PART I

NATIONAL FACTORS

EGYPT'S SITUATION

MAP NO.1

CHAPTER I

GENERAL BACKGROUND

Before considering the Land Uses in the Nile Delta it is essential to give a general picture of the whole country as a background for the problem.

Physical Features

Situation:

Egypt forms the north-eastern corner of Africa and occupies nearly one-tenth of the total area of that continent. Bounded on the north by the Mediterranean on the south by the Sudan, on the west by Lybia, and on the east by Palestine and the Gulf of Akaba and the Red Sea. Egypt measures 1,073 kilometres (about 750 miles) in length, 1,226 kilometres (about 950 miles) in breadth and embraces a total area of almost exactly 1,000,000 square kilometres.

The situation and comparative size of Egypt is seen from the map (No. 1), showing it to be in a strategic position connecting the three continents of Europe, Asia and Africa and serving as a focal point in the main system of communications.

Geology:

The deposits composing the present-day land surface of Egypt comprise strata representatives of all the five great eras of geological time, though not of all the Periods comprising some of those eras.

The distribution of the deposits of the various periods as now exposed at the surface in Egypt is shown on the geological map, (No. 2) (1)

A great complexity of igneous and metamorphic rocks the Archaeozoic (2) and Proterozoic Eras (3) form the very base of the country's structure.

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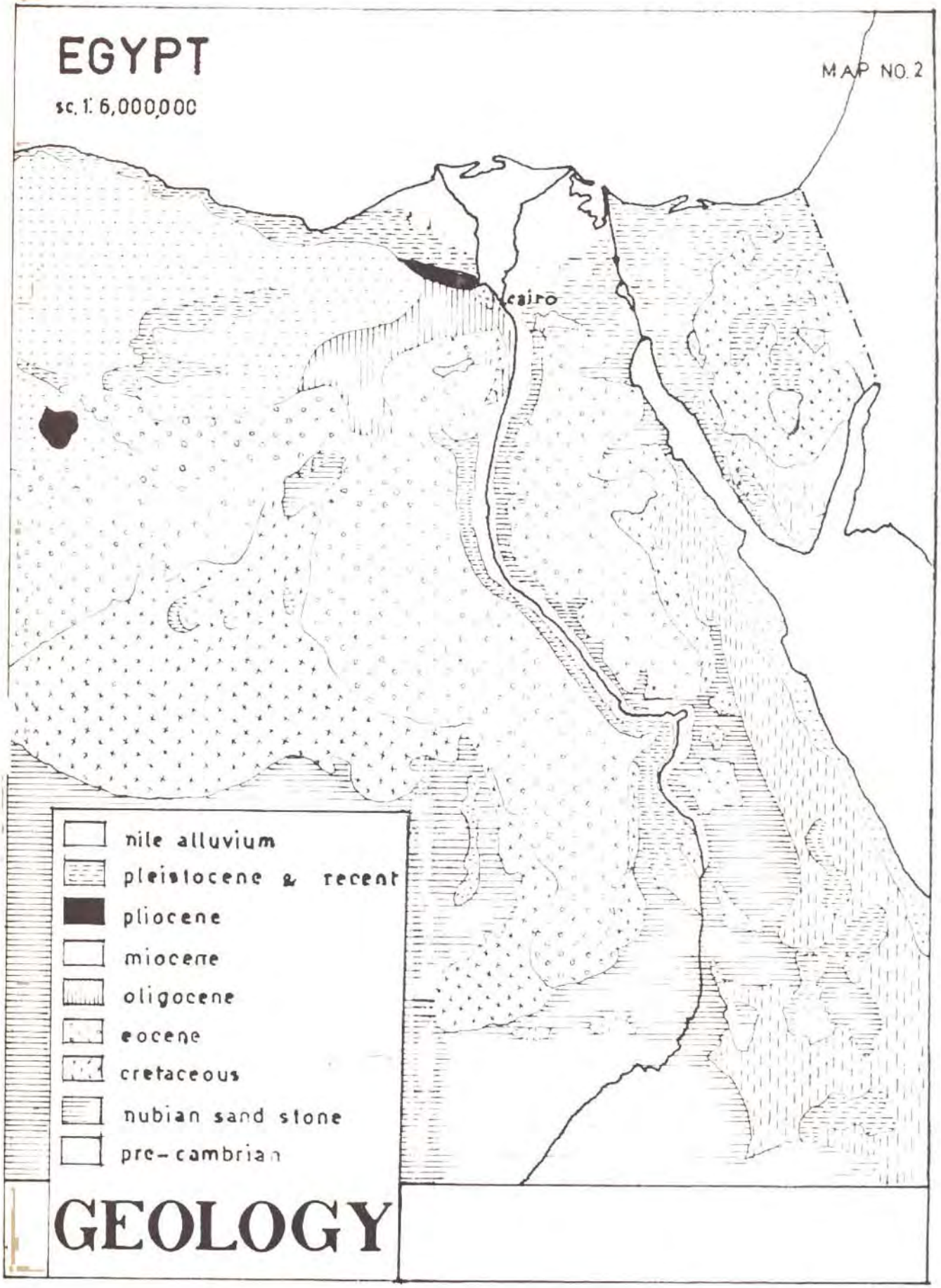
(1) Ball 'Contribution to the Geography of Egypt.' - Government Press Cairo 1934 - page 15.

(2) Ended about 1,000 million years ago.
(3) Ended about 500 million years ago.

EGYPT

sc. 1: 6,000,000

MAP NO. 2



GEOLOGY

The Palaeozoic Era[1] is represented only by deposits of the Carboniferous Period, layers of sandstone and limestone of this period forming the first cover to the Archaeozoic rocks. Representing the Mexozoic Era[2] are sandstone, marble, limestone and shales. (500 metres in thickness) of the Jurassic period as well as Nubian sandstone of the lower Cretaceous series with a thickness of 500 metres and covered by a series of limestone and clay nearly of the same thickness.

Each of the six Periods of the Cainozoic Era[3] is represented in Egypt; firstly by a Series of limestone, marble and clay, with a thickness of about 700 metres, of the Eocene period[3]. By the end of the Eocene a gradual rise of land took place while the Eocene sea was retreating northwards. From the Oligocene[4] onwards, the northern part of Egypt, down as far as the lattitude on which Cairo now lies, was under the sea. The sea therefore covered the whole of the present Delta area. By the late Miocene period[5] all Egypt except the Delta proper and a coastal fringe was part of the main land. For the first time in its physiographic history the Nile began to approach its present-day course at the head of the present day Delta. During the Pliocene period[6] a rise occurred in the sea-level and the sea-water filled part of the Nile valley as far as Esna - in upper Egypt - giving rise to a long estuary. Towards the end of this period a new change of land level in relation to the sea occurred which caused the sea coast to move towards the north. With the beginning of the Pleistocene period[7] the filling of the Pliocene gulf began giving rise to the present day Delta.

Geographical Features

Egypt falls into six closely defined geographic regions, viz :-[8]

(a) the valley and Delta of the Nile
(b) the Faiyoum
(c) the Suez Canal Zone
(d) the Western Desert
(e) the Eastern Desert
(f) the Peninsula of Sinai

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(1) Ended about 175 million years ago
(2) Ended about 50 million years ago
(3) Ended about 30 million years ago
(4) Ended about 17 million years ago
(5) Ended about 10 million years ago
(6) Ended about 500,000 years ago
(7) Ended about 20,000 years ago
(8) Atlas of Egypt. Survey Department - Cairo - 1928

The cultivated land is confined to the Nile Valley, the Delta, and the Faiyoum province. Within the cultivated area, the eye rests everywhere on a level expanse of flourishing fields dotted with villages and palm groves and intersected by numerous canals of running water, while in the deserts the prevailing aspect is one of utter desolation, of bare mountains and hills and stony plateaux. The contrast is heightened by the suddenness with which one type of landscape gives place to the other. (See map No. 3)

H ere we are concerned with the valley and the Delta of the Nile. From Aswan northwards the flat strip of cultivated land gradually increases in width at the same time the height of the cliffs on both sides decreases as Cairo is approached at which point the valley opens out into the Delta formed by the branching of the river just north of Cairo. The average width of the flat alluvial floor of the Nile Valley between Aswan and Cairo is about 10 kilometres. It is noticeable that the cultivated land on the west of the river is, as a rule, wider than that on the east.

The River Nile feeds an extensive system of artificial canals over the narrow strip of alluvial land on either side of the river within its trough-like valley, and over the broad expanses of the Faiyoum depression and the Delta. This alluvial area occupies about 3% of the total area of the country and is one of the most fertile lands in the world, being capable of supporting a very dense agricultural population.

The Nile Delta has an area of 22,000 square kilometres over half of which has been cultivated. The northern part of the Delta is occupied by extensive shallow lakes and marshes, some of which have been reclaimed. The rich agricultural lands of the valley and the Delta of the Nile have been entirely formed by the deposition of sediment of the river's water (1).

Practically all the towns and villages of Egypt are situated in the Nile valley and Delta. All towns and principal villages are connected by railways and by motor roads, the latter mostly occupying the banks of canals. A considerable amount of internal commerce between towns and villages situated on the

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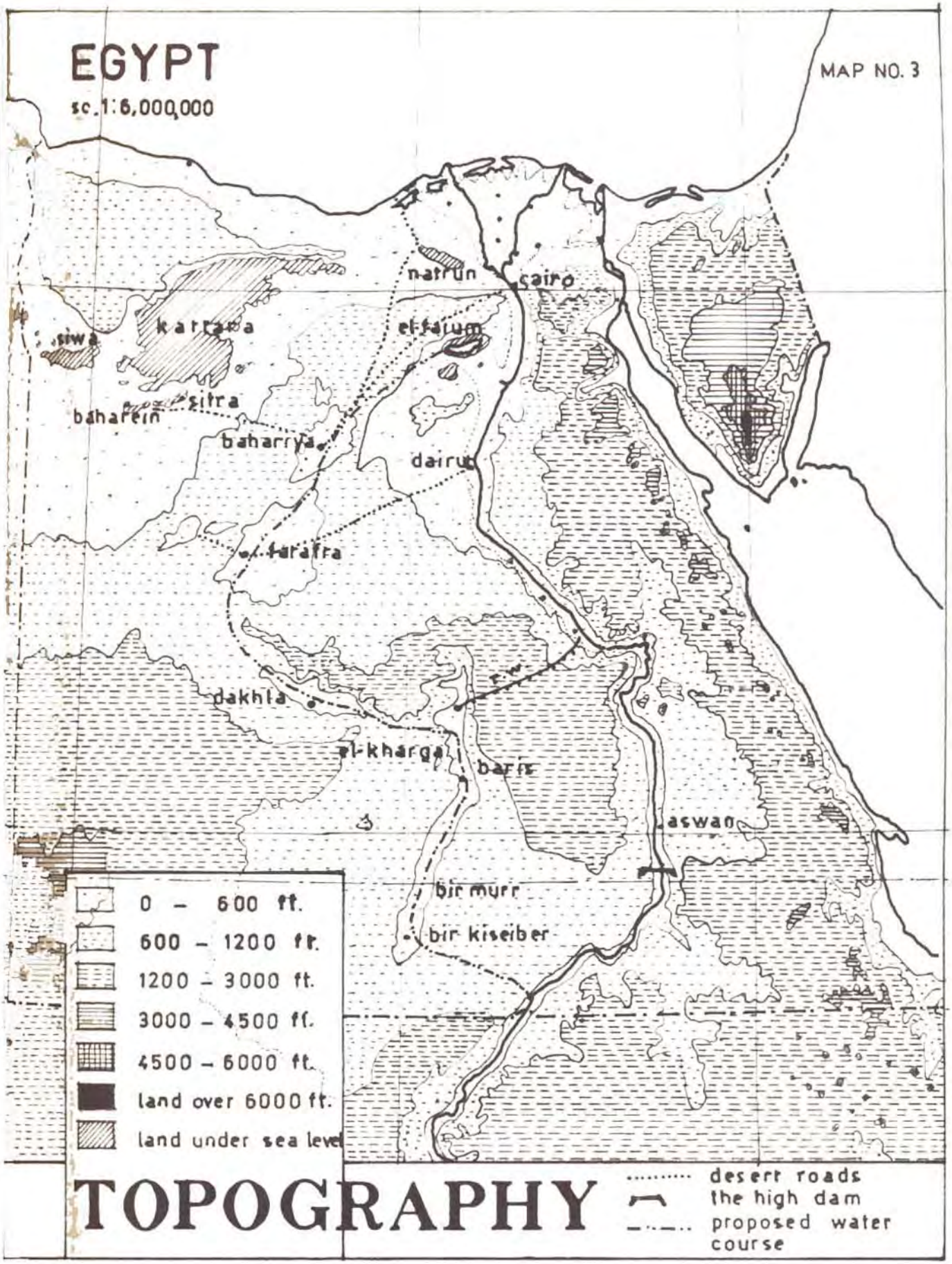
(1) Ball, J. 'Contribution to the Geography of Egypt' Government Press, Cairo, 1939, page 33.


EGYPT
sc. 1:6,000,000
MAP NO. 3
natrun
cairo
siwa
kattawa
el-fajum
bahariya
dairut
farafra
dakhla
el-kharga
bahrein
aswan
bir murr
bir kiseiber
0 – 600 ft.
600 – 1200 ft.
1200 – 3000 ft.
3000 – 4500 ft.
4500 – 6000 ft.
land over 6000 ft.
land under sea level
desert roads
the high dam
proposed water course
TOPOGRAPHY

river and the main canals of Egypt is carried out b the sailing craft, relying on the wind to travel up-river and the current to float down-stream. The development of the means of communication throughout the country has been given much consideration in recent years.

The Alluvial Land:

The alluvial land of the country, the cultivation of which occupies the vast majority of the Egyptian population and provides the principal source of wealth of the country, consists essentially of blackish brown Nile mud. This has accumulated to a considerable thickness in consequence of the river having for thousands of years annually overflowed its banks and deposited suspended matter on its flood plains.

The thickness of the deposit varies in different localities, the variations depending partly on the sand and gravel on which it was originally laid down and partly on successive changes in the line of the river.

The main thickness of the Nile mud proper varies from about 6.7 metres between Aswan and Qena, to about 11.2 metres in the northern part of the Delta, the average thickness in the Delta being about 9.8 metres and between Qena and Cairo about 8.3 metres. (1)

Not all the alluvial land formed by the Nile mud is at present cultivated. Large areas in the northern parts of the Delta remain as yet untilled because they lie at such low levels as to be difficult for proper drainage. Almost in every province in Egypt there are some uncultivated areas owing to irregularities of surface and others where moisture cannot be retained, but these areas are relatively small in number and area.

The spil is classified into two types:-(2)

(a) Black alkali soil formed in localities where the level of the sub soil-water has risen nearly to the surface.

(b) Gypsum-veined soils, formed in localities where the rise has not been so great.

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(1)John Ball, Contribution to the Geography of Egypt. Government Press Cairo 1939, page 162.

(2)John Ball, Contribution to the Geography of Egypt, page 35

The two types are alike in being retentive of water, but in other respects they are different from each other, these differences being referred to in detail later in the thesis. (See Chapter II)

The Nile Water and the Land:

The country's land is irrigated by a vast system of canals. The Aswan dam gives the advantage of continuous irrigation throughout the year, particularly in Lower Egypt.

Each feddan receives about 7,000 cubic metres of water which leaves eight to nine tons of silt.(1) Immediately after the water is drained off (about November) the crops are sown. They are then left until the harvest time without further irrigation.

The Nile no longer completely floods the land. Its water is stored in reservoirs then distributed through barrages into a network of canals which water the land throughout the year.

The Nile is in flood from Agust to October. When the flood is over and the water level is subsiding between November and April, the land being still moist retains sufficient water for the winter crop. During the low water period from April to July, the reservoirs are gradually emptied to provide water for ripening a second crop, called the Summer crop.

The sun by its summer heat cracks the soil so reviving the fallow land and mellowing the soil by letting the air penetrate deeply into the earth. Thus the land is dehydrated and renewed.

We see the Nile, helped by the sun, continuously at work preparing and cultivating the land, and so determining the Fellah's physical environment and his livelihood.

Climate:

Being situated between the lattitudes of 22° and 32°N. Egypt lies for the most part within the temperate zone, less than a quarter of it being south of the Tropic of Cancer. It is characterised by a warm and almost rainless climate, with the exception of the coastal ar as. The air temperature in Egypt frequently rises to over 40°C in the daytim and during the summer (i.e. 100°F)

(1) Hurst, H.E. the Nile. London 1952 page 165

and seldom falls as low as 0°C (i.e. 32°F) even during the coldest nights of winter, and the average rainfall over the country as a whole is only about 1 cm a year. Along the Mediterranean littoral, where most rain occurs, the average precipitation is 20 cm. and the amount decreases rapidly as one proceeds inland from the coast. The average at Alexandria is 19cm. at Cairo (170 kilometres south) it is 3 cm. at Asyout (300 kilometres south of Cairo) it is ½ cm., and at Aswan (600 kilometres south of Cairo) there is practically no rain at all. In some years heavy rain may occur, but never for any lengthy period. In summer, late spring and early autumnsunshine produces quite high temperatures, particularly when the sun shines from clear, cloudless skies.

In these times the shade is a pleasant relief from the heat of the sun. However, during the winter the sunshine is very welcome, for the weather can be cool and the wind keen, although the period when such conditions are likely to occur is not very long, usually lasting from mid-December until the end of February. As a result of this the solar heating properties are just as welcome in the winter as the sunshine is objectionable in the summer.

A north-westerly wind prevails almost all the year long apart from the autumn when the wind is mainly south-easterly.

With such a scarcity of rain, it is not to be wondered at that by far the greater part of Egypt consists of barren and inhospitable desert.

THE PEOPLE

It is still not possible to give any very definite answers to the precise origins of the Egyptian people. The ethnologists of the eighteenth, nineteenth and the twentieth centuries have built their various interpretations of the origin of the Egyptians on different evidence and findings.(1) But it can be said that in prehistoric times Asiatic invaders, perhaps Arabs of Babylonians, conquered the Nile Valley and intermingled as the predominant race with people who were already there being probably a composite stock comprising a mixture of indigenous population combined with elements from . . . . . .

(1) Petrie, Sir. W.M.E. 'The Making of Egypt': 1939

Ethiopia and North Africa.

Three original types are recognised;(1) (a) The Semites, (b) The Mediterraneans, (c) The Libyans. But the climate and type of life soon wore away all but superficial differences between them and created a specifically Egyptian stock, the Ancient Egyptians of the pre-dynastic period (2).

The age of the Pharaohs(3) (which followed the pre-dynastic period) appears to have left a lasting imprint on the Egyptians, especially the fellaheen. The present fellah differs but little from his predecessor of 5,000 years ago. From the Pharaonic Period he has derived much of his social life and many of his habits and beliefs. His environment, his work, his dress, his manners, and nearly aspect of his life have changed very little over the centuries.

During Egypt's long history the country has seen many civilizations, invasions and conquests. The effects of these civilizations were to be seen in the big towns and cities rather than villages, which were somewhat outside the stream of change, as their poor and ignorant inhabitants could be so easily kept down. The main exception to this rule was the Islamic civilization which spread its effect throughout the length and breadth of the country and impinged upon all clasdes of the community, in so far as its religious faith was concerned. The village still retained its ancient habits and general way of life but adopted the practice of the Islamic religion.

There are, however, even today, conflicts between the Islamic culture and practices, derived from the ancient way of life, which still persist.

Egypts offers a clear example of a correspondence between human concentration and physical productivity. Here probably more than anywhere else irrigation and population are coextensive. The number of population appears to have varied throughout Egypt's history and pre-history.(4) Prehistorical discoveries give early indications of the population fluctuating between seven millions, the

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(1) Ayrout, H. The Fellaheen, A Schindler, Cairo 1945, page 21
(2) Ten to fifteen centuries before 3200 B.C.
(3) From 3200 B.C. to 100 B.C.
(4) Bridge, Sir, F.A.W. 'Short History of the Egyptian People, London 1914

given by Diodorus Siculus, and ten millions. In the time of the French occupation the number was 2.5 millions. The first detailed census in 1873 showed five million inhabitants. In 1927 the number has risen to more than fourteen millions. In 1937 it stood at 15.9 millions. In 1947 the number was eighteen millions, and in 1957 the number was estimated at twenty three millions and by 1977 the number may jump to as much as thirty three millions.

Out of the total population of Egypt 93% dwell in the basin of the Nile which represents only 3% of the whole territory. In this area the towns, overcrowded and few in number, contain about six million inhabitants. The rest of the Egyptians are country folk.. According to official records 70% of the population of the country folk work in the fields (1).

Thus the rural density of population is about 1,400 persons to the square mile(2). There is much work to be done by the fellah. Help is therefore wanted as cheaply as possible; and the cheapest available is that of his own children. Thus the fellah is forced by the exigencies of the land to have children and as many as possible. This for him is the meaning of marriage and family.

Where conditions are less favourable to agricultural production the density decreases. In the south it is about 800 people per square mile. Around Kafr El-Dawar, further north, it is about 200 per square mile. The maximum is reached in the province of Menoufya where the density is over 2,000 persons per square mile.(3)

There is still another factor of prime importance to be considered, that which results from the fellah's ignorance and ill-health, This factor gave the fellah a stable unadventurous disposition. He stays tied to his native village which represents for him security of both past and present. Migration is comparatively rare, even between the different provinces of the country.

For 5,000 years the fellaheen have endured misery, poverty, supression, disease and ignorance so that the Egyptian of today is faced with a long-standing problem of a most complicated nature and one which every day grows more pressing.

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1) General Census 1947, Ministry of Finance, Cairo 1949
2) General Census 1947, Ministry of Finance, Cairo 1949
3) General Census 1949, Ministry of Finance, Cairo 1949

LAND AND THE STATE

In Ancient Egypt the Pharaoh had been, theoretically, the sole owner of the country and all that was in it; in practice, however, he had been merely the head of a state in which private property and private rights were respected.(1)

The Crown had large estates, but the greater part was in private hands. All land was under the control of the State. In practice, the result was that all land-holders merely leased their land from the State, with this anomaly, that the lessee was bound to the land but the State could dismiss the tenant at will.

The farmer was forced to remain at the place where he was registered. He had to cultivate the land, sow, reap and transport his crop at his own expense.

Besides his own legitimate work, the State required the farmer to keep all the canals in repair and to transport State property, all without pay. The farmer was also ordered what to grow on his land. The production was then heavily taxed. Rent or taxes were paid in kind, and to whatever limit the State demanded.

After the Roman occupation the trends in land ownership and tenure followed the pattern prevalent during this period both in Europe and Asia. The land was divided into areas owned and administered by strong princes or alternatively by soldiers as was often the case after a military invasion of the country such as the Turkish conquest in A.D. 1516.

The system of land tenure was still feudal, having hardly changed since the establishment of the Mameluke(2) regime, which supplanted the Ayyubid dynasty established by Salah Al-Din in 1163 A.D. after his defeat of the Crusaders. The leading Mamelukes parcelled out of the country, each controlling a group of villages whose taxes he often farmed, and holding tax free land. Excluding 'Wakfs' (mortmains in favour of religious institutions), the bulk of the land consisted of communal land subject to tax. Peasants enjoyed no property rights

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(1) Francis, W. Agriculture in Egypt, Government Press, Cairo 1949
(2) A Pretorian guard of Circassiun and Central Asian salves who enjoyed many civil rights. They were more like soldiers of fortune than slaves. Many came to Egypt on their own free will.

and were tied down to the soil, but in practice they were left undisturbed and allowed to hand the plots down to their children provided they met their taxes and supplied the requisite corvee[1] labour on the tax farmer's estate and performed the necessary irrigation works.

During the transition period after the decline of the Ottoman rule (in the 18th century) and the rising of the Mamelukes, the fellaheen took the opportunity of the troubles which occurred during this period and secured a somewhat stronger hold on the land they cultivated. By this time the land could be inherited and the fellah secured all rights of selling transferring the ownership of his land. During this period the personality of the fellah started to emerge and develop so that soon a strong public opinion grew which was opposed to the Turkish rule. The religious leaders were at the head of this movement and they decided that the best way to get rid of the Turkish rule would be by establishing their own military force. They chose Mohamed Ali (an Albanian officer) for its command and eventually he became the ruler of the country.[2]

Under Mohammed Ali the land system was considerably modified. On the one hand, large tracts of uncultivated land were granted to his own relatives and followers. On the other, plots of 3 to 5 feddans were alloted to peasants who, though not enjoying legal ownership of the land, could freely dispose of the produce.[3]

After a certain period of good rule, Mohammed Ali took the land ownership documents from the tax collectors and gave them large estates called 'Ousiyia' to cultivate, free of tax forever. The fellaheen consequently became landless and worked as slaves for the new rulers.

A cadaster was made and collective village responsibility for taxation abolished in favour of individual responsibility. Between 1813 and 1818 Mohammed Ali divided the cultivated land of Egypt into defined areas with dividing boundaries between the villages, whilst within the village areas the land was further sub-divided into different allotments. A number of fellaheen were

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(1) Forced labour
(2) July 1805
(3) Issawi, C. Egypt at Mid-Century, Oxford Press, London 1954. page 21.

appointed to cultivate each of these allotments under specially severe conditions.

Due to the injustice and the ill-treatment which the fellaheen received, many of them emigrated to the Syrian Region. The number of migrants amounted to 6,000 as estimated by Abdel El-Raffii.(1)

Many foreigners were called to Egypt to help Mohammed Ali in the administration of the country's affairs. They were given large estates (totalling about 200,000 feddans) as grants called 'Abadyiat'. The rest of the cultivated land was distributed among the members of his family in the estates called 'Schafeleks'.

Until 1840 the fellah was subject to the system of monopoly. He had to deliver all his cotton to the Government at a low price. But the Sultan remained the sole owner of all conquered land. Estates of former Sultans remained outside this control. Vast areas still uncultivated were allotted with full rights of ownership to notables, high officials, or members of the ruling house, who were in a position to bring them under cultivation. This is the origin of the large estates. Small property came into being by a slow process which began with the sub-division of the land.

In 1846 transfers and mortgages of property were authorised. Under Said, the rights of male, and subsequently, female heirs were recognised. In 1871 Ismail's financial embarrassments led him to offer absolute property rights to all those paying six years in advance (Mukabala law). In 1858 foreigners were authorised to purchase land.(2)

After seven years of Ismail's rule (1863 - 1879) the area of land which he owned increased from 25,000 feddans to 950,000 feddans divided into 51 estates. About 876,863 feddans were given to his relatives and his foreign friends.(3)

During his rule, the influence and prestige of foreigners became stronger. Their affairs were dealt with by their own consulates. In the meantime, the Consulate's Tribunals were established. Every consulate had its own law applied to its own subjects. These Tribunals used to deal with the registration, the selling or the mortgage of land between its subjects and the fellaheen. In 1875

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(1) Marii, G. Agrarian Reform in Egypt, Government Press, Cairo 1958, page 8
(2) Ibid.
(3) Issawi, C. 'Egypt at Mid-Century. Oxford Press, London 1954. page 21.

this legislation was taken over by the Mixed Tribunals on behalf of the foreign countries without any consideration being given to the local law.

During Tawfik's rule (1879 - 1885) the Government sold most of its cultivated land in large lots to the rich families of the country. In 1891 owners of areas of land subject to taxation were given the full rights of ownership.(1)

Thus in the space of thirty years Egypt effected the transition from communal to small-scale individual ownership. The benefits of the change are obvious but it also had its drawbacks in the form of excessive fragmentation of farms and heavy indebtedness to mortgate banks and usurers.

At the same time the area under cultivation was extended from 3,050,000 feddans in 1813 to 4,743,000 feddans in 1877 and an increasing share went to cotton.

Under Said and Ismail, 8,400 miles of canals were dug. These canals tended to silt up and required much forced labour to keep them clear.

Cotton absorbed much labour. The population in spite of Mohammed Ali's wars and a high death-rate grew rapidly to about 6,800,000 in 1882, but the demand for labour was such that a shortage was felt and a remedy, fortunately unsuccessful, was sought in the establishment of foreign colonies on the land.

After a phase of widespread abuses in land surveys in every province, a survey department undertook the immense task of demarcation in 1892. After due consideration of roads, canals, and natural boundaries, the land of each village called (Ziman) consisting of an average of 2,000 feddans was divided into sections (hods) of 50 to 100 feddans and marked off by iron boundary pegs. The village site was shown as a single area and exempted from taxation. This work was completed in 1907.

The Aswan Dam, completed in 1902 and heightened in 1907-10 increased the quantity of water available in summer by over 2,000 million tons.(2) Middle and Lower Egypt were converted to perennial irrigation and the basins of Upper Egypt assured of a regular supply. The cultivated area rose from 4,764,000 feddans

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(1) Issawi, C. 'Egypt at Mid-Century.' Oxford Press, London 1954 page 21
(2) Willcocks, Sir. W. and J. Craig. Egyptian Irrigation - vol. 1. London 1913.

in 1861 to 5,658,000 in 1911 while the crop area[1] increased to 7,712,000. The bulk of the increase was taken up by cotton, which in 1913 accounted for 1,723,000 feddans (22% of the crop area) and by maize, whose acreage increased by nearly 50% to 1,306,000 feddans, its relationship to the total fell from 21% in 1879 to 17% in 1913, while the acreage under beans actually declined.

The population continued to grow swiftly, from 6,800,000 in 1882 to 12,750,000 in 1917[3]. The rate of growth, however, persistently declined as the shortage of labour came to an end. It may be said that the turn of the century marks the end of the period of labour shortage and the beginning of the period of population pressure on land.

Although Cairo and Alexandria expanded rapidly, the bulk of the increment in population remained in the rural areas. The Government's policy of encouraging small landowners, the abolition of the last remaining restrictions on ownership, the extension of the cultivated area, the breaking up of the Royal Estates of 280,000 feddans, the formation of several land companies with the object of reclaiming land and selling to the peasants, the great expansion of credit facilities, and, of course, the sub-division of land among heirs - all helped to raise the number of landowners from 738,000 in 1895 to 1,556,000 in 1913[4]. The bulk of this increase is accounted for by small owners (those owning less than 5 feddans) who in 1913 numbered 1,411,000 with a total holding of 1,419,000 feddans. It will thus be seen that the mass of rural population - in 1937 census the number of men occupied in agriculture was given as 2,258,000 - consisted of small peasant proprietors. But the process by which the number of landowners was increased had one very serious drawback; the accumulation of a huge mortgage debt, estimated at over £E 51 million, excluding short-term loans granted by usurers.

The reduction of taxes, better irrigation and the abolition of the corvée, and the diminution of military service undoubtedly greatly improved the fellaheen's position and, although the ruin of village industries meant a loss

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(1) As the cultivated land can bare more than one crop throughout the year
(2) Willcocks, Sir. W. and I. Craig. Egyptian Irrigation - vol I, London 1913
(3) General Census 1947 - Ministry of Finance 1949.
(4) Issawi. C. 'Egypt at Mid-Century'. Oxford Press, London 1954 p. 35

of income and indebtedness was great, it is possible that their economic position at the beginning of this century was better than at any previous or subsequent period.(1)

Out of the 7,000,000 feddans of the cultivated area the Government still holds about 1,400,000 feddans. Every year the Government used to bring under cultivation some 80,000 to 100,000 feddans of land formerly too marshy or too dry, and has sold off the greater part of it in small lots to private owners. The state domains give work and livelihood to about two million fellaheen.

Since the Moslem conquest many landowners have laid all or part of their estates under a sort of entail (wafk); charitable trusts of 93,000 feddans or remarked for the founder's descendants of 600,000 the latter does not exist any more.

As the outcome of the past policies the country was faced with the following facts in 1952 when the present regime assumed power:(2)

(a) The area of the cultivated land was 5,823,000 feddans which was about 3% of the total area of the country.

(b) The productive area of the cultivated land was about 9,200,000 feddans assuming that the parts of the cultivated land were cropped more than once in the year

(c) The number of population amounted to 21,424,000

(d) While the increase in population in the last century was about 100% the increase in the cultivated land was only about 15%

(e) There was a drastic decrease in the agricultural output per worker. The average person's share of wheat had decreased in the last twenty years from 90 kg. to 50Kg. which compelled the Government to import extra food for the nutrition of the people, which nevertheless decreased from 2953 calories per person to 2337 calories per person.

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(1)Issawi. C. 'Egypt at Mid-Century.' Oxford Press, London 1954. page 223
(2)Marii, S. 'Agrarian Reform in Egypt' - Cairo 1947 page.

THE ROLE OF AGRICULTURE IN NATIONAL ECONOMY

The fundamental basis of Egyptian National Economy has always been, is still and will continue to be 'agriculture'. About £E 1,200 million[1], i.e. two thirds of the national capital are invested in agricultural land including live stock, implements, etc. On the other hand about 60% of the working population are engaged in agriculture, representing wit h their dependents a proportion of 70% of the whole population. Moreover, agriculture yields an annual income of 224 million pounds or 27% of the national income.[2]

Agriculture therefore represants the greater part of the national capital, and national labour as well as a considerable portion of the national income.

Besides, agriculture plays another important role in the economic field. In foreign trade, for instance, agricultural crops and products represent about 94% of the nation's exports, while in the inland trade 56% of shops, firms, etc. are engaged in the trade of agricultural products and food stuff, employing 40% of the commercial personnel and contributing 25% of the capital invested in commerce.[3] As regards industry it is clearly observed that in about 75% of the nation's factories, industry is based on the conversion of local agricultural crops employing 70% of industrial labour and 50% of the capital. In other services like transportation, banking, etc., agriculture plays a large part in their activities.

Present Condition of Agricultural Production:

Agricultural production is still below the desired standard in terms of output per man and per acre. Comparison between productivity and the labour unit in Egypt has proved that an Egyptian farmer produces foodstuff for three persons only, while the production of his colleague in Great Britain is sufficient for eight; in other words the productivity of a British farmer is equal to almost three times that of the Egyptian.

As to the productivity of the unit area (a feddan), Egypt is still behind

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(1) Sidky, A. 'Egypt's Agrarian Policy'. Government Press, Cairo 1954
(2) Saiid, M. 'Agricultural Economics'. (Arabic Text) Cairo 1953
(3) Saiid, M. 'Agricultural Economics'. (Arabic Text) Cairo 1953

many other countries in most crops. The yield of a feddan of wheat in Egypt is only 70% of that of an equivalent area in Holland and 89% of the product of a similar area in Britain.(1)

Moreover, the yield of a feddan in Egypt has considerably dropped recently with a consequent drop in total agricultural production.(2) In addition to the conspicuous drop of production there is still a considerable loss in yield of the country's agricultural resources, a loss too heavy to be borne by the national economy, and which is caused by insects and pests attacking the crops. The loss due to such pests alone is estimated at £E 37 million per year.

The picture given by the following table is fairly clear. Between the two World Wars, Egyptian agriculture achieved a substantial increase in output, but this was more than offset by the sharp decline in cotton prices.

Table (1) Indices of Volume and Gross Value of Agricultural Crops (1939 = 100):(3)

Pre War Years								
	Volume 14 Main Crops	Value 12 Main Crops		Volume All Crops Livestock	Value All Crops Livestock		Volume All Crops 1934 - 8	Value 12 Main Crops
1924-8	83	145	1940	94	94	1946	98	209
1929	93	118	1941	89	115	1947	100	258
1931	80	75	1942	79	184	1948	112	285
1935	92	78	1943	75	187	1949	110	325
1938	94	94	1944	79	229	1950	119	442
1937	103	97	1945	81	267	1951	118	-
1938	93	89	-	-	-	-	-	-

As to the wealth of livestock, this is still in a more deplorable state despite the potentialities of success and progress. The farmer's average production of milk varies between 1,500 and 2,000 lbs. per year while the average jumps to 4,000 lbs. in dairies adopting modern means and methods; and to 6,000 or 7,000 lbs. in countries where animal production is given special care and attention.(4)

(1) Sidky, A. 'Egypt's Agrarian Policy' - Government Press - Cairo 1954
(2) Due to land fatigue and fragmentation
(3) Issawi, C. 'Egypt at Mid-Century' Oxford Press London 1954 page 79
(4)

In addition, the production of milk suffers much from epidemics among the cattle; the loss due to such diseases and low productivity may be estimated at no less than £E 30 million per year.

THE ROLE OF INDUSTRY IN THE NATIONAL ECONOMY

In the nineteen-thirties a fairly rapid rate of industrial growth was maintained. During the war this was accelerated, the index of net industrial output rising from 100 in 1939 to 154 in 1944. There was a rise of 27% between 1944 and 1947.(1) Since, however, industry continued to play a minor part in Egypt's economy, the level of total output is still mainly determined by the size and value of the agricultural output.

A comparison of the population growth with the increase in total output shows that production is only just keeping pace with the rise in numbers.

The need for industry began to be realized in Egypt during the First World War, owing to the shortage of important manufactured goods. This shortage brought into being several minor industries, some of which survived the war, and gave the older ones a new lease of life.

The tariff of 1930, increasing duties on imported goods, marks the beginning of large-scale industrialization.

The Second World War greatly stimulated Egyptian industry. Not only were imports reduced drastically, but there was large-scale expenditure by Allied Troops stationed in Egypt. Some Egyptian products found their way to neighbouring countries. Several industries expanded considerably, especially textiles, preserved foods, chemicals, glass, leather, cement and other building materials, petroleum and mechanical industries while new industries were established, such as the iron and steel industry, the dehydration and canning of vegetables, rubber goods, jute processing, the making of spare parts and tools, and, above all, a wide variety of chemicals and pharmaceuticals.

The first three post-war years were a prosperous period for Egyptian industry. By 1949 foreign competition began to weigh heavily on all sectors, but this was relieved somewhat by the outbreak of war in Korea(2) which gave Egyptian industry a new impetus.

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(1) Issawi. C. 'Egypt at Mid-Century. London 1954 page 143
(2) 1951

The population censuses of 1937 and 1947 put the number engaged in manufacturing, mining and building at 610,000 and 835,000 respectively and there was a further increase of 81,000 between 1947 and 1951.

The industrial labour force constituted less than 2% of the total population, and more than 2/3 of it was engaged in producing finished consumer goods. This was in the time between 1921 and 1930(1) Between 1927 and 1937, the number of industrial establishments, many of which continued to be small handicraft units, increased by about one-quarter and the number of workers by a slightly larger proportion. Something like 3% of the annual increment in population was being absorbed in secondary industry.

With the greater utilization of existing capacity and a considerable expansion in the number of establishments, industrial employment doubled between 1937 and 1945, while real net output in 1950 was about 140% above the 1939 level.(2) During this period the country became self-sufficient in a number of consumer goods and capable of providing the bulk of its requirements of several others. Although manufacturing occupied only 6% of the total working population, it accounted for about 11% of the net national product.

The following figures which indicate the number of industrial establishments in Egypt between 1928 and 1951 include handicraft establishments and small workshops which accounted for a substantial proportion of the total.(3)

Table (2) Industrial establishments and employers (1928 - 1951)

Year:	1928	1938	1944	1947	1951
No.	62,500	92,000	129,200	133,600	124,600
Employment:	188,000	274,000	458,000	578,000	659,000

Employees comprise administrative, technical and clerical employees, salesmen and skilled workers and labourers.

(1) Issawi. C. 'Egypt at Mid-Century'. Oxford University Press. London 1954.p.144
(2) Issawi. C. 'Egypt at Mid-Century'. Oxford University Press. London 1954.p.142
(3) Issawi. C. 'Egypt at Mid-Century'. London 1954. page 140.

The net industrial production rose steadily between 1938 and 1951 as indicated in the following table.(1)

Table (3) Net Industrial Production Prices (1938 - 1951)

Year	1938 £E	1944 £E	1947 £E	1951 £E
At current prices	13 million	46 million	54 million	105 million
At constant prices	13 million	20 million	18 million	31 million

The following table shows the structure of seconday industry in Egypt between 1925 and 1948. The industry is classified in three categories:-

A) Finished consumer goods: including food, textiles, tobacco, furniture, jewellery and plate, toys and leather.

B) Other finished goods: including stone and clay, metal and engineering implements, tools rubber and plastic goods.

C) Intermediate materials; including wood, paper, chemicals, leather and certain other semi-finished materials.

Table (4) Structure of Secondary Industry in Egypt (1925-1948)

Year:	1925 employment	1936 employment	1948 employment	1948 output
A	66%	67%	79%	75%
B	21%	20%	11%	6%
C	13%	12%	10%	20%

The average net per capita output of manufactured goods has also risen steadily between 1938 and 1951. In 1938 the output per capita was 4, in 1944 it was 11, in 1947 it was 12, and in 1951 it had risen to 15. (These figures are valued in current U.S. dollars)(2)

(1) Issawi. C. 'Egypt Mid-Century' - London 1954 page 140
(2) Issawi. C. 'Egypt Mid-Century' - London 1954 pages 161 - 2.

Location of Industries

The 1947 census showed that 17% of the productive establishments, employing 44 of all workmen were located in Cairo, and 7%, employing 21% in Alexandria. This is due to the fact that:

(1) The two cities house nearly 1/6 of Egypt's population andnearly half its purchasing power.

(2) They are well provided with rail, river, or sea communications.

(3) They contain the cheapest and most reliable sources of electric power.

(4) The willingness of labour to migrate from country to towns. The higher literacy rate indicates the presence of more skilled labour.

(5) The presence of shops selling spare parts, and of workshops, mechanical skills and other external economics.

To these economic factors should be added a sociological one, that the pioneers of Egyptian history lived in the main cities.

The main industries located outside Cairo and Alexandria are the extractive industries, most of which are in the eastern desert: the food processing industries, such as the sugar-industry of Upper Egypt and the rice mills of the northern Delta, cotton ginning, and spinning and weaving (in Mehalla) and Kafr El-Dawar.

There are some industries in the other big towns of the Delta and Upper Egypt but on a less important scale. The town of Aswan is now being developed to be a great industrial centre, in the south of the country.

The improvement of roads and the provision of cheap electricity in the country-side may be expected to result in a dispersal of Egyptian industry and such a process should, as far as possible, be aided by the Government.

There are other factors explaining the concentration of Egyptian industry.

(1) The narrowness of the market.

(2) The dearth of entrepreneurial ability.

(3) Lack of industrial credit and of funds for investment in industry make things difficult for the small entrepreneur.

(4) The desire to obtain monopoly profits.

The textile factories in the Delta employ the great bulk of the workers and most of whom are recruited from the countryside. The Egyptian worker is still very much a peasant at heart. In most cases he has not lost his attachment to the soil and often lives alone in the city or town, leaving his family in the village. The intention nowadays is to build workers' quarters near the big factories. Schemes of this nature are under execution in Abu-Zaabul (north of Cairo), Helwan and Suez. This is besides the already established quarters in El-Mehalla, Kafr-El Zayat and Alexandria.

From the social welfare point of view, it was found that out of the 25,000 factories, only 23 have built homes for their workers; only 37 have resident medical and nursing staff, and only 125,000 workers employed in 150 factories benefit from social and medical services. Out of the one and a half million industrial workers of the country, 7% are children (under 15) and 3% women.

Industrial Developments

At the present time an extensive geological survey is being carried out all over the country to find what minerals are suitable for exploitation. But the main mineral resources which dominate the industrial status of the country at the moment are those of iron-ore deposits near Aswan and the Western Desert (with reserves of about 200 million tons) and of the oil field of the Red Sea Coast. The electricity output at present is about 55 kilowatts per head, but the electrification of the Aswan Dam, which is nearing completion will give enough electric power to achieve the first stage of industrialization; the production of enough nitrate fertilizers to meet the country's needs and cheap electric current.

Steel works have been built near Helwan, south of Cairo. Using imported coke this plant produced 150,000 tons of steel in its first year, (1958) and is expected to produce 240,000 tons per year by 1961. As a result of this development subsidiary industries (light tools, household equipment, car-bodies) are rapidly expanding. A factory producing railway carriages is now built beside a bicycle factory producing 25,000 machines per year. Former military factories

are now engaged on civilian production, and factories producing building materials (cement, bricks, tiles and sandstone) have also been built. The pressure on these factories is increasing as a result of the great consumption which the State public works entail. (75% of the products). A fourth cement factory has recently been completed.

The traditional industries, i.e. textiles are also showing a marked expansion. As far as cotton goods are concerned, the government is trying to increase the output of the spun fabrics and to improve their quality, so as to export finished goods instead of raw materials. Production has increased by about 14.5% between 1954 and 1955. Oil refining has increased by 80% since 1956. New refineries have now been built near Cairo and Alexandria. The output of the present oil fields was estimated to be about 3 million tons in 1958 (4).

Food industries are developing slowly due to the narrow home-market, but, on the other hand, the sugar industry is prospering and a new refinery is under construction. The chemical industries are developing at a normal rate, while the production of fertilizers is rapidly expanding. The production of super phosphate is about 200,000 tons a year. A newly built nitrates factory is expected to produce 300,000 tons of fertilizer per annum.

Other industries are also prospering; mainly tyres; wool; ready-made clothes, furniture; aluminium articles; sewing machines; refrigerators; gas cookers; radios; paper; batteries; and other electrical equipment and all materials connected with the building industry.

Present Industrial Status

The industrial status is now changing along the lines already mention. The striking feature of the present industrial position is the great gap between the small and the large industries. There are now about a million and a half industrial workers in the country, 90% of whom are unskilled labourers. This number may be increased to two millions in the coming three years. Out of the total number of firms (25,000) 68% employ less than 5 workers each, while 65 factories employ more than 500 workers in each. Medium-sized industries should now be developed fromsome of the small-sized ones producing goods for local consumption. This type of industry might be integrated with the local agricultural production of the different zones and districts. This type of industry, in other words will fil. the gap between the rural handicrafts and the large industries by establishing rural industrial centres for this purpose each serving a population of about

100,000 as discussed later in this study.

Another feature of the present industrial status is the lack of co-ordination and integration between factories. This is due to the fact that every factory produces its own energy, repairs its own equipment, transports its own products and even sells them itself. The exception to this rule is the Abboud organisation which consists of a system of separate but inter-related specialised workshops, factories and transport organisations.

In this sphere the policy of the present regime is (1) to direct and control the means of production, (2) to fight private monopolies, (3) to set up medium-sized industries and (4) to establish a system of 'mixed economy'.

In connection with the rural problem, which is the main subject of this study, lies in raising the standard of living of the 18 million fellahs so as to increase their purchasing power for the expansion of industrialization.

A ten years plan, which is still in its initial stages, is being drafted with the purpose of creating co-operative societies to industrialize farming. The plan will be put into operation in two years time, i.e. 1961.(1) The Director of the plan introduced it by saying that the poor and suspicious fellaheen would never invest their small savings, in an ordinary concern, but that they would bring their milk, eggs and vegetables to a local factory which would transform their produce under their own eyes, sell it and share the profit between them. They will be the first to consume what they have helped to produce and thus will have a share in financing these agricultural-industrial co-operative societies.

The industrialization of the country by means of Rural Industrial Units aims at reabsorbing part of the farming labour force, directing agricultural capital into industry and creating a home market. The instrument of this industrialization is the agricultural-cum-industrial co-operative based on two principles; decentralization and local control. There will be no huge concentration around the main cities but industrial and rural units at district level; local capital local labour, and local markets. In order to give the necessary impetus, the State makes the first investments and keeps watch over these experiments whose

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(1) Jean and Simonne Laconture. 'Egypt in Transition, Methuen and Co. London 1958, page 355.

nucleus will be the Agricultural Reform Centres. (In the author's view, the nucleus should be the Collective Unit Centres as to be explained later in this study) The industries will be, first and foremost, food industries. 'Household' industries (furniture, hardware, small machines) will be carried on side by side with the former; they have been started already in the rural centre of Wadi El-Natroun and the Liberation Province.

Problems of Development

Like any other backward country trying to carry out a nineteenth-century economic revolution in a twentieth-century social context, Egypt faces several great obstacles. Some of these are economic, others technical, others are political, social or cultural.

A comparison of present-day Egypt with England at the eve of the Industrial Revolution brings out many of these difficulties. Unlike most underdeveloped countries, Egypt has already had its Agricultural Revolution, but the fruits of this process have been largely absorbed in maintaining a greatly expanded population at the same low level of subsistance, instead of providing the surplus necessary to build up other sectors of the economy, notably industry. The standard of living of the Egyptian peasants today is much lower than that of seventeenth-century English peasants, a fact which correspondingly reduces the country's capacity to carry out the large-scale saving required for development. The rapid growth of the population, accelerated by the discoveries of modern medicine, channels a further appreciable flow of savings into merely maintaining existing levels.