and urban poor. We believe, however, that a revolution in the attitudes of the poor away from their feudal, servile existence toward an acceptance of the realities of the 20th Century will be necessary before family planning will be successful. Only a total commitment by the GOARE to this goal could make a mass media program useful.[75]

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[75] Ibid., pp. 52-63; the IBRD analysts have all but exhausted suggestions for effectively convincing the Egyptian poor of the advantages of family planning. Their media suggestions, i.e., films, books, posters, male oriented and many others, are worth investigation.

X. FOREIGN ASSISTANCE AND CONTINUED GOARE PROGRESS IN HEALTH SERVICES

In the previous sections the GOARE health plans have been reviewed and the specific programs and goals of these plans have been delineated. For the most part, these plans represent ambitious but legitimate schemes to achieve a substantial improvement in the quality and quantity of health care available to the Egyptian people. Moreover, Egyptian health planning has been integrated into the planned economic development of the country. As such, the GOARE envisages significant foreign assistance to achieve its long-term health care objectives.

In the plan provided U.S. officials in August 1974, the GOARE, for example, was seeking over $145,000,000 and over £E 26,000,000 in foreign assistance both for post war (Yom Kippur) reconstruction of medical facilities and expansion of myriad medical services. These funds were in addition to those to be provided by the GOARE from the domestic budget.

A. New Health Facilities and Services to be Financed in Part by Foreign Assistance

	Type of Facility or Service	Foreign Contribution ($)	Foreign Contribution (£E)
1.	Center for Study of Toxic Hazards and Toxic Substances on Health of Man	----------	£E 150,000
2.	Polyvalent Chemical Plant	----------	£E 330,000
3.	Physical Medicine Centers	$47,810,000	----------
4.	Manufacture of Medical and Surgical Supplies and Equipment	$552,000	----------
5.	Factories for Production of Organic Manure from Refuse	----------	£E 18,000,000
6.	Production of milk and milk products	$3,850,000	----------
7.	Production of Vaccines	----------	£E 300,000
8.	Center for Radio-Therapy and Nuclear Medicine, Cairo University	----------	£E 2,500,000
9.	High Institute for Health Technology	----------	£E 500,000
10.	Nasser Postgraduate Medical Institute	----------	£E 500,000
11.	Center for Rehabilitation	$200,000	----------
12.	Physiotherapy Sections in General Hospital	$3,000,000	----------
13.	Health Services in Suez Canal and Sinai	$35,657,500	----------
14.	Arab Specialized Medical Center	$2,000,000	----------
15.	Manufacture of Health Products	$32,000,000	----------
16.	General Health Registry	$20,000,000	----------

B. Other, Compelling Health Conditions and Requirements Wherein Foreign Assistance Might be Utilized

From the previous chapters, a number of endemic diseases critical to the health of the Egyptian people were identified. Similarly, other health deficiencies affecting both immediate treatment of diseases and the long-term health status of the Egyptian people were also delineated for consideration. The diseases most critical to the Egyptian people included Schistosomiasis, gastrointestinal diseases and tuberculosis among others. Deficiencies in the Egyptian health apparatus contributing to a discouraging health environment included failures in health manpower training and unavailability of satisfactory biomedical statistics.

There follows, therefore, those diseases and health areas where critical needs appear to exist and where, it would seem, foreign assistance might help satisfy urgent demands:

1. Most Critical Diseases

    a. Schistosomiasis

    b. Gastrointestinal diseases

    c. Diseases of early infancy

    d. Malaria

    e. Trachoma

    f. Tuberculosis

2. Other Health or Health Related Deficiencies

    a. Manpower training

    b. Primary health care facilities (hospitals, centers and units)

    c. Drugs and Medicines

    d. Biomedical Statistics

    e. Biomedical Research

C. Resume of Foreign Health Assistance for Egypt in the Recent Past

For a number of years Egypt has received both multilateral and bilateral assistance in combating some of the diseases described above and in improving the health care and services of the GOARE on a long-term basis. This multilateral assistance had been generated principally by the several funds of the United Nations Organization including the WHO. Egypt has also received bilateral health assistance, we believe, from eastern Europe and other, more favorably endowed Arab states. Project Hope and the World Bank are also believed to have contributed health assistance to Egypt. There follows a delineation of the UN-WHO assistance to Egypt for the years 1972-1973-1974.

	Activity	Obligations			Source
		1972	1973	1974	
1.	Tuberculosis (BCG vaccine production)	$62,200	$20,000	$25,000	UNDP (UN Development Program)
2.	Parasitic Diseases (Schistosomiasis control pilot project & training)	$52,350	-------	-------	UNDP
3.	Virus Diseases (research & training)	$99,000	$322,950	$351,950	UNDP
4.	Environmental Control (air pollution & sewage)	$6,600	$38,800		FT (Funds in Trust)
5.	Public Health Services (Health component in Lake Nasser Development Center)	$12,980	$30,000	$30,000	FT
6.	Public Health Services (Neurological Center Shoubra Hospital, Cairo)	$44,400	$34,100	$44,100	UNDP
7.	Public Health Services (Center for Allergic Diseases of the Respiratory System)	$13,200	$13,200	$13,200	UNDP
8.	Nursing (Postbasic Nursing Education, High Institute of Nursing, Cairo U.)	$22,890	$60,000	$60,000	UNDP
9.	Family Health (Prophylaxis of rheumatic fever in school children)	$192,335	$708,509	$731,454	FP (UN Fund for Population Activities)
10.	Nutrition	$10,000	$3,600	-------	
TOTALS		$516,255	$1,231,159	$1,255,704	

D. **Possible Commitments of Assistance to the ARE in the Health Field for the Near Future**

We do not have available at the moment detailed information on donor assistance for FY 1976 to help satisfy the ARE health plans and programs. From recent Senate hearings on health, the question of health assistance was raised. The following data was reported to have been offered in that connection:[76]

	Donor	Amount to ARE	Purpose
1.	Japan	$240 million	Unknown
2.	Kuwait	$734 million	Unknown
3.	Abu Dhabi Qatar	$200 million	Unknown
4.	China	$100,000	worth of wheat
5.	China	$97 million	Unknown
6.	Denmark	$21 million	Unknown
7.	West Germany	$24 million	Unknown
8.	Libya	$355 million	Unknown
9.	Saudi Arabia	$155 million	Unknown
10.	United Kingdom	$25 million	Unknown
11.	EX-IM Bank	$100 million	Unknown
12.	Iran	$860 million	Unknown
13.	U.S. AID	$250 million	20 million to clear canal 80 million to purchase US imports 100 million from Special Fund in Middle East
14.	World Bank	$50 million	Unknown
15.	U.S. World Food Program	$70 million worth of food	----------
16.	Arab Bank	$100 million	----------
17.	UNICEF	$300,000	To equip primary schools and teaching center

[76]These data are derived from the Hearings Before the Committee on Foreign Relations, United States Senate, 93rd Congress, Second Session, June 7, 21, 26; July 24-25, 1974, pp. 116-118.

E. US-ARE Cooperation in the Science and Health Fields

For a number of years the United States has cooperated with the Government of Egypt in promoting joint research projects in the science and health fields utilizing PL-480 funding under the Special Foreign Currency Program. The American Embassy in Cairo believes that in addition to the scientific merit of this informal cooperation it has been uniquely successful in promoting better relations between the two countries during the past several years.[77]

The health research projects involved in this cooperative program covered a wide range of activities and disciplines. Among the research in this program were the following health sector projects:

1. Cancer Registry for the Metropolitan Cairo Area;
2. Computor Simulation of Population Growth;
3. Detection and Treatment of Metabolism which Impair Mental Development;
4. A Study of Viral Hepatitis in Egypt;
5. Epidemiology and Control of Streptococcal Infection Complex;
6. Liver Physiopathology in Bilharzial Contraceptive Users;
7. Ecology of Trachoma and Other Eye Infections;
8. Tickborne Viruses in Vector and Host Cells;
9. Nubian Growth, Development and Oral Health; and
10. Rickettsial Zoonoses in Egypt and Adjacent Areas.

F. Current Proposals for Further Biomedical Cooperation

In consideration of further mutually beneficial scientific projects, the scope of the PL-480 program was expanded for FY 1975. The funding was increased to approximately $5 million equivalent with 107 on-going projects continued and 85 proposed new projects.[78]

The health component of this expanded PL-480 program included such research projects as:

1. Schistosomiasis and the skin;
2. Child Development through Psychological Tests;
3. Clinical Aspects of Schizophrenia;
4. Studies Directed Toward Improving the Delivery of Health Services;
5. Genetic Anomalies;

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[77]See Cairo to Wash., Tel, #5580, July 27, 1974.

[78]Ibid.

6. Biochemistry of Ticks;

7. Bibliography of Leishmaniasis;

8. Evaluation of Mass Chemotherapy;

9. Otitis Media in Rural Egypt;

10. Venoms of Snakes.

XI. HEALTH AND SOCIOECONOMIC DEVELOPMENT IN THE ARAB REPUBLIC OF EGYPT: SUMMARY AND CONCLUSIONS

The new revolutionary regime that assumed power in Egypt in 1952 gave considerable attention to economic development which was to serve as a tool to accomplish political and sociological objectives. The new regime's program of socioeconomic development included agrarian reform, land reclamation with agricultural expansion, the High Dam at Aswan, mineral development, accelerated industrialization, and the upward mobility of the Egyptian society through better health care and education. All of these programs were launched between 1952 and 1960.

By the close of the decade of the fifties national development planning, as a method of accelerating the rate of socioeconomic modernization, had been adopted by President Nasser's government. Two five-year plans were launched, the first from 1960 to 1965 and the second to 1970. The objective of the first plan was to increase the national income by 40 percent. By 1965, with heavy foreign borrowing, this objective was largely fulfilled. The GNP for 1964-65, for example, was $4.7 billion, an increase of 8.7 percent over the previous year.

President Nasser thereupon decided to launch a still more ambitious seven-year plan, to be completed by 1972. Even prior to the 1967 war with Israel, however, the dearth of capital forced its reduction to a planned annual growth rate of 5.0 percent. The Egyptian defeat by Israel and the loss of the Suez Canal forced the Egyptian Government to abandon even this more modest goal and to plan on an ad hoc basis. A very limited recovery had occurred by 1970 with the GDP reaching about $168.00 per capita. Despite increased pressures on the ARE's budget and the balance of payments due to the canal closing and loss of tourists, by 1973 the Egyptian per capita GDP had increased to about $210.00 and in 1973 the GNP increased by about 6.0 percent.

The Yom Kippur War and the attendant limited settlement proved to be both beneficial and detrimental to continued Egyptian development. An influx of investments and financial aid from other Arab states enabled the ARE to repay past-due bills for the first time in a decade. The Bank of Egypt was expected to receive an inflow of more than $500 million in convertible currency in 1974, equivalent to half the value of Egypt's 1973 exports. On the other hand, recent reports suggest that during 1974 and into 1975 the Egyptian economy began to experience those difficulties prevalent among other LDCs. These included food shortages, sharp increases in prices of consumer goods (one source claimed the consumer price index increased from 3.0% in 1970-72 to 25.0% in 1974-75), and mounting unemployment despite increasing industrialization. Then too, although the aftermath of the war brought an influx of financial aid it is doubtful that this funding will solve the Egyptian budgetary and balance of payments dilemma. Expenditures by the Egyptian Government expanded by 18% from 1960-66 and at 9% from 1968-70, the latter at three times the growth rate of ordinary revenues. Only substantial oil exports or sharp reductions in the Egyptian industrial investments, military expenditures and social programs could reverse this trend.

Nevertheless, the several multiyear plans during the past two decades did promote the rapid growth of industrialization and the accompanying social programs assisted the upward mobility of a significant number of Egyptians, especially in the urban areas. By the same token, however, Egypt still remains predominantly an agricultural country. Over half of the labor force are peasant farmers while more than 75% of all merchandise exports are agricultural products (cotton, rice, fruit). Moreover, Egyptian agriculture is efficient by western standards.

Even this agricultural sector, indeed, especially this vital element of Egyptian life and the Egyptian economy, is not without serious threat from three sources: a) an exploding population

growth rate of over 2.5% annually, which could result in a surplus of unskilled laborers (in both the agriculture and industry sectors) of over 31% by 1985; b) a loss of severely limited areable land to housing and industrialization; and c) the constant subdivision of the independent farmer's land into ever smaller and less efficient units to satisfy Muslim inheritance law. Accordingly, it is rather obvious that the Egyptian population growth rate be radically reduced and that worker productivity be increased while unemployment is also curtailed if the socioeconomic objectives of the 1952 revolution are to succeed, i.e., if the GNP is to grow at the 1964-65 rate of over 8.0%. These functions of growth, of course, are also fundamental elements of the Egyptian health environment.

It is hardly surprising, therefore, that President Nasser and the revolutionary leadership rendered the health sector an integral part of their several development plans and the public health sector was the recipient of as much as 9.0% of the Egyptian national budget during 1969/1970. The commitment of the GOARE to improving the health of the Egyptian citizens has been highly positive and is based on the following rationale:*

> .....Entirely aside from the personal misery and discomfort suffered by the individual and his family, the loss of time from work is a very important factor in the cost of ill health. Not only does a worker's illness cut down the family income, but a sizeable part of productive capacity is lost to society.

Interestingly, it was only in the mid-sixties, after several years of experiences with economic development, that the GOARE came to recognize the importance of curtailing the population growth through family planning, however. The evolution in Egyptian health planning did not halt, of course, in the mid-sixties but continued as it is continuing today. By the early seventies, moreover, the Egyptian health sector, as directed by the GOARE's Ministry of Health, could be said to be focussing on three very broad areas: a) the delivery of health care with all its ramifications (rural and urban health care, better control of tuberculosis, trachoma, schistosomiasis, gastrointestinal diseases, and other communicable diseases); b) health manpower training; and c) family planning (including nutrition and maternal and child health care).

Even a cursory review of the Egyptian health environment and the principal diseases afflicting the Egyptian population reveals the substantial drain upon productivity and economic development wrought by these diseases and confirms the logic of the Egyptian health planners in giving priority toward bringing the most debilitating under control. Schistosomiasis (bilharzia), for example, is the most destructive disease facing Egyptian health planners. It afflicts at least 14 million plus out of 34 million Egyptians. Although death frequently occurs from this disease, more often the afflicted person is condemned to live in growing pain and exhaustion, gradually losing up to two-thirds of his normal productivity. Gastrointestinal diseases including intestinal parasites, diarrheal diseases and dysentery are endemic and have been only partially reduced by the best efforts of the MOH. Diseases of infancy and childhood, infantile diarrhea, mumps, whooping cough, chickenpox and measles, are also endemic and some of them appear in epidemics in various parts of the ARE. Typhoid has recently been reduced but malaria, trachoma and tuberculosis are believed to continue to be widespread. Other bacterial and parasitic diseases are also widespread although not in endemic proportions. Interestingly, the Egyptian populace is also increasingly afflicted with the degenerative diseases of industrial societies, cardiovascular diseases and cancer.

The available data on morbidity and mortality of these diseases in the ARE have been reported in detail in Chapters III and IV of this paper. Unfortunately, there are no data available

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*See A Survey of Health Services in Quena, Damietta and Shubra Al Khema, op. cit., p. 2.

nor did we have access to calculations concerning the productivity lost or the public expenditures undertaken resulting from these several diseases. No one can doubt, however, simply using schistosomiasis as an example, that the costs to the Egyptian economy are immence.

The other element within the Egyptian health environment which threatens to inundate the Egyptian economy with unemployed and under-employed adults and malnourished children is the rate of population growth. As this paper has attempted to delineate, the current rate of population growth is 2.5% annually plus. If the present rate of increase continues, by the year 2000 Egypt would have over 70 million people. Population density of 950/km^2 in the inhabited areas, which is already the highest in the world for any comparable area, would then be 100 percent greater than it is today. Beyond this frightening potential of intense, perhaps prohibitive overcrowding, are the associated problems. These include: much smaller, less efficient farms as they are further subdivided to meet the inheritance laws; a severe food crisis necessitating purchase of food abroad; additional problems of maternal and child health care, already inadequate, and much more malnutrition. In addition, such a population increase would disastrously lower the per capita GNP and severely compromise economic development unless another source of heady foreign earnings (oil?) were made available.

The GOARE's response to the problems of the Egyptian health environment have been discussed in some detail in the previous chapters. On the whole, then, the Egyptian government has made strenuous efforts to improve the health care of the Egyptian people. The share provided the Egyptian public health sector of the national budget increased from 3.6% in 1952-1953 to 8.9% in 1969-1970. These efforts have also registered impressive practical results. Health manpower training has been expanded so as to graduate 3,500 new physicians each year giving Egypt a total of about 30,000 registered physicians in 1975. Nurses training has also been accelerated providing 5,500 new graduate nurses in 1975. Similarly, increased training is also underway for various medical technician disciplines.

One of the most innovative schemes to emerge from the GOARE's dedication to improving the health environment has been the system of rural health centers and rural health units to serve all of the 4,200 Egyptian villages. The scheme provided for the creation of a rural health unit to serve about 5,000 people with the unit no further away than three kilometers from the farthest number of this population. It was calculated that there should be a rural health center, which frequently combined community development activities and MCH care, for every three rural health units. It was assumed the 2,500 facilities, RHCs and RHUs in a 1:3 ratio, would be required to achieve the 1 unit per 5,000 population. Later, 400 more facilities were to be added. By 1970, 1,835 such facilities had been constructed and by 1974 this number had increased to 2,140 facilities of which 587 were Rural Health Centers and 1,553 were Rural Health Units, with a ratio of 1 facility to 8,000 population.

The Egyptian MOPH (Ministry of Public Health) has also undertaken innovative programs to deal with the most serious of the diseases in their health environment, especially since 1968. Thus, new methods have been devised and applied to eliminate the snails, host carrier of bilharzia, from Egyptian waterways. Included are chemical applications to water, erection of electrical barriers in feeder canals, use of sprinkler irrigation systems and new vaccines for treatment of schistosomiasis. The MOHP, in cooperation with other agencies, is seeking to improve both urban and suburban environmental sanitation with potable water supplies and adequate waste disposal to eliminate much of the source of gastrointestinal and other communicable diseases. The Egyptian malaria eradication program had reduced malaria cases to 3,000 annually by 1970. Similarly, new efforts are being made to attack trachoma with antibiotics and tuberculosis with greater use of x-ray facilities for detection, although these are limited to urban areas and district hospitals. The family planning program, as noted previously, is well organized in each province and well supplied with materials and funds. Expansion of this program with more MCH facilities continues each year.

During the course of the past year especially, but prior to 1974-75, the Egyptian MOPH has been the beneficiary of considerable biomedical advice on improving health care in the ARE. This advice has been generated bilaterally through physicians and health officials from several nations as well as those experts serving with the WHO. The following are comments derived from the experiences of these advisors set forth in as succinct terms as is feasible:

1. There is an urgent requirement that the MOPH develop a research, planning and evaluation strategy. Such a strategy would coordinate applied research, evaluation and technical assistance activities of the several donors which have offered Egypt assistance;

2. Such a health strategy should be coordinated with the new Egyptian five-year development plans (1976-1980) and should be integrated into the social objectives of the ARE;

3. More specifically, those diseases and conditions which most directly affect the health environment should be reaffirmed such as those examined in this paper: schistosomiasis, malaria, trachoma, tuberculosis, gastrointestinal diseases and such problems as family planning, nutrition and environmental sanitation;

4. With respect to the improvement of training of health manpower, whereas Egyptian physicians are short of specialized training, the emphasis should still be upon generalists who are needed to staff the rural health units and centers. In addition, not nearly enough Egyptian health technicians are being trained;

5. Both the provision of pure water and the disposal of excreta, especially in the rural areas, require considerable effort by the GOARE, substantially in excess of that undertaken to date;

6. Thus far, the malaria eradication program has not been integrated into the rural health centers to render the program more effective through coordination;

7. Whereas more antibiotics have been brought to bear on the treatment of trachoma, they are not widely used at the RHCs and RHUs where they would be most effective. The MOPH, of course, is acutely aware of Egyptian deficiencies in biotics and pharmaceuticals and is attempting to correct this problem, along with deficiencies in certain medical equipment;

8. The GOARE has a well organized, well financed family planning program which, nevertheless, has enjoyed only very limited success. The Egyptians, supported by international advisors, now believe this limited success is due to an incorrect approach. The GOARE's family planning program focussed on devices to prevent conception, which has been somewhat successful in large cities but a failure elsewhere. The MOPH now believes its family planning program will only succeed if the fellahin can identify its family size with economic incentives.

9. By the standards of most developing countries, the Egyptian people do not suffer from caloric deficiencies, the daily caloric intake in 1969, for example, was estimated to be 2,800. But the fellahin's diet is hardly in balance with cereals providing 80 percent of caloric intake and 30 percent of protein. Since essential nutrients are lacking, dietary deficiency diseases appear frequently among the fellahin and urban workers. The GOARE is aware of these deficiencies but, in keeping with its economic development programs, it has proposed to integrate its nutritional planning into its agricultural expansion program. Clearly, there may not be time to accomplish such an integration while providing an adequate diet.

10. Virtually all of the international advisors have found the MOPH deficient in two other vital areas: a) data collection and analysis; and, b) health planning. Foreign assistance either on a bilateral basis or from the WHO or from private western firms is probably mandatory;

11. Finally, in connection with the delivery of health care, including urban, rural and district health care services, the MOPH has been urged by various authorities to undertake cost effectiveness and cost benefit analyses. Experts believe it is imperative that the MOPH have data available for immediate and future planning on costs per patient, facility utilization (bed occupancy), outpatient care, etc. Data on such determinants as staff efficiency and utilization and status of equipment are also lacking. It is believed, in any event, that the GOARE and the MOPH are most amenable to such analyses if the expertise to undertake these analyses can be obtained. *

*This evaluation of ARE health and socioeconomic development is predicated, of course on the maintenance of peace between Israel and the Arab States. A new outbreak of hostilities in the Middle East naturally would invalidate many of the assumptions contained herein.

BIBLIOGRAPHY

A. Institutional Studies

The National Family Planning Program of the Arab Republic of Egypt: A Sector Review. Washington, D. C.: IBRD, December 7, 1973.

Appraisal Report of a Population Project: Arab Republic of Egypt. Washington, D. C.: IBRD, September 28, 1973.

Kaul, Dr. P. M., Evaluation of Health Services in the Arab Republic of Egypt, EM/PHA/26. Geneva: WHO, October 1969.

Planning for Health of Infants and Pre-School Children in Egypt. Cairo: UNICEF, 1970.

B. Government Publications

Basic Statistical Information of Health Services. Cairo: Ministry of Health, 1974.

Statistical Abstract of Arab Republic of Egypt, 1951/1952 - 1971/1972. Cairo: Central Agency for Public Mobilization and Statistics, 1973.

Health Services in Arab Republic of Egypt. Cairo: Supreme Council for Health Services, Ministry of Health, 1972.

Integrated Health Services: A Survey of Health Services in Quena, Damietta and Shubra Al Khema. Cairo: Ministry of Health with UNICEF, 1973.

The National Population and Family Planning Policy for the 10 Year Plan, 1973-1982. Cairo: Supreme Council for Population and Family Planning, October 1973.

Training in Health Planning: Some Practical Guidelines for a Plan of Action. Cairo: The Institute of National Planning, January 1971.

Bulletin of the Nutrition Institute of the United Arab Republic, II, #1, 1966. Cairo: The Nutrition Institute, 1966.

Mahfouz, Prof. M. M., Highlights of the Health Policy in the Arab Republic of Egypt. Cairo: Ministry of Health, 1973.

Background Notes: Arab Republic of Egypt. Washington, D.C.: Department of State, 1972.

Health Data Publications, No. 37, Egypt (UAK). Washington, D.C.: Walter Reed Army Institute of Research, 1968.

Britanak, Dr. Rose A., Trip Report. Washington, D.C.: HEW, December 1974.

Report of Health Sector Assessment Team: Egypt, January 18, 1975 - February 2, 1975. Washington, D.C.: HEW, 1975.

King, Dr. J. C., Trip Report, January [illegible], 1975. Washington, D.C.: HEW, 1975.

Moriyama, Dr. Iwao, Trip Report, Washington, D.C.: HEW, January 8, 1975.

Davis, Dr. J., Trip Report, Washington, D.C.: HEW, January 16, 1975.

Report of the Joint Working Group on Medical Cooperation, October 28 - November 1, 1974: Manpower. Washington, D.C.: HEW.

Hearings Before the Committee on Foreign Relations, U.S. Senate, 93rd Congress, Second Session, June 7, 21, 26; July 24-25, 1974.

Cairo to Washington, Tel., #5580, July 27, 1974.

Cairo to Washington, Tel., #6713, August 30, 1974.

Hassouma, W. A., Integrated Services: An Instrument of Health Policy Aimed at Forming the New Egyptian. Cairo: Institute of National Planning, 1973.

C. Pamphlets and Articles

Croley, Dr. H. T., Country Profiles: United Arab Republic. New York: Population Council, 1969.

Waterbury, John, Manpower and Population Planning in the Arab Republic of Egypt, Vols. II and IV. Fieldstaff Report, American Universities Field Staff, 1971.

Omran, Abdel R., "The Demographic Jigsaw," Ceres, Vol. 7, No. 4, July-August 1974.

Hoagland, Jim, "Egypt's Mounting Problems," The Washington Post, October 6, 1974.

Badrau, A. M., M. D. and Sorour, A. H., M. D., "A Retrospective Study of Some Risk Factors in the Epidemiology of Myocardial Infarction in Egypt," The Journal of the Egyptian Public Health Association, XLVII, No. 4, 1972.

Bindary, Aziz, "Egypt Studies a New Plan of Action," Studies in Family Planning, Vol. 3, No. 8, The Population Council, August 1972.

D. Books

Ayrout, Henry H., Egyptian Peasant. New York: Beacon Press, 1963.

Breasted, Henry J., Development of Religion and Thought in Ancient Egypt. New York: Harper, 1959.

Cleland, W. W., The Population Problem in Egypt. Lancaster, Pa: Science Press, 1936.

Issain, Charles, Egypt at Mid-Century: An Economic Survey. New York: Oxford U. Press, 1954.

Jarvis, Henry J., Fharaoh to Farouk. New York: Macmillan Co., 1955.

Lenczowski, G., The Middle East In World Affairs. Ithaca: Cornell U. Press, 1956.

Little, Thomas R., Modern Egypt. New York: Praeger, 1967.

Lore, Kenneth, Suez, the Twice-Fought War, A History. New York: McGrass, 1969.

Mansfield, Peter, British in Egypt. New York: Holt, 1971.

Marlow, John, A History of Modern Egypt and Anglo-Egyptian Relations, 1800-1953. New York: Praeger, 1954.

Nasser, Gamal Abdel, The Philosophy of Revolution. Washington, D.C.: Public Affairs Press, 1955.

Ra'ann, Uri, USSR Arms the Third World: Case Studies in Soviet Foreign Policy. Cambridge: M.I.T., 1969.

Sullivan, O.; Fogel, L. J., M.D.; Maxfield, M., M.D., Ph.D., Epidemiological Consequences of Schistosomiasis in Egypt. Washington, D.C., 1970.

Vatikiotis, P. J., Modern History of Egypt. New York: Praeger, 1969.

Wheelock, Keith, Nasser's New Egypt: A Critical Analysis. New York: Praeger, 1960.

Director, Foreign Area Studies, American U. (Ed.), Area Handbook for the United Arab Republic (Egypt). Washington, D.C.: USG Printing Office, 1970.

The Middle East and North Africa, 1973-1974. London: Europa Publications Ltd., 1974.

*U.S. GOVERNMENT PRINTING OFFICE:1975 632-259/549 1-3