CHARLES ISSAWI¹

HE most powerful factors depressing the standard of living in Egypt during the last thirty years have been the maldistribution of wealth, the population pressure, and the persistent fall in the prices of agricultural products. especially cotton. The first factor will not be dealt with in this article. Suffice it to say that inequality in the distribution of wealth, especially land, has lowered the standard of living both directly-by cutting down the incomes of the poorer classesand indirectly-by restricting their purchasing power and thus narrowing the market for local industries. a fact which has greatly impeded the progress of industrialization in Egypt. Public opinion is becoming increasingly aware of the necessity of correcting this maldistribution by both an agrarian reform and the steepening of the rate of progressive taxation on large incomes, and important steps have been taken in the latter direction.

GROWTH OF POPULATION

The pressure of Egypt's rapidly growing population on her very exiguous soil has been preoccupying Egyptian economists and sociologists during the last fifteen or twenty years.² But the problem is not peculiar to Egypt; it is part of a world-wide phenomenon which can be seen equally well in India or Indonesia today or in Western Europe during the 19th century. Briefly put, the population of these countries is growing, or has grown, because the secular balance between births and deaths has been upset. For in a pre-industrial society the death rate is always high, owing to inadequate nutrition, defective hygiene, the spread of epidemics and the loss in lives resulting

¹Middle East Section, Department of Economic Affairs, United Nations Secretariat. This article was written before the author joined the United Nations and represents his own personal views—not those of the United Nations.

^a One of the earliest studies on the subject was Dr. Wendell Cleland's THE POPU-LATION PROBLEM IN EGYPT. Lancaster, Pennsylvania, The Science Press Printing Company, 1936.

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from disorders and wars. In order to compensate for this high wastage, the society favours those customs and institutions that promote a high birth rate, such as stigmatizing celibacy, encouraging marriage at an early age, honoring parenthood and so forth. When as a result of the spreading of industrial civilization, order and security prevail, hygienic conditions improve and more food becomes available, the first effect is a decline in the death rate. The birth rate, however, which is determined mainly by social and religious factors, remains for a long time at its previous high level. It is only when an industrial civilization has prevailed sufficiently long to change the whole customs and outlook of the population that birth rates begin to decline, as they have been doing in Western Europe and North America. Egypt is at present in the first stage, the stage of declining death rates unaccompanied by falling birth rates.

Egypt's population in Pharaonic, Roman, and early Arab times is generally estimated at 6–7 millions. Long centuries of Mameluke misrule, however, combined with the diversion of the trade routes linking Europe with India, caused the population to drop heavily, to perhaps 2,500,000 by the end of the 18th century.

Mohammad Ali Pasha's enlightened and firm rule and the economic expansion that set in under his reign set the population curve on an upward course from which it has not since deviated. More land was brought under cultivation and crop yields increased; hence a larger population could be supported. More particularly, the rapid expansion of cotton cultivation (greatly accelerated by the American Civil War and the consequent stoppage of American exports to England) stimulated the growth of the population, since cotton absorbs much labour, especially child labour.

As a result of these factors, the population doubled in half a century, standing at about 6,800,000 at the time of the British occupation in 1882.

Table 1, based on the census carried out each ten years, shows the increase since that time.

Year	Population	Per Cent Increase During the Decade	
1897	9,635,000		
1907	11,190,000	16.1	
1917	12,718,000	13.7	
1927	14,178,000	11.5	
1937	15,921,000	12.3	
1947	19,040,000	19.6	

Table 1. Population of Egypt, 1897-1947.

The reported population of 1947 is generally believed to be inflated³ but it is very unlikely that the true figure is lower than 18,000,000 which would give an increase of about 13 per cent over the decade.

A careful analysis of birth and death rates over the period 1906-1940 was made by Dr. Clyde V. Kiser.* The crude birth rates showed no definite trend but fertility ratios (children under 5 per 1,000 women or married women 15-49 years of age) did suggest some decline after 1907. The recorded death rates for Egypt as a whole indicated no decline since 1906. Those restricted to Health Bureau areas (with more adequate registration) were lower after 1920 than during the several years preceding the influenza epidemic of 1918. This remained true despite the upward trends during 1930-1941-increases that may have been due in part to improvements in registration. Infant mortality rates for Health Bureau areas indicated very distinct decreases over the 1906-1941 period. Dr. Kiser's calculations show that, in 1937, the gross reproduction rate for the whole country was 3.11 and the net reproduction rate 1.44. By different methods of extrapolation Dr. Kiser concludes that "it seems reasonable to expect that it [i.e., the Egyptian population in 1970] will be between 18 and 21 million."

^a When broken down the census returns show an abnormal increase in Alexandria and even more in Cairo. It is probable that many inhabitants of these cities filled their forms wrongly in the hope of getting extra ration cards.

⁴Kiser, Clyde V.: The Demographic Position of Egypt. A chapter in DEMO-GRAPHIC STUDIES OF SELECTED AREAS OF RAPID GROWTH. The Milbank Memorial Fund, New York, 1944, pp. 97-122.

Population and Wealth in Egypt

These figures may, however, prove to be an underestimate. For the death rate of 26 per thousand, one of the very highest in the world, will probably be brought down by the great efforts which are being exerted to improve hygienic conditions; while the birth rate is likely to remain high.

PRESSURE OF POPULATION

The next question to ask is whether Egypt is in any sense "overpopulated." Put in this form the question hardly admits a scientific answer. Nevertheless it may be safely stated that the population is pressing harder and harder on the very limited resources of the country.

Two facts should be borne in mind. First, Egypt's population has increased sixfold during the last hundred years, from about 3,000,000 to some 18,000,000, a rate of growth probably unparalleled by any purely agricultural country. Second, Egypt is perhaps the most densely populated country in the world.

What then was the increase in resources which accompanied this huge increase in population? No precise indices of production have been computed, but the following figures illustrate the general trend.⁵

In 1830–1840, the cultivated area was about 2,000,000 feddans; 6 in 1944–1945 it was 5,700,000, while the crop area was $9,150,000.^7$

During the same period the yield of wheat rose from about 4 ardeb⁸ per feddan to 6 ardeb per feddan, while that of cotton showed a much more spectacular advance from 1-2 cantars⁹ per feddan to over 5 cantars.

Finally, cotton exports during that period shot up from about 200,000 cantars per annum to somewhere around 8,000,000 cantars.

⁵ From Crouchley, A. E.: A Century of Economic Development. Egypte Contemporaine, 1939.

⁶ A feddan is 4,201 square metres or 1.038 acres.

⁷ The difference between the cultivated and crop areas arises from the fact that, over most of the country, more than one crop is grown on each patch of land during the year.

⁸An ardeb is equivalent to 150 kilograms or 330 lbs. approximately.

⁹A cantar is equivalent to 99 pounds or 45 kilograms.

Taking the period as a whole, it is not permissible to say that Egypt's population has outrun her income.

A careful study of the twenty years' period lying between the two world wars, however, can only lead to a pessimistic conclusion. Table 2. Weighted index of volume of fourteen main crops produced in Egypt. (Average of 1924-1928 = 100).

VOLUME OF AGRICUL-TURAL PRODUCTION

First of all it is necessary to examine the increase in the volume of agricultural output, since agriculture is still by far the most important source of Egypt's income and one that absorbs over two thirds

Year	Index		
1929	111		
19 30	106		
1931	96		
1932	102		
1933	110		
1934	101		
1935	113		
1936	116		
1937	124		
1938	112		
1939	120		
1940	118		

of her occupied population. Figures for the fourteen principal crops have been worked out by the present writer¹⁰ on the basis of data compiled by M. Jean Schatz¹¹ and are shown in Table 2.

These figures show that, with the exception of the depression years, when cotton production was restricted by the Government in an unsuccessful attempt to raise its price, the physical volume of production has steadily risen, by about 20 per cent between 1924–1928 and the outbreak of the war. This increase is due to the extension of perennial irrigation on the one hand and the great improvement in yields on the other. For whereas the cultivated area has shown almost no change since before the first world war the crop area has increased considerably owing to the extension of perennial irrigation, which has enabled the farmer to grow more crops on the same soil. On the other hand the splendid research work carried on in the

¹⁰ Issawi, Charles: Un indice du volume de la production agricole. Egypte Contemporaine, 1942.

¹¹ Schatz, Jean: Mesures pour alleger l'endettement et la crise des cultivateurs. Egypte Contemporaine, 1942.

Ministry of Agriculture has resulted in the production of new, longer stapled varieties of cotton with a much higher yield. At the same time the varieties of wheat and maize have been improved and their yields raised.

VALUE OF AGRICULTURAL PRODUCTION

But this increase in *volume* has by no means sufficed to offset the fall in prices, so that the total *value* of the crops has sharply contracted. The main factor responsible for this state of affairs is undoubtedly the catastrophic fall in the world price of cotton. For although Egyptian cotton, because of its high quality, normally stands at a premium over its American, Indian, Russian, and South American competitors, its price is nevertheless bound up with theirs, as was demonstrated only too clearly by the unsuccessful restrictionist measures of the early 1930's.¹²

If Egypt consumed the whole or the bulk of her agricultural production, this fall in value would not have had any significance. But since agricultural products constitute nearly 90 per cent of Egypt's exports the fall in agricultural prices caused the terms of trade to move against her and thus contributed to depress the standard of living.¹³

Table 3 indicates the extent of the fluctuations and fall in the value of the *twelve* principal Egyptian crops.¹⁴ The first column shows the wholesale value of these crops; the second an index adjusted for changes in the cost of living and based on 1939 shows an appreciable drop. The figures show clear cyclical fluctuations: the post-war boom of 1919 is followed by a sharp fall; this in turn leads to an ampler and more solid, though less brilliant, boom in 1923–1928, followed by a very severe slump reaching its trough in 1932; finally there is a slow advance up to 1938, accelerated by the outbreak of war.

¹⁹ The factors determining the price of Egyptian cotton are studied in Charles Issawi: Egypt: An Economic and Social Analysis. Royal Institute of International Affairs, 1947, pp. 66–67.

²⁸ For the movements in Egypt's terms of trade see ibid, pp. 116-117.

¹⁴ These are: cotton, cotton seed, wheat, beans, corn, millet, barley, rice, lentils, fenugreek, onions, and sugar cane.

This decline may have been partly offset by the development of fruit and dairy farming, but both those activities still occupy a very minor place in Egyptian agriculture. Hence it is safe to conclude that the gen-

eral trend is unmistakably downwards, in spite of the growth in population.

GROWTH IN INDUS-TRIAL PRODUCTION

In the eighteen twenties and thirties, Mohamed Aly made an ambitious, and largely successful, attempt to set up in Egypt industries catering not only to his army and navy but also for civilian uses. Political factors wrecked his plans, however, and the scarcity of local capital and the hostility of Great Britain to the industrialization of Egypt precluded the renewal of any large-scale attempt

Table 3. Value of twelve Egyptian crops, 1917-1939.

¹ An Egyptian pound was worth about \$5 before the war and is now worth about \$4. ² Adjusted for change in cost of living.

at industrializing the country.

In the 1920's, however, when political independence gave the Egyptian government more control of its economic affairs, and even more in the thirties, when tariff protection of Egyptian industries became possible, a brisk industrialization took place. By 1937 it was estimated that about 1,000,000 men, women and children were employed in industry—mainly in transportation, public utilities, oil wells, mining and quarrying, and such light industries as textiles, sugar, cigarettes and, of course, the old industries connected with cotton: ginning, pressing, extraction of cottonseed oil, etc.

The Second World War gave a great stimulus to industry; profits were high and output increased rapidly. Table 4 (taken from the ANNUAIRE STATISTIQUE DE POCHE, or STATISTICAL ABSTRACT, of the Egyptian Government for 1946) shows the volume and gross value of the output of some of the leading industries in 1945.

The figures in Table 4 are quite impressive, but they should not be interpreted to mean that industry has caught up with agriculture as a factor in the national economy, or that it is even within sight of catching up with it. For industrial prices in 1945 were even more inflated than agricultural prices. In that year the value of the twelve main crops was 161,130,000 pounds Egyptian, or over three times that of the main industrial goods. And it should not be forgotten that the *net* income produced by agriculture in Egypt is distinctly higher than that produced by industry.

In other words, the growth of industry in Egypt had, up to the outbreak of the Second World War at any rate, *probably not* sufficed to offset the decline in the value of agricultural products due to the fall in their prices.

	QUANTITY (Thousands of Tons)	VALUE (in Thousands of Pounds Egyptian)	
Cotton Piece Goods	37	24,261	
Mineral Oils	981	6,092	
Cement	444	2,024	
Refined Sugar	148	8,477	
Cottonseed Oil	74	4,107	
Beer	38	3,151	
Cottonseed Cakes	297	2,017	
Phosphates	349	a	

Table 4. Quantity and value of main industrial goods produced in Egypt in 1945.

^a Value not given in government report.

Consumption

Some confirmation of the preceding statement may be found in the trends of consumption. Table 5 shows indices of consumption of certain staple articles from 1920 to 1939. The figures for tobacco, coffee and tea are taken from official figures; those for sugar and cereals have been computed from figures of production, imports and exports, and can be regarded as reasonably accurate. Textile consumption is not so easy to determine, since the exact production of local handlooms cannot be determined for the years under study. It is probable that the figures given in Table 5 overstate the decline, but not to any very great extent. Similarly figures for meat consumption cannot be relied upon too closely, but there is no reason to believe that those shown above distort the trend.

A glance at the table will show that all the consumption figures except tea and sugar show a downward trend. It only remains to add that these figures show *total* consumption and not *per capita* consumption. In view of the increase in population, per capita figures would have registered a much sharper decline.

Year	Товассо	Coffee	Tea	Sugar	Meat	Textiles	Cereals
1920	126	99	39	50	80		96
1921	114	·107	36	50	97		94
1925	111	89	87	106	107	116	105
1926	110	108	76	114	107	88	103
1929	113	109	117	148	102	105	105
1930	103	111	109	130	101	92	104
1931	88	86	138	111	105	79	106
1932	81	86	148	86	101	94	116
1933	77	98	124	99	101	105	89
1934	81	76	145	106	97	101	90
1935	83	91	121	114	94	105	97
1936	86	92	137	117	94	102	97
1937	86	90	143	124	94	107	95
1938	-		139	124	97	95	99
1939	_		125				101

Table 5. Indices of consumption of specified staple articles in Egypt, 1920-1938. (Average volume of 1920-1937 = 100).

Moreover, there are good reasons to believe that the same volume of agricultural production could be produced with a rural population of 1,500,000 families, instead of the present figure of over 2,000,000.¹⁵ In view of this evidence, it seems safe to say that, in Egypt, population is pressing harder and harder on the means of subsistence. The present writer would go even further, and affirm categorically that if ever the word "overpopulated" could be applied to a country, that country is Egypt.

Social and Political Effects of Population Pressure

The direct economic effect of the population pressure has been to lower the standard of living. Its indirect social and political effects also deserve mention.

With a density of three inhabitants per acre of cultivated land, or about 2,000 per square mile, Egypt is one of the most thickly populated regions in the whole world. This has, in the absence of large-scale industry, created a land hunger which has forced up land values and rents to very high levels indeed. As a result the landowning class is the wealthiest in the country and has played a dominant part in its politics.

Conversely, the poverty of the rural population has limited the expansion of industry and so prevented the emergence of a powerful industrial middle class. It required the stimulus of recent war conditions to develop industry to the point where a new industrialist class could measure itself against the landlords and begin significantly to determine policy.

Another social class whose development has been held up by the pressure of population is the urban working class. For, so far, all attempts to raise the level of this class have been defeated by the large-scale influx from the countryside to the towns, an influx which has naturally depressed wages and increased unemployment.

Finally, it may be said that the population pressure and con-

¹⁵ See Cleland, Wendell: A Population Plan for Egypt in DEMOGRAPHIC STUDIES OF SELECTED AREAS OF RAPID GROWTH. Milbank Memorial Fund, 1946, and Issawi, Charles: op.cit. pp. 201-202.

sequent economic distress have produced a general uneasiness in political life. On one issue it is perhaps possible to be more definite. Egypt's desire to reduce British influence in the Sudan is largely motivated by reasons of national security and by the desire to secure the water supply of the Upper Nile which is literally vital to her. It may, partly, be motivated by the hope of sending Egyptian colonists to certain sparsely populated parts of the Sudan, thus reducing the pressure at home. There are, of course, other factors, such as the ethnic, linguistic, and religious ties between Egypt and the Sudan.

COTTON PROSPECTS

Having described the present situation, it becomes necessary to examine the possibilities of ameliorating it. And since Egypt's income is still predominantly derived from agriculture, the prospects of agriculture must first be surveyed.

Although the combined value of the wheat and maize crops was up to 1939 about equal to that of the cotton crop, and is today somewhat greater, cotton is still the most important Egyptian crop, accounting as it does for about 80 per cent of the country's exports. The reduction in Egypt's income between the two World Wars was mainly due to the catastrophic fall in cotton prices, both absolutely and in relation to the prices of Egypt's imported goods. Hence, a reversal of the past trend of cotton prices would mean prosperity for Egypt, while their persistence in a downward direction, or even their stabilization at their present level, would spell poverty.

Cotton prices have risen considerably during the war, from about \$10 per cantar for Ashmuni Fully Good Fair in May, 1939, to \$37 per cantar in May, 1947, and \$65 in May, 1948. This high level of prices may be expected to last for a few years, but there is every reason to fear that after that the price of cotton will once more decline, both absolutely and relative to other goods. For one thing, the war has stimulated production in many places and notably in South America. For another, the production of rayon, nylon, and other fibres which compete with long-staple Egyptian cotton has enormously increased and their costs of production have been considerably reduced. Hence, unless such a high level of production is maintained all over the world as to absorb all fibres, it is unlikely that cotton will enjoy an expanding market and boom prices. Egypt must therefore look for other means of ameliorating its standard of living.

EXPANSION OF CULTIVATED AREA

One partial solution would be to expand the cultivated area by reclaiming new tracts of land. Unfortunately narrow limits to such a process have been set by the configuration of the Nile Valley. The banks of the river rise so steeply that the cost of raising water to all but the immediately adjacent spots is prohibitive. Moreover, any vast extension of cultivated area would require a water supply which the Nile cannot at present provide and which would necessitate irrigation works in Egypt, the Sudan, and Abyssinia—such as dams on Lake Tana and the clearing of the Sudd swamps in the Southern Sudan—estimated to cost hundreds of millions of dollars. Even so, experts believe that the upper limit for cultivation in Egypt is about 7,100,000 feddan as compared with the present figure of 5,700,000.

A certain amount of cultivation has recently been carried on in the Mediterranean fringe of the Western desert. The region undoubtedly offers some possibilities, and much would be learned from American methods of "dry farming" and from the experience of the Italians in Cyrenaica. But the contribution of the Western desert towards solving Egypt's population problem cannot be very great.

FRUIT AND DAIRY FARMING

But if the cultivated area cannot be greatly extended, there is no reason why the value of the agricultural production should not be considerably increased by the introduction of new crops, or the extension of others which are at present grown on only a small scale but which are highly profitable. Among these are soya beans, jute, flax, and, above all, fruit and vegetables. Egypt's marvellous weather should make of her the fruit garden of Europe when Europe shall have sufficiently recovered to become once more a great market for such goods. Similarly, dairy products might be developed on a large scale, since Egypt's milk is particularly rich in fats.

BIRTH CONTROL

Faced with a rapidly expanding population and a much less rapidly expanding income, many Egyptians, as well as some foreign students of Egyptian affairs, have recommended birth control as a means of lightening the population pressure.

Of course birth control involves issues which go well beyond the economic field. Religious and moral, as well as political and social, considerations must be taken into account, and although the Rector of al Azhar, the 1000-year-old Moslem University in Cairo, has issued a declaration permitting the use of contraceptives, it is still to be seen whether the body of religiously minded Moslems will follow his lead. At present, the prevailing social attitudes and customs all favour early marriages and the rearing of large families. Moreover, in an agricultural economy, children become economic assets at an early age since they can be put to work in the cotton, and other, fields.¹⁶

Some measure of birth control is probably necessary in Egypt, but it must not be looked upon as a short-term, or even medium-term, solution of the population problem. For one thing it takes birth control methods a long time to get diffused, especially in a predominantly rural population like that of Egypt, living at a relatively low economic and cultural level; birth control flourishes mostly in an urban environment offering people many distractions outside their homes. Again it takes at least a generation for birth control to affect appreciably the size of the population. Hence one cannot expect a reduction in the size of the Egyptian population due to birth control for at least another fifty years or so.

¹⁶ For a more detailed account see Cleland, op.cit.

Emigration

In the meantime two partial solutions present themselves: emigration and industrialization.

One of the most permanent traits of the Egyptians, throughout the six or seven millenia of their history, has been their reluctance to leave their country. In contrast to the Lebanese, Palestinians, and Southern Arabians (all of whom have a longer commercial tradition and live near the sea), the Egyptians have not emigrated much and the Egyptian communities abroad are few and far between. It will take considerable economic distress to overcome this reluctance, but the process might be considerably eased if the government sponsored and guided the movement, transplanting whole village communities rather than isolated individuals or families. This transfer, naturally, involves considerable expense, and international aid might be required.

The next question that arises is that of the *place* to which Egyptians could migrate. In the past, there was a small movement to Palestine, but that country is today suffering from severe congestion. The natural growth of the Arab population —which has about doubled in thirty years—as well as the influx of Jewish immigrants have combined to produce a heavy population pressure.

The same is true of Lebanon, whose population has also doubled in thirty years, and whose density of population is very high. The Arabian Peninsula has always been, of course, a center of emigration, not immigration.

North Syria offers certain possibilities in spite of the rapid growth in the Syrian population, while Iraq could absorb a very large number of immigrants. Moreover, conditions of climate and soil in those two regions are quite similar to those of Egypt, as are the language, customs, and religion of the inhabitants. The Sudan too, if properly developed, might serve as in important outlet for the surplus Egyptian population.

All this of course requires a considerable measure of understanding between the countries concerned, and while there is no doubt that the Arab countries are drawing closer and closer together, it would be premature to affirm that they are at present prepared to take in each other's excess populations.

Industrialization

There remains, finally, industrialization. As was pointed out above, industry has greatly developed in Egypt during the last fifteen years, especially during the war years. Many of the prerequisite conditions of industrialization are present in Egypt while others are lacking. Thus there are quite a number of minerals, notably cement, manganese, and phosphates. Large deposits of very high grade iron ore have been discovered near Aswan and will doubtless be exploited as soon as cheap hydroelectric power is available. Agricultural raw materials are abundant, such as cotton, leather, sugar cane, fruits, and vegetables, etc. Cheap power can be obtained either from Egypt's expanding oil wells-which at present more than cover domestic requirements of most kinds-or from electricity generated by the falls of the Aswan dam. The Aswan dam hydroelectric scheme, planned to produce a considerable electric power, is now being put into execution, after having been held up by internal and external political difficulties for about a quarter of a century.

Capital is now available in large quantities, since profits were considerable during the war years and large reserves have been built up. Finally, there is no longer any lack of skilled workers, though Egypt still does need the services of foreign technicians.

It is not however sufficient to be able to produce: a country must also be able to dispose of its goods if it is to set up a large industry. There is little doubt that the main obstacle encountered by Egyptian industry is the narrowness of its market. This is due mainly to the poverty of the rural population, who normally should form the main consumers of Egyptian products. This poverty is aggravated by the maldistribution of land and income alluded to at the beginning of this article which restricts the purchasing power of the masses while it allows the richer classes to spend their money on foreign-made goods.

Nor can Egypt hope, for a long time to come, to compensate for the narrowness of her internal market by building up a large export trade, for the competition of the older industrial centres is likely to prove overwhelming. Egyptian industry must market its goods at home and the fact that the present maldistribution of wealth is holding up industrial development has reinforced the urge towards more progressive taxation and an agrarian reform.

Such, then, is Egypt's population problem. The different suggestions indicated above may constitute a solution of that problem, but it is certain that their execution will tax to its utmost limits the energy and intelligence of those responsible for the country's destiny. Egypt is facing a very difficult situation, and she needs all the sympathy and help of the outside world in dealing with it.