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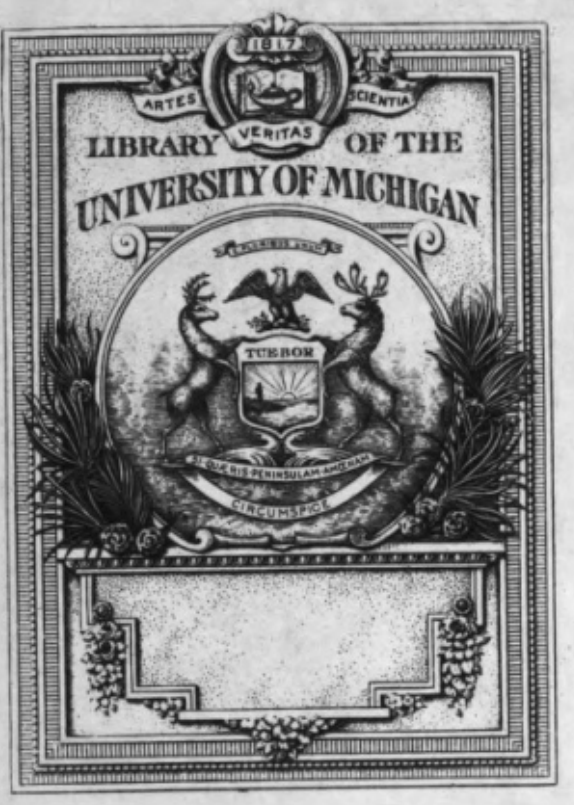

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No. 88. June, 1925.

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THE BRITISH COTTON GROWING ASSOCIATION.

[INCORPORATED BY ROYAL CHARTER.]

IRAQ (or MESOPOTAMIA) as a Source for Increasing Raw Cotton Supplies

By

W. H. HIMBURY

(General Manager of the British Cotton Growing Association).

Head Offices:
333 to 350 THE ROYAL EXCHANGE, MANCHESTER.

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THE "MAUDE" STATUE OUTSIDE THE RESIDENCY GATES AT BAGHDAD.

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(Incorporated by Royal Charter.)

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Chief Engineer:

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Auditors:

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ITINERARY

1925.

Tuesday, January 6th. Left Manchester by afternoon train for London.

Wednesday January 7th. Left London Victoria by the 11-0 a.m. train for Dover, Calais, Paris, and the Simplon express. Crossed over Paris; left Paris by the 20.35 (8-35 p.m.)

Thursday, January 8th. Arrived Trieste 11-30 p.m.

Friday, January 9th. Left Trieste by s.s. "Helouan" for Alexandria at 1-0 p.m.

Monday, January 12th. Arrived Alexandria 4-30 p.m. Stayed at Alexandria that night.

Tuesday, January 13th. Left Alexandria by evening train for Jerusalem.

Wednesday, January 14th. Arrived Jerusalem. Visited Bethlehem and other historical places.

Thursday, January 15th. Left for Haifa by early morning train. Left Haifa 12-30 by motor for Beyrout. Stayed night at Beyrout.

Friday, January 16th. Left Beyrout 5.45 a.m. by motor for Baghdad. Night spent travelling in Desert.

Saturday, January 17th. Arrived Baghdad.

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BAGHDAD PROGRAMME

Saturday, January 17th. Arrived Baghdad.

Sunday, January 18th. Baghdad.

Monday, January 19th. Ginnery.

Tuesday, January 20th. Call on the High Commissioner (Sir Henry Dobbs, K.C.S.I., K.Q.I.E.) 11-30. Visited Kadhimain, Muadhdham, and the Alwiyah Club.

Wednesday, January 21st. Visited Rustam College and Ctesiphon.

Thursday, January 22nd. Visited Baqubah, Mahrut, Balad Ruz.

Friday, January 23rd. Returned from Balad Ruz. Tea with Major Griffin (Deputy Director of Iraq Government Railways).

Saturday, January 24th. Sarai in morning. Afternoon Colonel .R Tainsh, C.B.E. (Adviser of Communications and Works).

Sunday, January 25th. Left Bagdad. Arrived Hindiyah.

Monday, January 26. Left Hindiyah. Arrived Hillah. Visited Babylon and Birs Nimrud.

Tuesday, January 27th. Arrived Ur; also visited Nasariyah.

Wednesday, January 28th. Arrived Basra. Inspected wharves, etc.

Thursday, January 29th. Left Basra.

Friday, January 30th. Arrived Karbala.

Saturday, January 21st. Arrived Bagdad. Called on H.M. King Faisal: afterwards Mr. J. F. Webster, Officiating Inspector General of Agriculture. Lunched with Major and Mrs. Griffin. Visited Colonel K. Cornwallis, C.B.E., D.S.O., Adviser of Interior. In evening dined with the High Commissioner (Sir Henry Dobbs) and Lady Dobbs.

Sunday, February 1st. Left Baghdad 10-0 a.m. for Quebessia.

Monday, February 2nd. Left Quebessia for Palmyra.

Tuesday, February 3rd. Left Palmyra. Arrived Damascus.

Wednesday, February 4th. Left Damascus 7-45 a.m. for Haifa: Arrived 6-30 p.m.

Thursday, February 5th. Left Haifa for Cairo via Lydda and Kantara. Arrived Cairo 10-30.

Friday, February 6th. Cairo. Called on Sudan Agency.

Saturday, February 7th. Cairo.

Sunday, February 8th. Left Cairo for Port Said en route for Marseilles in s.s. "Naldera."

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IRAQ (or MESOPOTAMIA)
as a Source for Increasing Raw Cotton Supplies.

INTRODUCTORY.

Iraq, or Mesopotamia, "the land between the rivers" (Euphrates and Tigris), is a country which has passed through many industrial vicissitudes. At various times in its history it has held a dominating position in one way or another. I had often wished to study on the spot the experiments which had been carried out, and to note what lessons could be learnt from them, and was therefore very glad to have the opportunity of a visit early in the New Year, with the view of ascertaining what are the actual possibilities of cotton in this country.

I propose to give firstly an outline of the general conditions prevailing in Iraq, and then to describe what I ascertained during my journey of inspection.

The country extends from Kurdistan on the N. and N.E. to the Persian Gulf on the S. and S.E., and from Persia on the E. to Syria and the Arabian Desert on the W., the approximate position being between 37½ deg. to 48½ deg. E. long., and from 37½ deg. to 30 deg. N. lat. The territory was freed from Turkish rule during the War of 1914-18. Under the Treaty of Peace with the Allies (1920) Turkey renounced the sovereignty over Mesopotamia, and its future administration was entrusted to Great Britain by the Supreme Council of the Allies A provisional Arab Government was set up by the High Commissioner in November, 1920, and in August, 1921, the Emir Faisal was elected King. In March, 1924, a Constituent Assembly met in Baghdad, ratified the treaty between Great Britain and Iraq, and passed an organic law and an electoral law for the summoning of an assembly. The constitution thus instituted is a Constitutional Monarchy, hereditary in the family of King Faisal, with a Senate of 20 members nominated by the King, and an elective

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Assembly chosen by the people. Iraq thus becomes an independent State. The total area of the districts comprised within the British Mandatory Sphere is about 150,000 sq. miles, the distance from Basra in the south to Mosul in the north being approximately 500 miles. According to a census taken in 1920 the population numbers 2,849,282, made up as follows:

	Sunni.	Shiah.	Jewish.	Christian.	Other Religions.	Total.
Basra Vilayet ...	42,558	721,414	10,088	2,551	8,989	785,600
Baghdad Vilayet ...	524,414	750,421	62,565	20,771	2,133	1,360,304
*Mosul Vilayet ...	579,713	22,180	14,835	55,470	31,180	703,378
Total	1,146,685	1,494,015	87,488	78,792	42,302	2,849,282

* The figures for Mosul include the population of the Kurdish area of Sulaimaniyah, viz., 155,000, of whom all but 1,100 are Sunnis.

So that it will be seen the country is larger than the United Kingdom, and yet its population is only about half that of Lancashire.

Mesopotamia is capable of supporting a population many times in excess of its present inhabitants if drainage and irrigation are developed and extended.

The chief towns are Baghdad, Basra, Mosul, Karbala, and Nejef. The two last, situated on the edge of the Arabian desert, are pilgrim centres which attract Shiahs from all parts of the Mohammedan world, but especially from Persia and India. Baghdad of course is about the most interesting on account of its picturesqueness and its historical and Biblical associations.

The climate of Iraq is of the continental sub-tropical type, with very high temperatures in summer in the plains. In July and August the mean daily maximum temperature is 104 deg. F. at Basra and 110 deg. F. at Baghdad, while in December and January the mean daily minimum temperature is 47 deg. F. at Basra and 40 deg. F. at Baghdad. The rainy season is from November to March. There is a rainless summer of six months lasting from about April to September. The Mosul area has a rainfall of about 13 inches a year and relies upon this to grow

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its crops. The rest of the country has an annual rainfall of only about eight inches, and the crops are grown, with very little help from the rain, on irrigated land. All crops are therefore entirely dependent on irrigation.

As regards topographical details, in the North and North-east there are hills and mountains; elsewhere the land is flat, becoming desert-like during the rainless summers, and blooming like a garden when watered by rain or irrigation. Even much of the desert becomes green and offers a certain amount of pasturage after the rains.

Arabic seems to be the language most widely spoken, but Persian, Kurdish, and Turkish are also used to a limited extent. Many of what might be termed City people speak English and French.

The currency is the Indian Rupee subdivided into 16 annas, and the principal Banks are the Imperial Bank of Persia, the Imperial Ottoman Bank, and the Eastern Bank, with branches established in the principal towns.

The railways open to traffic are:—

Metre Gauge.

1. From Basra to Baghdad (about 350 miles).
2. From Baghdad to Khanaqin City on the Persian Frontier (106 miles).

   From Qaraghan a branch line is in course of construction to Kirkuk with a view to reaching Mosul. It is already in operation as far as Tuz. There is also a branch line from Hindiyah Junction over the Hindiyah Barrage to Karbala.

Standard Gauge (4ft. 8½in.).

3. From Baghdad to Shargat (187 miles).

With the exception of about 75 miles of the Baghdad-Shargat line, which was built by the Baghdad Railway Company before the war, the whole of this railway system has been constructed by the British authorities during and since the war.

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There is a gap of 70 miles between the Mesopotamian rail-head at Shargat and Mosul.

The two ports for foreign trade are Baghdad and Basra. The river at Baghdad is crossed by a wagon ferry, and the line to Basra now passes through Hindiyah Junction.

Whilst dealing with this question of transport and carriage the far-reaching effects of the schemes being at present used are certainly worth mentioning. As an example, Baghdad has been brought within 10 days' journey from London, by what is known as the desert route, and this lies between Beyrout and Baghdad. In my recent visit the trip was undertaken by the service known as the Eastern Transport Co., and very great credit is due to the valuable pioneering work which this Company is doing. The management of the concern has shown great enterprise in providing such a means of conveyance, although of course the journey is not always without a certain amount of excitement. Another Company operating over the desert route is known as the Nairn Transport Co., which is also doing splendid transport service. It is also possible to reach Teheran, the capital of Persia, by this route.

Apropos of the problem of developing cotton growing it cannot but be otherwise recorded that the industry is at present only in its initial stages, although it has been proved beyond all doubt that under favourable conditions of situation, irrigation, and drainage the climatic conditions are suitable to the cultivation of cotton of superior quality. The production during the past four years has been as follows :—

1921.....	60 bales.
1922.....	300 bales.
1923.....	1100 bales.
1924.....	2500 bales.

Virtually the whole of this cotton is bought, ginned, and baled by the Association. The average yield of lint cotton per acre is around 150 lb. The sowing season is from the end of the first week in March to the end of the first week in April, and picking takes place from the beginning of August and continues until

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PURCHASING COTTON AT THE ASSOCIATION'S BUYING STORE AT BAGHDAD.

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about the end of November. The cotton is grown by tenant farmers who share with the landlord, and sometimes there is a third interest, viz.: that of the individual who owns the pumps by which means water is lifted on to the land

It may, however, be as well, in spite of reiteration, to state that it is an established fact that the soil and conditions are suitable for the cultivation of cotton—in fact from ancient Arabic writings it is known that cotton has been cultivated in Iraq from the beginning of the Christian era, and it is not improbable that it was grown by the ancient Babylonians. The soil and climate in fact largely resemble that of Egypt, but Iraq differs from Egypt in many respects as regards the conditions under which the work of irrigation has been or will have to be carried out.

So far back as 1908 that eminent engineer, Sir William Willcocks visited Mesopotamia to report on the possibilities of irrigation. Sir William drew up a most valuable report, and as a result of his investigations and recommendations certain irrigation works were undertaken. Following on the British occupation Sir William Willcocks again visited the country, and notable improvements were effected in the irrigation system. From the data collected and examined by him he formed the opinion that the Turks before and during the war actually conceived measures for the development of the cotton growing potentialities of the country. The second edition of Sir William Willcocks' book, "Irrigation of Mesopotamia" was published in 1917, and contains a mass of extremely useful matter. In 1917 an Officer (Capt. R. Thomas) was deputed by the Government of India to act in the capacity of Cotton Expert to the Administrative Authorities in Mesopotamia, and in the following year (1918) he was able to arrange for and carry through a series of interesting crop experiments.

A report on the 1918 and 1919 experimental work on cotton was published in 1920, and embodied in that publication are detailed reports sent out from England and India on the quality and valuation of each type grown. The outstanding feature of these reports is the excellence of the quality of cotton which

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could be grown in the country. Among the varieties of cotton seed with which experiments had been carried out, and from the reports and valuations which had been obtained in Liverpool on the samples of lint resulting therefrom, it appeared that a variety, the original name of which was " Webber 49," possessed certain distinctive merits, and it was decided to give the crop of cotton from this seed the commercial name of Mesopotamian White, which was later abbreviated to " Mesowhite."

The Executive Committee of the Association held a Meeting on May 8th, 1919, to meet Mr. H. St. J. Philby, C.I.E., the Civil Commissioner for Mesopotamia, when a long discussion took place as to the potentialities of the country. A scheme was propounded under which the Government of the country should grant or lease large areas of land to the Association for the development of cotton growing. These areas were to be in two or three blocks situated in localities considered representative of the various zones. Certain conditions were stipulated, in return for which the Association were to provide adequate ginning, baling, and marketing facilities to deal with the crop. From the data then obtained and reports and authorities consulted, plantations were to be started which were to be situated North of Basra between Amara and Baghdad on the Tigris and Nasariyah and Hilla on the Euphrates. There was also a possibility of another plantation being started North of Baghdad on the Diala.

The heads of the scheme under which the Association should operate in this development of cotton cultivation were eventually submitted to the India Office. The latter, however, did not consider it advisable at the time to authorise the acceptance of such a scheme. In the meantime it had been decided to send out a delegation to Mesopotamia to investigate the possibilities of cotton growing on commercial lines, and in September, 1919, Messrs. B. Crapper and F. Hodgkinson left England on this mission. They issued a report on their return, the conclusions of which are as follows:—

> " I am satisfied that Mesopotamia possesses both a soil and a climate to grow excellent cotton in large weights

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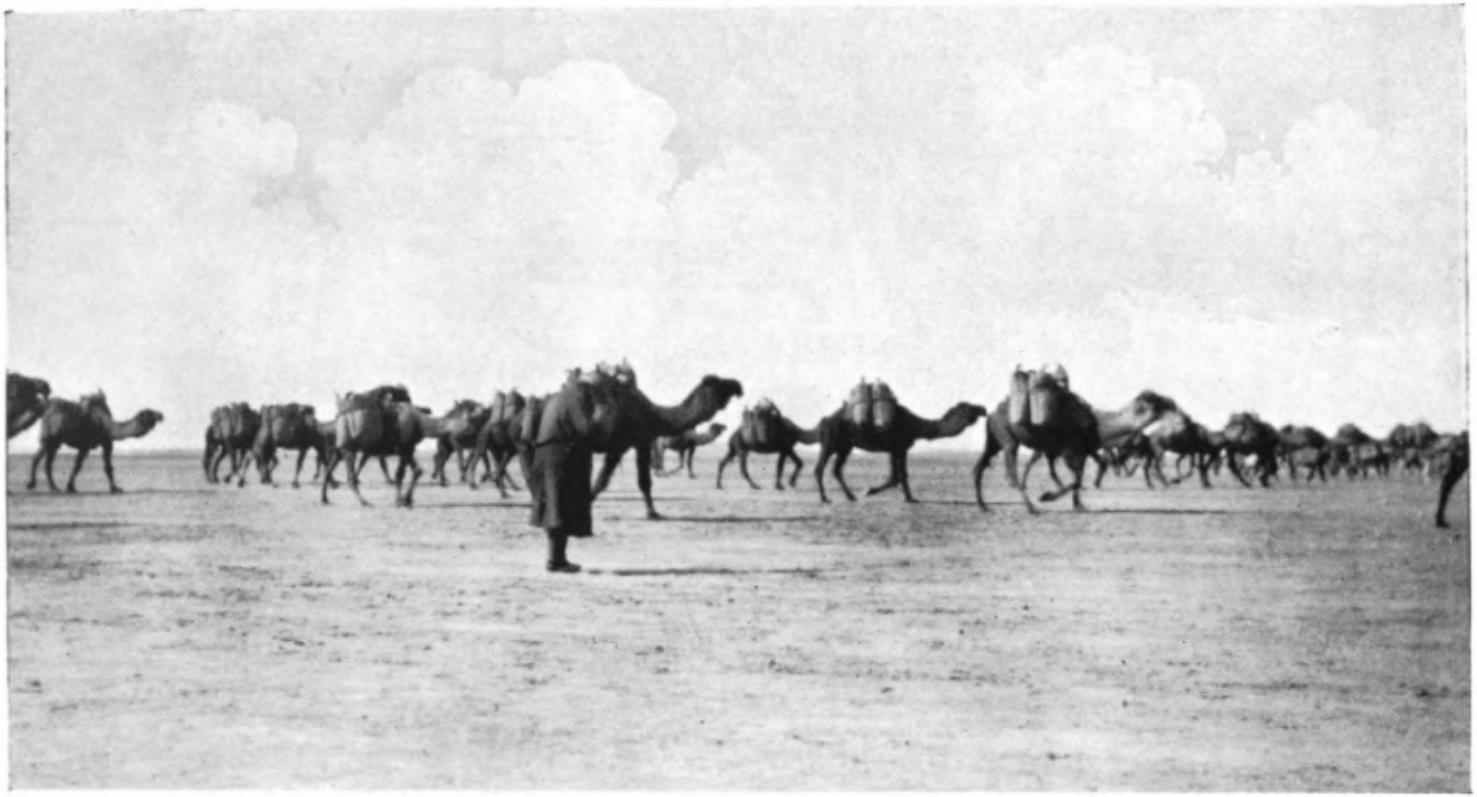

CARAVAN OF CAMELS EN ROUTE FOR PERSIA.

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per acre, and that we may hope for a large production during the next few years. The limiting factors at the moment are :—

(1) Comparatively small population, 3,000,000 people.

(2) Irrigation and drainage requirements.

(3) Cheaper and more direct transport facilities required.

(4) Instruction and scientific methods and machinery to be employed.''

As a result the Council decided to send out a pioneer ginning plant and to commence direct operations without delay. The buildings were erected locally. This ginnery was situated at Shaikh Janaid. The production of cotton during 1924 exceeded 2,500 bales, and there seemed no doubt that the Associatcn's work in that country was established on a firm basis, and that a steady increase in the production of cotton can be looked for. In order, therefore, to deal with the increased production a large up-to-date pneumatic ginnery was despatched, consisting of :—

One Steel Ginnery Building with Suction Store, together with Engine House.

One 4-70 Saw Gin Battery with Pneumatic Attachment capable of sucking the seed cotton from the Suction Store and delivering the lint to the Press Boxes and the seed to the bags.

One 160 B.H.P. Double Cylinder Crude Oil Engine.

One Standard Hydraulic Press.

This new Plant is capable of turning out between 5,000 and 6,000 bales per annum. The density to which the bales are pressed is about 25 lb. per cubic foot and the average weight of the bales is 400 lb.

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SOILS.

From an examination of soils they appear free-working, and of the nature of calcareous loams. From an analysis they have been found to contain abundant plant foods such as Nitrogen, Phosphoric Acid, and Potash, so that they may be considered favourably. So far as cotton is concerned it does well in deep loams and well drained soils of a light nature.

The most serious drawback, however, is the presence of considerable quantities of soluble salts. Anyone travelling through the country cannot help being unfavourably impressed by the large areas of land containing alkali in quantities, and one authority states that whatever the origin of salts found in the soils may have been, it is pretty well certain that its immediate origin is from riverborne soluble salts. History tells us that from time immemorial the rivers Euphrates and Tigris have spilled on the land by annual flood or irrigation millions of tons of water, and the salts which analyses prove to be in the river water have been left in the soil. The small rainfall has not been of much use in " leeching," and the land being lower than the rivers, no annual drainage has been possible, and the soluble salts have accumulated, and in some areas in such quantities as to have a very serious effect upon the economic cultivation of the crops. The Yusufiyah and Saklawiyah canals are practically of modern construction, and the presence of salts is already such as to seriously prejudice the growing of cotton and other crops.

Increasing salinity was of course only to be expected in the absence of drainage, but the rapidity of the increase is a very serious matter, and must not be ascribed to the actual salt evaporated from the water put on to the land during the past few years, but rather to the alteration of the level of the subsoil water and the bringing up of salt from below.

The Inspector-General of Agriculture under date 2/11/1924 now states that on the Yusufiyah

> " A great many crops this year have been complete failures, and the total return to date shows an average yield

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of only 150 lb. per acre, so far as can be judged from estimated measurements.

"When crops have been inspected the indications have been in all cases that the failure was due to salinity of the soil."

"In order to confirm this a series of soil analyses are being made.

Only by an expensive and well planned drainage scheme can progressive deterioration be avoided.

Although the whole of the soil in Iraq is more or less salted, the country to the north and north-west of Baghdad is more promising, particularly the land around Baqubah irrigated from the Diala river, which leaves the Hamrin Hills or the Persian border. All this country is well irrigated and appears to be prosperous, whilst Baqubah, which is 30 miles from Baghdad, has a reputation for producing the best fruit in Iraq.

At Baqubah I saw a very large block of land being cultivated by "Fordson" tractors. The land was in some cases rather light and appeared not to have been "cropped" much, so that there was not much salt visible; a slight slope of the land provided natural drainage. I believe that with a good system of irrigation and drainage there are quite good possibilities in this area.

Whilst in this part of the country I also paid a visit to Balad Ruz and inspected the main canal, which is also taken off from the river Diala. There is a large estate here of 125,000 acres which belongs to a Greek family resident in Europe; it is managed by Mr. Sgouta and another young Greek. A fair amount of cotton is grown, although the chief crop is rice. The estate seemed to be well laid out and excellently managed.

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IRRIGATION.

The development of Iraq is bound up very largely with the question of irrigation and drainage. In 1908 certain works were undertaken following on the report of Sir William Willcocks.

In this connection it might be as well to state that the Tigris-Euphrates delta is flat, Baghdad being 120 feet above sea level. Opposite Baghdad the Euphrates is 25 feet higher than the Tigris. Though the slope of the country longitudinally to the rivers is very slight, the transverse slopes away from the rivers are five times as steep as those of the Nile valley, and a very severe breach on the Tigris or the Euphrates has been followed by the river inundating the whole country and forming a new channel miles away.

The great difference between the delta of the Nile and the joint deltas of the Euphrates and Tigris is that the Nile is in flood from August to October, and can be discharged back into the falling river in November. This permits of the winter cultivation, without further irrigation, of wheat, barley, beans and clover, whereas the Euphrates and Tigris are in flood in March, April, and May, while the floods are followed by the burning and rainless months of June, July, and August, in which irrigation must be practised if any crop is to be brought to maturity. So that while Egypt was for thousands of years the home of basin irrigation, Mesopotamia was the home of perennial irrigation.

In his valuable book, " Irrigation of Mesopotamia " (second edition, issued in 1917), Sir William Willcocks recommends eight separate systems of irrigation works, at a total estimated cost of £15¼ millions; the cost of the necessary agricultural works he estimates at a further £13¾ millions, making a grand total of just over £29 millions. The area commanded by these schemes was estimated at 1,410,000 hectares. These figures were of course obtained some three or four years before the war, and consequently would have to be approximately doubled to arrive at what the cost would be to-day.

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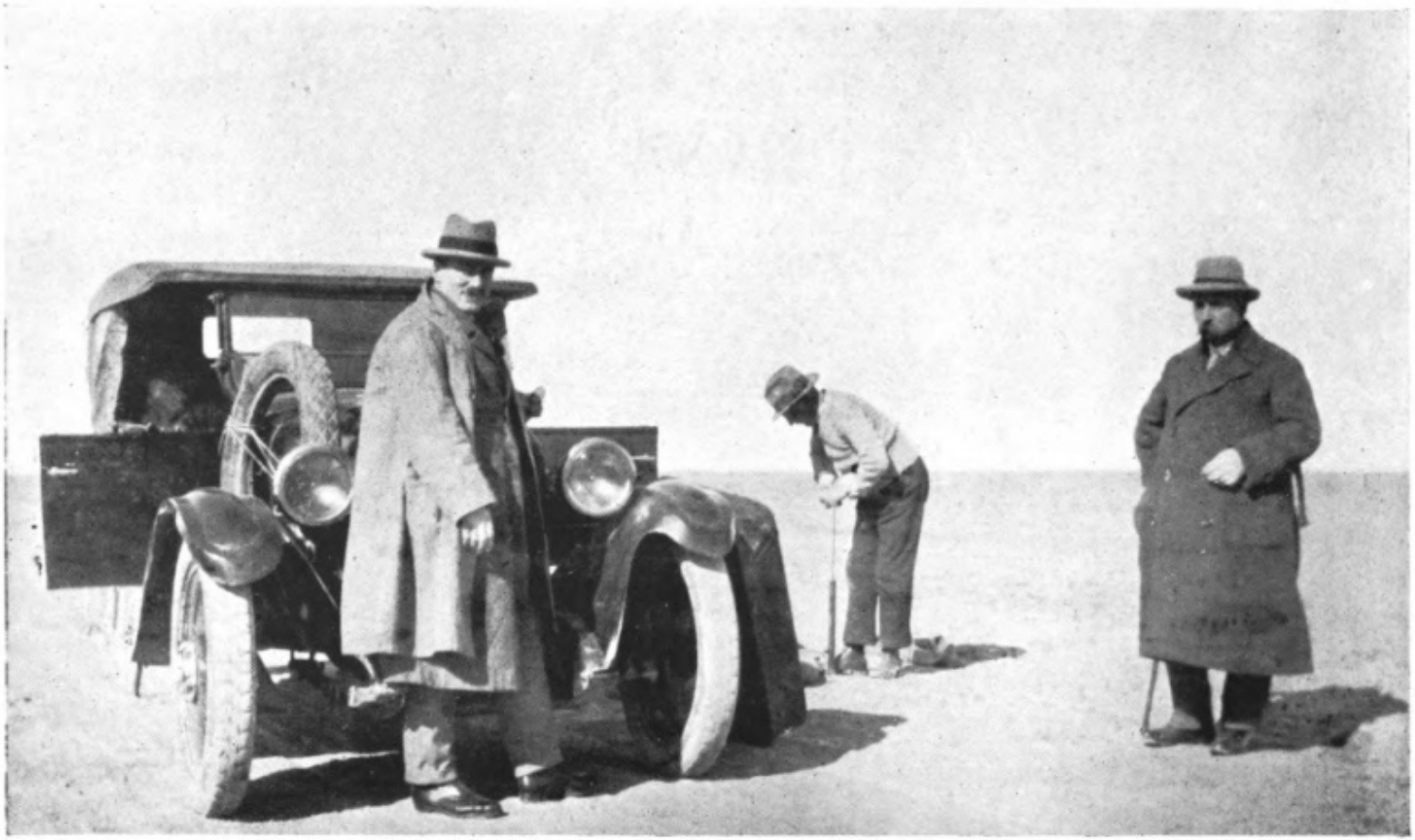

ON THE DESERT EN ROUTE FOR BELED RUZ.

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Whilst on this important question of irrigation it might perhaps be as well to quote the following excerpts from Sir William Willcocks' book:

" The problems whose successful solution will restore Babylonia to its ancient prosperity are far more difficult of solution than those which faced the irrigation engineers in the Nile Valley. Of all the rivers in the world, the Nile is the most gentlemanly. It gives ample warning of its rise and fall; is never abrupt; carries enough of sediment in flood to enrich the land without choking the canals; is itself free of salt; has its annual flood in August, September, and October, securing both summer and winter crops; traverses a valley with a climate mild enough to allow of Egyptian clover in winter and Egyptian cotton in summer; and flows between sandstone and limestone hills, which provide an abundance of building materials. The height of misgovernment which Egypt knew from the time of the Arab invasion in the latter half of the seventh century to the accession of Mohammed Ali in the beginning of the nineteenth, reduced the population from twelve millions to two millions and halved its cultivated area, but it could not destroy the extraordinary richness of what is rightly called in the Bible ' the garden of the Lord, the land of Egypt.' The same misgovernment turned the Euphrates delta into a wilderness and a marsh, dotted about with oases of cultivation. The Tigris and Euphrates rise without warning; are always abrupt; carry five times the sediment of the Nile; have their annual flood in March, April, and May, too late for the winter and too early for the summer crops; traverse a country where the temperature rises to 120 degrees in summer and falls to 20 degrees in winter, and where both Egyptian cotton and Egyptian clover are out of the question; have a considerable quantity of salt in solution; and flow between degraded deserts of gypsum and salted marl.

In spite of the many drawbacks, the ancient Babylonians made of the Euphrates delta a country so rich that Alexander the Great conceived the project of making Babylon the capital of the world, and had started on his enterprise when death intervened. Even in the days when shorn of its glory, the son of

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Haroun-er-Rashid is reported to have exclaimed, on ascending the Mokattam Hill, which overlooks Cairo: "Cursed be Pharaoh who said in his pride, 'Am I not Pharaoh, King of Egypt?' Had he seen Babylonia he would have said it with humility."

The excessive fertility of Babylonia was due to the system of perennial irrigation, or irrigation all the year round, which the early dwellers in the Euphrates valley introduced into the world. To Egypt was due the credit of having introduced basin irrigation, a system far more impressive and majestic than its rival, but not nearly so profitable, since it only ensured one crop per annum instead of two. The Nile valley was irrigated in broad fields of thirty and forty thousand acres apiece, while in Babylonia the water was led to each field of two or three acres. I have always loved to contrast these two systems by comparing one to the flight of an eagle and the other to the laboriously built-up cells of bees, just as Horace compared the poems of Pindar to those of his own composition. We see Egypt to-day everywhere abandoning its ancient system and adopting that of Babylonia. Babylonia will be recreated by the system of irrigation introduced by itself."

* * * * * *

"**Nomenclature.**—The Mesopotamia treated in this report is the true delta of the rivers Euphrates and Tigris, and comprises the country traversed by the two rivers and their branches southwards of Hitt, on the Euphrates, and Samawa, on the Tigris. From Hitt to the south of Mosaib is the Euphrates. Between the south of Mosaib and Samawa the Euphrates divides into two branches: the right hand one is the Hindia branch and the left hand one is the Hilla or ancient Babylon branch. From Samawa to Garmat Ali, near Basra, is the Euphrates again. The junction of the Tigris and Euphrates used to be at Gurna; it is to-day at Garmat Ali, but there is a navigable backwater at Gurna, and the river from Gurna to the sea is known as the Shaat el Arab."

"From Samarra to Gurna, past Baghdad and Amara, is the Tigris. The Hai canal leaves the Tigris at Koot and flows into the Euphrates near Nasria.

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"The Adhaim river is a tributary of the Tigris and joins the latter to the north of Baghdad. The Dyala is another tributary of the Tigris and joins the latter down stream of Baghdad."

* * * * * *

"**The Delta an Arid Region.**—The Tigris-Euphrates Delta may be classed as an arid region of some 5,000,000 hectares. A part of this area is the Delta of the Dyala. This latter is well irrigated by the Khalis, Khorassan, and Beled Ruz canals and needs only good regulating heads, bridges, and drains to be an area of first class irrigated land. Another area of well irrigated land is the lower Euphrates from Nasria to Suk el Sheyook, and the Shaat el Arab along nearly its whole length. The swamps traversed by the Hindia branch of the Euphrates and the branches of the Tigris below Amara contain large areas of rice. A fair amount of irrigation is performed by "Chareds" worked by mules and oxen along the whole length of the Euphrates, and in scattered places on the Tigris. All these areas together form but a small fraction of the delta which is in need of irrigation on broad lines, if anything is ever to be made of it."

"The crops of the winter season consisting principally of wheat, barley, beans and roots, need irrigation from November to May; the summer crops of millets, lubia beans, sesame, melons and inferior rice need irrigation from April to the middle of July. Superior rice needs irrigation from April to September. During September and October water would be needed for gardens and possibly for cotton of superior grades, when this crop came to assume a higher place in the agriculture of the country than it does to-day."

* * * * * *

"**Whole Delta Incapable of Being Irrigated Simultaneously.**—It will be evident that the whole of the area of 5,000,000 hectares in the Delta is not capable of being irrigated at the same time; and in a comprehensive scheme for the whole Delta the first point is to decide where the available water can be utilised to the best advantage. For it must be borne in mind that never in the history of Mesopotamia has the whole of the country

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been under irrigation at one and the same time. The centre of cultivation was at first in the lower reaches of the two rivers between Niffur and Ur of the Chaldees. Then it travelled to the tract between Sippara and Babylon. In Persian times the centre was Ctesephon; while Basra, Wasit and Kufa, in the lower part of the Delta, were the first capitals of the Arabs, though Baghdad became the centre in the times of the Khalifs.

"To meet the requirements of irrigation the Tigris and Euphrates are happily placed in respect of their relative levels. The water of the Euphrates can be made to irrigate the whole area capable of irrigation between Feluja and Koot, and also all the lands on both the Hilla and Hindia branches along their entire lengths. The Tigris, on the other hand, is capable of irrigating the lands north of Baghdad, which the Euphrates cannot reach, and also the whole of the lands along the course of the Hai or ancient Tigris from Koot to Nasria, as well as all the lands along its present course past Amara.

"We have, indeed, a wide field from which to choose."

* * * * * *

"**Drainage.**—No irrigation canals in Mesopotamia will be a success without efficient drainage cuts as there is an appreciable quantity of salt in both rivers. One has only to inspect the irrigated tracts of the lower reaches of the Khalis canal to see the damage which can be done by irrigation without drainage."

* * * * * *

HINDIYAH BARRAGE.

I also visited Hindiyah, and on arrival at Hindiyah Barrage Station I walked along the tract to the Regulator at the Head of the Hillah Canal, then along the bank of the Euphrates, and past the Georgiyah Regulator to the Barrage. I discussed with Mr. MacFarlane, the Executive Engineer, the question of the condition of the Barrage and the cause of the heavy expenditure of maintenance. This I understand is due to the fact that the work, commenced in 1911 and completed just before the war, was

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THE HINDIYAH BARRAGE.

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carried out on rather cheap lines, owing to the lack of the necessary funds, with the result that during the last three years a considerable amount of expenditure has been incurred through the necessity of replacing old floors, and other work by groundwork, and the substitution of modern types of gates for those originally installed. Mr. McFarlane also quoted me the following duties for water :—

Cotton	40	acres per cusec.
Wheat	120	,, ,,
Simsim	80	,, ,,
Vegetables	30	,, ,,

I further understood that the general plan of irrigation by rotation from the Barrage was done by two canals on each Bank, i.e., on the left bank Hillah and Georgiyah, and on the right bank Hussainiyah and Beni Hasan, these two canals on the right bank irrigating over 150,000 acres.

LAND TENURE IN IRAQ.

The greater part of the land in Iraq was the property of the State, and a tribe occupying such "Amiriyah" land although having a preferential right to occupy and cultivate it, did so subject to the payment of a proportion of the crop.

Lands so cultivated might be either (1) lands irrigated by flow, lands irrigated by lift, or "daim" lands, i.e., lands dependent on the winter rains for the success of the crop. The share payable to the Government depends upon whether the land is flow, lift or "daim," but as the amount of the share varies in different parts of the country, and furthermore the actual amount recovered may vary considerably from the amount theoretically due, it is practically impossible to generalise on the question.

The question is still further complicated by the fact that the Government share of a winter crop may be different from that of a summer crop.

In addition to the original State Lands there are also the lands formerly known as Saniyah which were the personal pro-

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perty of the Turkish Sultan. These have been transferred to the Iraq State and are now known as Mudawarrah Lands.

There is a special class of State Lands known as the Awqaf Lands, the Awqaf being the Department of Government in charge of pious bequests. These lands are leased to large farmers for periods not exceeding three years for a definite sum of money. The whole of this money goes to the Awqaf Department and none to the State Revenue Department.

As a general rule it may be said that the rate payable on lift lands is half that payable on flow lands, e.g., in Hillah the rates are 40 per cent. and 20 per cent., while in Kut 25 per cent. and 12½ per cent.

The Government does not collect its revenue from the individual peasant, but from the shaikh or other man of substance who has made himself responsible. Such a man is called a " sirkal " and on flow land he is allowed 4 per cent. rebate for his services rendered in this connection. The land registry department is known as Tapu and this department issues title deeds called " sanads " or " hijjah " which gives the holder the right of perpetual cultivation of the area described in the deed. The Government collects a share of the produce of Tapu land, but this share is usually only half of that on State Lands. Such a deed may be purchased from the Tapu Department for a sum considered to represent the capital value of the portion of the share relinquished by Government, or by an arrangement whereby certain improvements are effected which will benefit not only the land to be acquired but adjoining State lands as well. It is stated that a Tapu Sanad does not give the right of perpetual tenancy but merely that of cultivation in perpetuity, and that failure to cultivate for three successive years invalidates the title. It is doubtful, however, whether this proviso has ever been enforced. The reason, however, can be seen because the Government is losing the title that it would receive if the land were cultivated. The direct collection of revenue by paid servants of the Government is not a method that has found favour and the usual method is to farm out the taxes to a multazim, i.e., a farmer, Biblical publican.

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The usual method of payment is for the cultivator to pay in cash at an agreed rate for the yield assessed by an assessment Committee. It is generally considered that these assessment Committees are not unfamiliar with wire pulling.

As an example of the system of division the case of the Balad Ruz Estate is instructive. This is a tapu held estate, irrigated by flow. The Government takes 20 per cent. both winter and summer crop, except cotton, of which they only take 10 per cent. This latter is a special privilege laid down in the tapu deed. On a neighbouring estate called the Haruniyah by a special concession the Government share is only 10 per cent. on all crops, although the land is flow land.

The Balad Ruz Estate lets out part of its farms to various "malaks." Malak is the name given to an owner of property. Such a man is really a multazim or large tenant farmer but he is frequently called a landlord. Such a malak may either pay to the Estate a fixed rent per feddan or he may pay a share of the produce. If he pays a share then with the winter crop he gives:—

30 per cent. to his peasants.
20 per cent. to the Revenue Department.
16 per cent. to the Tapu holder, i.e., the Estate.

66 per cent.

The balance of 34 per cent. is his share.

In the case of the summer crop only
16 per cent. goes to the peasant.
20 per cent. goes to the Revenue Department.
20 per cent. goes to the Tapu Holders.

56 per cent.

The balance of 44 per cent. is his share.

In the case of cotton he would get only 40 per cent. but the fellah would take 30 per cent. and the Government 10 per cent.

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On those parts of the Estate administered directly, the estate gets both the Tapu share and the share of the malak. The above figures, however, cannot be taken to be applicable generally. The custom varies to such an extent that it is practically impossible to get definite information from anybody, whether inside or outside Government service. Cultivators claim to have cultivated the same lands for fifty years on a Tapu basis, but are unable to produce deeds, and the deeds that exist are very often extremely vague as regards points of the compass or boundaries.

SEED SELECTION.

With regard to the all-important question of seed selection as a means of preventing the deterioration of the quality, and any decrease in quantity per acre, the necessity for experimenting with new types of seed cannot be too strongly emphasised. Demonstration farms have been laid out in different parts of Iraq, especially as cotton farms. I visited the one at Rustam, where there are 900 acres of crops under cultivation. There is also a rather fine building arranged for a Research Institute, but I found the place starved for staff, the Officiating Senior Research Officer (Mr. Jackson) being one of the two Europeans on duty, the other being Mr. Duff, the Assistant Entomologist. There were one or two Indian assistants, but practically only about one quarter of the staff necessary for the Institute if it is ever to do the work it was intended to do.

The future of Iraq undoubtedly lies in agriculture and possibly oil; the former is, however, likely to be the more stable industry and to bring greater benefits to the population. Therefore the necessity for adequate research into the various problems confronting the growers of agricultural products, including cotton, and the desirability of improving the seed used for planting are factors upon which it is impossible to lay too much stress.

The necessity for economy in Iraq cannot of course be gainsaid; but it is doubtful if the limitation of money necessary

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CLEARING CANAL AT BELED RUZ.

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for Research work to develop what may be termed the most economic resources of the country is really true economy.

COTTON ORDINANCE.

Praise is due to the Department of Agriculture which elaborated and put into operation the Cotton Ordinance of 1920. This Ordinance regulates the importation of seed cotton and the supply of cotton seed by the Department of Agriculture; it also provides for special licences for Ginning Factories—in fact this Ordinance is an instrument which will have a powerful influence in establishing a good reputation for the Mesopotamian cotton. It is hardly necessary to say that all the requisite preventive measures such as traffic in objectionable cottons must be and remain permanently in the hands of the Government.

In further reference to the question of Research, a tribute must be paid to Mr. J. F. Webster, the officiating Inspector General of Agriculture, and the other officers of the Agricultural Department for the excellent work they have already done.

INSECT PESTS.

The more common insect pests affecting cotton in Iraq are: (a) Spotted bollworm, and (b) Jassids, so that up to the present cotton has not been troubled to any great extent. The depredations of the spotted bollworm are worse in one or two areas than in others. Locusts however, are prevalent in the north and do a fair amount of damage to growing crops; but efforts are being made to ensure or attempt their destruction. Fortunately, so far, they have not penetrated into the cotton growing districts; but where they exist they are a serious menace to wheat and other crops which are produced in the Mosul vilayet.

Owing to the comparatively short duration of my stay this review is mainly a collection of information obtained. Only in one or two cases have I ventured to make suggestions as to improvements, and then it was only after the absolute necessity of the same had been so forcibly impressed upon my mind.

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There are three main factors or objects in Iraqian policy upon which I cannot lay too strong an emphasis.

Firstly, the establishment and maintenance of a strong Government with a sound financial policy.

Secondly, to inaugurate a definitely settled policy of drainage and irrigation.

Thirdly, a steady increase in the agricultural population, which result, I feel almost certain, would follow the accomplishment of the first two factors.

The need for all these is dealt with at some length in the Preliminary Report to the Council, and with regard to this, cotton growing would largely benefit the country by bringing prosperity to the cultivators and in encouraging others to settle on the land; but there are of course at the moment very great difficulties in its cultivation. What is wanted (and this is perhaps the most essential) is for the Government to take up a scheme of drainage of land already irrigated, otherwise I am afraid it will gradually become of little value. I have no doubt the effect of drainage will be to put a very much larger area of land under cotton and other crops than there has been in the past. The cultivation of cotton will continue to increase under present conditions, but a rapid result cannot be expected. Efforts, however, for solving the various problems are being made in many directions; both Government Departments and private individuals are carefully considering the situation. As a rough estimate, with a full irrigation and drainage scheme, the total area that can be used for cotton cultivation is two million acres, but I am afraid it will be many years before there is a sufficiency of labour to cultivate anything like this area.

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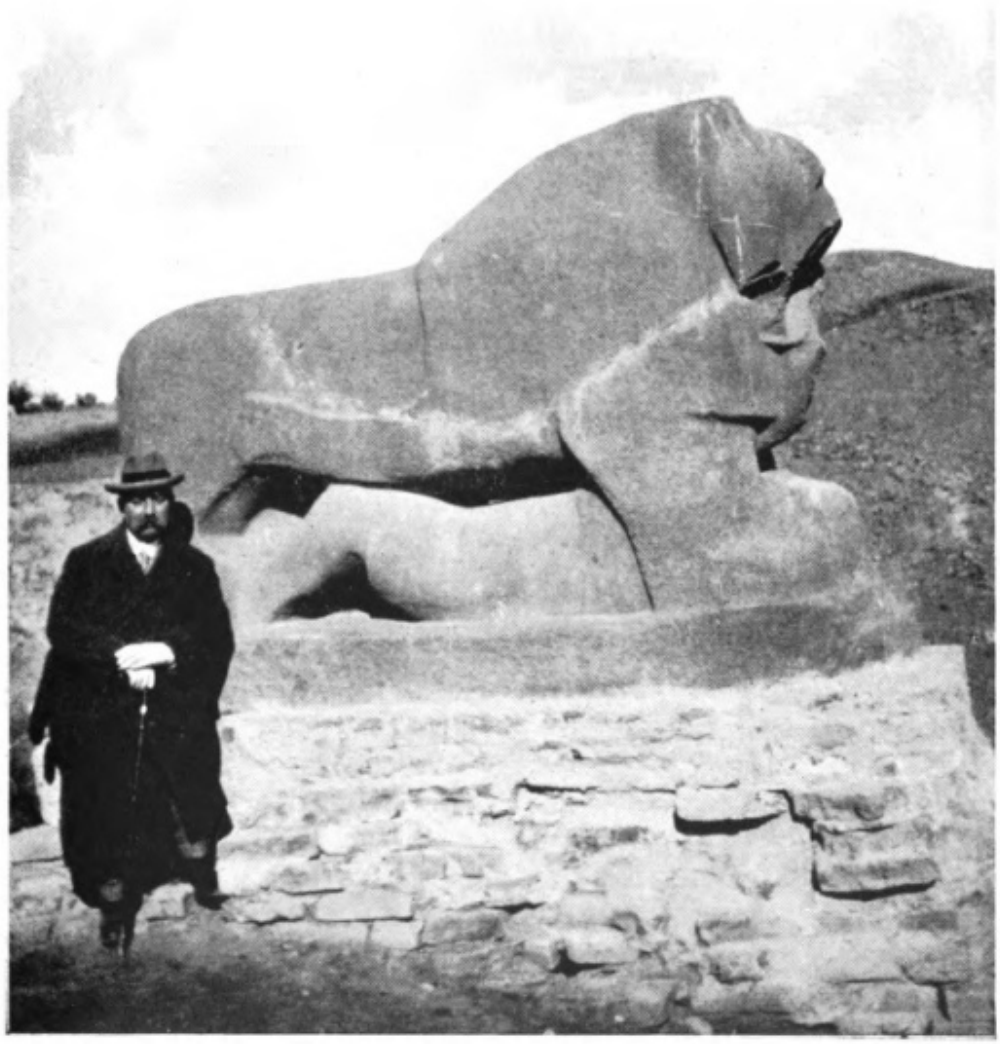

STATUE OF THE FAMOUS STONE LION AT BABYLON.

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APPENDIX " A."

PRELIMINARY REPORT TO THE COUNCIL ON COTTON GROWING IN MESOPOTAMIA

(After a Visit paid to the Country by Mr. W. H. Himbury. January-February, 1925.)

Presented to the Council April 27th, 1925.

In presenting this report to the Council it is perhaps necessary that I should say at the outset that the primary object of my visit to Iraq was considered advisable in order that as much first-hand knowledge as possible should be obtained as to the general conditions under which cotton is grown in that territory, the conditions of living, Staff quarters, construction of the new ginnery, general lay-out of the plant, storage accommodation for seed cotton, bales, etc., and the prospects for the future. An intimation of the visit was therefore sent to the Colonial Office, and Sir Henry Dobbs, K.C.S.I., K.C.I.E., the High Commissioner, was advised of my visit, and asked to give me every possible assistance in connection with my inquiries, which he did.

I left Manchester on Tuesday, January 6th, 1925, and London on the following day, catching the " Simplon " express from Paris, and arriving at Trieste on the 8th. I left Trieste in the s.s. " Helouan " on the 9th for Alexandria, reaching there on the 12th. I proceeded from there by train via Kantara, caught the express for Jerusalem, and then on to Haifa by train. The journey by motor-car then commenced, first from Haifa to Beyrout, a distance of 100 miles, skirting the sea coast. Heavy rains, however, had made the roads practically impassable, and the bumping was terrific. The cars are " Dodge's " make, high horse-power and quite good. Beyrout is a large place with a population of 170,000. I left Beyrout on Friday, January 16th, at 5-0 a.m. for Baghdad, via Damascus,

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a rather arduous journey of 635 miles. We reached Palmyra at 5-0 p.m. A fortnight previously there had been a very heavy fall of snow in the desert, and travelling was none too pleasant, in fact it was extremely cold and as can be imagined the road was extremely bumpy. We journeyed on through the night, making a short stay at Hitt for breakfast, and eventually reached Baghdad at 5-0 p.m. on Saturday evening, January 17th.

A full fortnight was spent in Mesopotamia, visits being paid to Rustam, Ctesiphon, Baqubah, Mahrut, Balad-Ruz, Hindiyah, Hillah, Ur, Nasariyah, and then down to Basra. On the return journey from Basra to Baghdad, Karbala and other centres were visited.

With the exception of India and the Mandated Territory of Tanganyika all the places where the Association is actively engaged are Crown Colonies or Protectorates under the Colonial Office, and therefore the political factor scarcely comes under consideration. Iraq is in a different category, and I am inclined to think, after my short visit, that the political factor is one of the most important questions affecting not only cotton growing, but the general economic development of the country. The present form of Government of Iraq is that of an independent State in treaty relations with His Majesty's Government. The Arab is predominant although not united, as there are two of the most important sects bitterly opposed to each other in the Shiahs and Sunnis; there are also Jews and Christians embracing many nationalities. In the Cabinet various departments of State are represented by a Minister, and the Jews are well represented, the Minister of Finance being an exceedingly able man. They have, however, at the moment British advisers, although at the time of my visit there were several vacancies, which is exceedingly unfortunate. In young countries when there is a lack of knowledge of Government, it is of the greatest importance that the authoriies should be advised by the very best men it is possible to obtain, and the expense I am convinced should not be the first consideration, always provided the right man can be procured. An Adviser to the Ministry of Finance is urgently required, and I consider this post second in importance at the

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moment to that of the High Commissioner, for unless something is done to get the finances of the country on a sound basis so that Capital for development may be attracted from outside, chaos will result. What is wanted here is a man like Colonel Schuster in the Sudan, and the sooner such a man is found the better. Poverty is the bugbear in most departments in Iraq, and only a period of prosperity untroubled by the hectic political atmosphere will bring about any desired improvement. Since my return it is interesting to note that a Financial Commission consisting of Lieutenant-Commander the Right Hon. E. Hilton Young, D.S.O., M.P., and Mr. R. V. Vernon, C.B., of the Colonial Office, has been appointed to confer with the Government of Iraq on questions of public finance, and to advise the Iraq Government and His Majesty's Government what steps should be taken to balance the Iraq Budget, having regard to the financial commitments of Iraq. Another appointment of little less urgency is an Irrigation Expert, and, if possible, this should be a man having experience of soils as, owing to the salting, the drainage question is as vital as irrigation. If a first-class man with general knowledge of both could be found—and in this connection I understand that the Iraq Government, in consultation with the British Government, are doing their best to find such a man—his services could not be better utilised anywhere.

The climate of Iraq is pretty well defined—a cold season which coincides with our winter and a hot season. This year the cold has been extreme, and snow has fallen quite heavily on several occasions in the desert. During the week I travelled between Baghdad and Basra the temperature registered on three mornings in the saloon at 8-0 a.m. was 25 deg., 26 deg., and 28 deg. On the other hand in the very hot weather it is 125 deg.—which shows a variation of 100 deg., and makes the living rather trying for those who have to spend the entire year there. The rainfall varies from 6½ inches to 13 inches, and generally commences early in February; only one small shower was experienced during my fortnight's stay. The planting of the cotton commences during March after the first flush of rains and is

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continued for several weeks, and in some parts rain plays a very important part in the production of cotton and other crops. I visited most of the cotton growing areas, and whilst there was no cotton standing I was able to gain a great deal of information and see much of the conditions under which cotton is produced. I was much surprised at the vast areas showing salt, and it seems a question as to whether irrigation was not stopped owing to this. The Yusifiyah and Saqlawiyah Canals have only been opened about five years. They were intended to irrigate land for growing fodder for the army. The late Alderman Crapper and Mr. Hodgkinson gave me a good deal of information about these Canals on their return from their visit to Mesopotamia in 1920. Cotton is being grown there, and whilst I have not the exact figures I was assured the production has decreased 50 per cent., so much so that it does not pay to grow cotton now. On investigation it has been proved that water can be found a few feet down, and on boring some 30 feet a blanket of clay is found, which of course fully accounts for the water-logging of the land, and if these Canals are ever to be fully utilized, drainage must be undertaken. I do not think any great extension of irrigation works would serve in this area for long unless it was accompanied by the necessary drainage, and furthermore I do not consider the Cotton possibilities are important south of Hillah. Around Baghdad North and North-west the prospects for cotton are more encouraging, and I was very much impressed with the appearance of the land irrigated by canals from the river Diala, especially the area belonging to the new Syndicate, now being prepared by Mr. Thomas. It was an excellent black soil and as the land had a slight slope it provided natural drainage. Here I saw no evidence of salt. The difficulty I foresee, however, is that new land is being brought under cultivation, and according to reports made to me, there is only sufficient water with which to supply the present tenants for the crops they already grow, i.e., wheat, sesame, rice, cotton, etc. Of course their new irrigation scheme when materialised will eventually provide much more water; I am referring to the facilities now present. Mr. Crapper alludes to this situation in his report, as follows:—

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> " We next visited the Diala Valley, N.E. of Baghdad, the river being a tributary of the Tigris. We stayed at the town of Bakhuba. There are many canals taking off from the river in the higher reaches capable of irrigating about 200,000 acres of land but the supply of water for the canals depends entirely on a temporary earthen bund which is made across the river by the resident cultivators each year and which is washed away by the late floods about on an average once in every three years, and on this account the land put under crop is very small."

The position is the same to-day as it was when he and Mr. Hodgkinson paid their visit.

With regard to Insect pests, these are not very important at the moment, the chief pest in the cotton crop is the spotted bollworm, and I believe its depredations are worse, and the plants not so robust as they should be, in areas where the land is salted. Another enemy to crops is the locust. This pest, however, keeps pretty well north, near the Mosul area where large grain crops are grown, and so far has not affected cotton to any serious degree. It is a pest which has to be dealt with, and the Agricultural authorities have a special mission under a European officer engaged in destroying the eggs and doing all possible to prevent the beasts from spreading and doing further depredations.

With regard to the question of population, I am afraid this is a somewhat difficult problem. It is approximately three millions, and a large proportion consists of nomadic Arabs. The wealth of the Arab consists in his sheep, goats, and camels—they provide for all his needs. There may be no doubt that large numbers have settled recently on the land and a great deal of cultivation has been done, but it is doubtful if any really big thing could be accomplished quickly. Good sound Government, and crops which will show a good return for the labour expended will undoubtedly bring progress, but patience must be exercised It has been suggested that labour should be imported from India and Egypt, but I do not consider the idea feasible.

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On the other hand I see no reason why under existing conditions the population should not increase, and this would be better for the country in the long run than the importation of aliens.

As regards transport, Iraq can boast of quite good transport. The Tigris allows of steamer service between Basrah and beyond Baghdad; there are also barges and Arab craft on this and the Euphrates. There is also the Railway system, one line built by the Turks and one by the British, hence two gauges—standard and metre. The metre gauge predominates and runs to Basrah. It is a well laid track and an express train does the journey in 21 hours, a distance of about 350 miles. There are several branch lines, one to Nasariyah, etc., and another one recently constructed to Karbala for Pilgrim traffic. The line north runs from Baghdad to Shargat, 65 miles south of Mosul, a cul-de-sac from which there is no outlet. This is of standard gauge and is really of little use. I am told it is being pulled up and a line of metre gauge constructed, progressing through Kifri and Kirkuk, grain growing country, to the great granary of North-east and West Mosul. The railway systems were at the end of the war valued at 3 millions sterling; this was of course in " boom " times, and it is probably now only worth 1 million. The present organisation is excellent, and one notices a refreshing amount of business acumen in the management. At the present time a profit is being made which is spent in carrying out extensions and improvements, but unless the line is given financial assistance I cannot see how it is going to run and pay for depreciation, to say nothing of extensions. Mesopotamia is also blessed by an abundance of camels and donkeys, which are invaluable for transport across long distances of arid country, where mechanical means would scarcely pay. Then there is the advent of the motor service between Beyrout and Baghdad, 650 miles. It is new and much has to be done, but it is a most interesting scheme, bringing Baghdad within march of London in 10 days. In time this service will be vastly improved, and perhaps prove the forerunner of a railway. Therefore I see no difficulty in the transport question, provided the railway can keep running.

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FUTURE PROSPECTS.

I have seen practically all the areas from which we get cotton, the figures for the season as made up to the end of December being as follow:—

Baghdad	1,119,020 lbs. of Seed Cotton.
Yusuf	364,569 ,,
Fallujah	335,266 ,,
Hillah	189,539 ,,
Baqubah	958,971 ,,
	2,967,365 lbs.
Clients	339,652 lbs.

I quite expect these figures will be increased before the season ends, as we are still buying, and some growers are holding back thinking higher prices may result. I think the crop will exceed 2,500 bales, which shows quite good progress upon that of last year. As to the future, I am convinced that we have established our work on sound foundations, and whether the operations of the new Syndicate are a success or not I look for a steady increase in the production of cotton from *Iraqui* growers. That the progress will be slow goes without saying owing to the lack of drainage, irrigation, and shortage of population. I must unhesitatingly say that the B.C.G.A., by looking after the distribution of seed, paying as high a price as possible for the seed cotton, etc., can claim credit for the bulk of the progress so far made. We have won the confidence of the farmers, and although I am against duplicating work or doing what others are willing to do for you, I feel the new Syndicate's immediate operations are outside of our sphere. Furthermore I am convinced their progress will be difficult and slow; therefore I consider the B.C.G.A. should continue its work for the time being and watch events. By doing this we shall I feel sure continue to show progress and possibly be of some assistance to any new capital invested for cotton growing in Iraq.

Where progress has shown evidence of expansion the Association has always been ahead of its programme with the neces-

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sary ginning facilities, and last year a large up-to-date pneumatic saw-ginning plant, together with a standard hydraulic press, was despatched to Baghdad. This plant has been completed in good time and is dealing with the present season's crop. The work of erection has been carried out in a thoroughly workmanlike and expeditious manner, and much credit is due for this to Mr. F. Feber, the engineer-in-charge. I should also like to give my tribute of appreciation to Mr. Austin Eastwood, our Manager at Baghdad, and the other members of the Staff for the good work they have done.

Whilst at Baghdad I had the pleasure of meeting His Highness King Faisal, who evinced keen interest in our work and expressed his appreciation of what the Association had done. I also had interviews with the High Commissioner, Sir Henry R. C. Dobbs, K.C.S.I., K.C.I.E., the Director of Railways, Col. J. R. Tainsh, C.B.E.; Col. K. C. Cornwallis, C.B.E., D.S.O., Adviser to the Minister of the Interior; Mr. Anwar Khayatt, the Minister of Agriculture; Mr. J. F. Webster, the Officiating Inspector General of Agriculture; and most of the other principal officials, and I take this opportunity of expressing my sincere thanks to them for their courtesy shown to me whilst there.

PALESTINE.

Whilst in the neighbourhood I took the opportunity of making a brief survey of the cotton producing areas, but regret that I have come to the conclusion that the prospects for cotton in this country are practically nil. A very large part is arid, and if irrigation were supplied, there is no labour. That the country needs to produce something for export is generally acknowledged, but I am afraid it will not be cotton or any other crop which requires a large amount of field work. The principal article of export is oranges, the value of which recently reached nearly 1 million sterling. This trade should improve. It may also be possible to grow sugar, but both crops are limited to the population available.

W. H. HIMBURY.

Manchester, 24th March, 1925.

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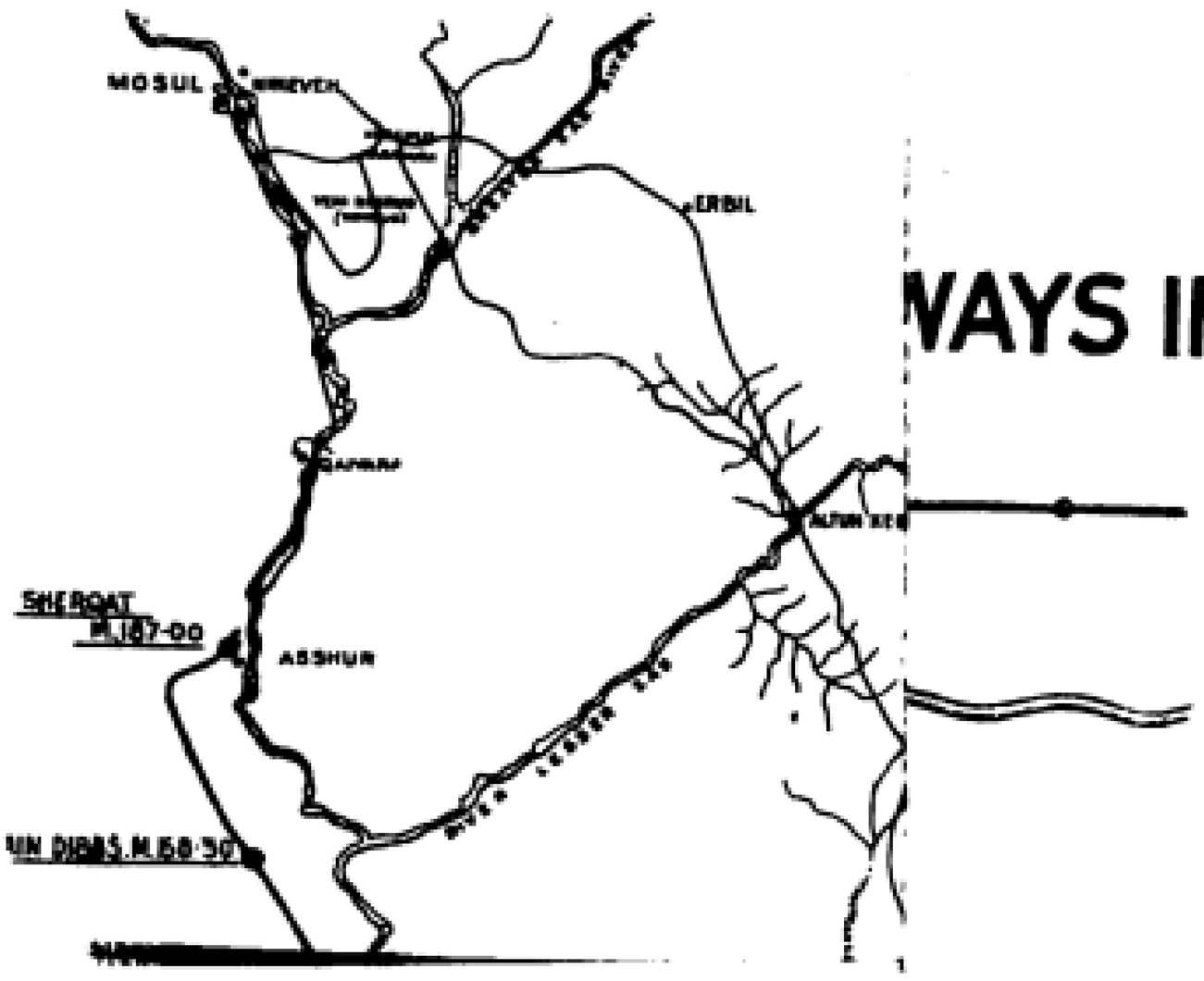

WAYS IN IRAQ

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APPENDIX "B."

Reprinted from "The Baghdad Times" of February 4th, 1925.

After a fortnight's tour round Iraq Mr. W. H. Himbury, the general manager of the British Cotton Growing Association, left Baghdad last Sunday. As Mr. Himbury is chiefly responsible for the position to which cotton growing has developed in Iraq, we arranged for a special interview in order that our readers should, as far as possible, have the facts in Mr. Himbury's own words. It was easy to see that Mr. Himbury was no novice in the art of being interviewed, and when we began with a tentative, "What do you think of Iraq?" he reminded us that he had been closely connected with development work in this country for over four years, and that his fortnight's tour, although extremely useful, was not the sole basis of his observations.

"Owing to the facilities placed at my disposal," he said, "by Colonel Tainsh, Major Griffin and the other railway officials (to whom, by the way, much of our progress with cotton is due), I was able to see much more of the country than would otherwise have been possible in the time at my disposal. I was very much impressed with the excavations at Ur and elsewhere, and the extent of the field provided for the archæologist, who can now reach these places so easily by the desert and railway route. As regards agricultural possibilities I do not consider there are good prospects for cotton in Southern Iraq owing to the salting of the land. Undoubtedly Northern and Central Iraq are capable of producing cotton of excellent quality of the type required in Europe. Progress, however, is bound to be slow, owing to the absence of proper drainage for the irrigation schemes. It is also limited by the smallness of the population. Irrigation and drainage schemes must be carried out either by the State or by private enterprise. It is almost impossible to expect a young State to find the money for the work. As regards the other alternative, in order to attract the investor the State must naturally be prepared to grant reasonable terms, but on the other hand the State must also see to it that its own

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interests and those of the peasants are safeguarded by stipulations that the money raised shall be spent on development work."

In reply to a question regarding the political outlook Mr. Himbury said: " While I do not want to touch upon politics, naturally the first essential required in a country desiring to attract capital is political stability. This is more than ever necessary since the Great War. Therefore all should pull together to make the Government successful. Instead of considering self, the object of every one should be to work for the community. On the question of future possibilities, I should like to point out that by the expenditure of very considerable sums the Association, with the help of the agricultural and other Government departments, has brought cotton growing to its present position, but of course it is impossible to expect purely commercial concerns to work on such lines. As an example of what may become possible in the future, the remarkable development of cotton growing in Uganda is not without interest. This season the crop is expected to reach 200,000 bales with a value of five million pounds sterling, forming over eighty per cent. of the total exports from that country. Twenty years ago no cotton was grown there, whereas to-day the cotton industry provides the bulk of the revenue of the country. With progressive development of irrigation and drainage Iraq should be capable of a similar result."

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CRANES AT THE WHARVES AT BASRA.

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APPENDIX "C."

Reprinted from "The Financial News," April 8th, 1925.

COTTON GROWING IN IRAQ.

We are privileged to reproduce elsewhere in this issue the report upon cotton growing possibilities in Iraq which Mr. W. H. Himbury placed before the Council of the British Cotton Growing Association yesterday. It is a document which displays to advantage the broad, yet cautious, judgment and the infinite capacity for taking pains which its author is known to possess, and is therefore worthy of the closest attention. Mr. Himbury is not the type of man who is likely either to ignore difficulties or be dismayed by them. Very properly, in the first place, he draws attention to the importance of the political factor and to the need of stable and enlightened government. This will be readily recognised when it is remembered that Iraq's population of three millions comprises Arabs (who form the greater part of the peasant population), Turks, Jews, Greeks, Syrians, and Armenians. Clearly, a firm and just administration will be essential to weld these elements into a peaceful and industrious community. Not only the diversity, but also the scarcity, of population is a problem which confronts the pioneers of Mesopotamian development. It is gratifying to know that cotton and grain, as well as subsidiary crops, can be raised; but a population of only three millions in an area of 143,000 square miles is obviously inadequate, and is the better seen to be so when contrasted with the 4¼ millions of the Punjaub, which is one-quarter the size of 'Iraq, or the 13 millions of Egypt in an area of 350,000 square miles. Under favourable conditions, however, the Arab is a good worker, and we are pleased to notice that Mr. Himbury is opposed to the introduction of alien labour, which could only add to the political problems by exacerbating local sentiment. Transport is fairly good, and from the report we gather that, while it is

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capable of much improvement, the existing fabric is likely to be able to meet the demands made upon it for some little time. Drainage and irrigation are the crying needs of the moment, and until these are developed progress must be slow. Nevertheless, the foundations have been laid, and we shall hope to see a steady advance. Expansion of our Empire-grown supplies of cotton is, from every standpoint, desirable.

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