



Sudan No. 1 (1939)

REPORT  
BY THE GOVERNOR-GENERAL  
on the  
Administration, Finances and  
Conditions of the Sudan  
in 1938

*Presented by the Secretary of State for Foreign Affairs  
to Parliament by Command of His Majesty*

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## GLOSSARY.

Asal ... ..	=	Honey.
Ardeb ... ..	=	Standard measure of capacity = 198 litres.
Dar ... ..	=	Tribal district.
Demlig ... ..	=	Minor Chief (Western Sudan).
Dom ... ..	=	<i>Hyphaena thebaica</i> palm.
Dukhn ... ..	=	Bulrush millet.
Dura ... ..	=	Millet ( <i>Sorghum vulgare</i> ).
Emir ... ..	=	Chief.
Feddan ... ..	=	1.038 acres.
Feki ... ..	=	A man learned in the Koran or reputed to be so.
Fetwa ... ..	=	Ruling by Mahometan Law Courts.
Garad ... ..	=	<i>Acacia arabica</i> pods used for tanning.
Gism ... ..	=	An administrative division.
Gizza ... ..	=	Desert grazing.
Goz ... ..	=	Sandy ground.
Hafr ... ..	=	Excavation for water storage.
Harig ... ..	=	Cultivation land cleaned by burning.
Hashab ... ..	=	Best variety of gum.
Jebel ... ..	=	Hill or mountain.
Kadi ... ..	=	Judge, Mahometan Law Courts.
Kantar ... ..	=	100 rotls.
Kantar, small (cotton)	=	100 rotls.
Kantar, large (cotton)	=	315 rotls.
Kerkedeh ... ..	=	<i>Hibiscus sabdariffa</i> a red sorrel.

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Khalwa	...	...	=	Native village elementary vernacular school.
Khor	...	...	=	Watercourse or nullah.
£E.	...	...	=	£ Egyptian—100 piastres = 1,000 milliemes —£1 Os. 6½d.
Lubia	...	...	=	<i>Dolichos lablab.</i>
Maazun	...	...	=	Minor official, Mahometan Law Courts.
Magdum	...	...	=	Chief (Western Sudan).
Mamur	...	...	=	Sudanese administrative official.
Mek	...	...	=	Chief (Southern Sudan).
Millieme (mm.)	...	...	=	About a farthing.
Nazir	...	...	=	Tribal chief.
Omda	...	...	=	Minor chief.
Piastre	...	...	=	About twopence-halfpenny.
Ret	...	...	=	Paramount Chief (Shilluk).
Rotl	...	...	=	0.99 lb.
Sagia	...	...	=	Water-wheel.
Saidi	...	...	=	Egyptian labourer.
Seluka	...	...	=	Land flooded by the Nile.
Semn	...	...	=	Clarified butter (ghee).
Shaduf	...	...	=	Water-lifting device worked by man-power.
Sharia	...	...	=	Mohammedan Law.
Shartai	...	...	=	Chief (Western Sudan).
Sub-mamur	...	...	=	Junior Sudanese administrative official.
Talh	...	...	=	Inferior type of gun.
Ushur	...	...	=	Ten per cent. assessment tax on crops.
Wadi	...	...	=	Water-course.
Waqf	...	...	=	Mahometan Charitable Trusts.

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#### CHAPTER I.—GENERAL.

In a troubled world it was not to be expected that the Sudan would maintain the peak of commercial and other activities recorded in the report for 1937. 1938 was relatively a quiet and uneventful year, but there was a satisfactory measure of general prosperity and steady progress in administration, particularly with the further consolidation of local government units. The international crisis of September was remarked, generally, but only by the better informed elements and in the towns was its dreadful significance fully appreciated. There was little real alarm anywhere. Subsequently public attention has been more nearly focussed on European affairs and a common desire to co-operate in official measures for local defence purposes has been not merely expressed vocally but given practical effect. To one who knew of the perplexities which agitated many Sudanese minds in 1914 the contrast with the present spontaneous and whole-hearted rally of public opinion through the vernacular press, in private conversation and by voluntary offers of service has been most impressive.

2. The budget estimates for 1938 were balanced at £E. 4,852,000 including an anticipated surplus of £E. 153,638. In the final accounts revenue came to £E. 5,131,635 and expenditure to £E. 4,857,784 leaving a surplus of £E. 273,851 for general reserve. The main variations in revenue were increases of £E. 125,000 under

customs, £E. 55,000 in royalties and £E. 216,000 in the cotton receipt of the Irrigation Department, offset by decreases of £E. 41,000 in the Agriculture Department and of £E. 187,500 in the annual subvention by the Egyptian Government. The railway contribution to general revenues was £E. 497,500, while railway appropriations for reserves and debt service amounted to £E. 657,934. Expenditure was £E. 159,422 more than the original estimate owing to inescapable demands arising during the year and to the effect of bringing the book value of the Government's investment holdings into line with end-of-year market prices. During the year the balance on general reserve account improved from £E. 1,046,038 to £E. 1,540,293. Considering the downward trend in commodity values and the consequent drop in the country's export income, there is reason to be satisfied with these results.

3. During the recovery years 1934-38, which have been for the Sudan a period of budget surpluses, the Government has followed with considerable success a policy of strengthening its permanent assets. As a result the general financial position is strong, but no stronger than the outlook appears to require. Revenue has passed its high peak and in the face of increasing expenditure on essential services, and especially on education, it is clear that in future the need for caution and moderation will be greater than ever.

4. For 1939 the task of framing the budget estimates has been one of especial difficulty and it has been necessary to budget for a deficit. Revenue is estimated at £E. 4,616,902, while expenditure is calculated at £E. 4,865,406, and the resultant deficit is £E. 248,504. On the revenue side the figures have been influenced by a low level of export prices, particularly of cotton prices, and by the general slowing-up of business. In addition, there is the reduction of the cash subvention by Egypt. In their financial year beginning on the 1st May, 1938, the Egyptian Government provided only £E. 500,000 as against £E. 750,000 granted annually since 1925. A further reduction to £E. 250,000 is to be made in the next financial year, after which the assistance will be withdrawn. In consequence of this loss, budget policy from 1939 onwards must be based on the assumption that the revenues necessary to maintain and develop the country's administrative, social and defence services will be drawn entirely from its own resources.

5. The total of the 1939 expenditure estimates at £E. 4,865,406 exceeds the provision made in 1938 by £E. 167,044. Among the factors accounting for the increased provision are the upward trend in prices of stores and materials and increased charges for loan services. A limited amount of expansion in services productive of revenue has been possible, but the main increase is to be found in the provision for education. As part of the programme of educational expansion the 1939 budget makes provision for £E. 53,000 additional new capital expenditure, including the first instalment of a building

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programme to cost £E. 179,000, and for a further £E. 26,000 in respect of staff and services, which brings the recurrent cost of the educational services to 39 per cent. above the figure for 1936.

6. As was to be expected, trade figures show a recession from the record position achieved in 1937. The total value of the country's external trade decreased by £E.  $2\frac{3}{4}$  million to just over £E.  $12\frac{1}{4}$  million, but even this figure is considerably above the values for 1935 and 1936. Nearly the whole of the decrease is accounted for by the severe fall in the world prices of the country's chief export commodities. The value of public and Government imports remained practically unchanged.

7. Imports from Great Britain were slightly higher than in 1937 and exports, though nearly £E. 1 million less in value, comprised approximately the same percentage of the country's total exports. Both imports from and exports to Egypt showed slight increases; there was a considerable shrinkage in trade with Japan in both directions. There was a decrease in the value of exports to British India, but that country again took, after Great Britain, the highest individual percentage of the total Sudan exports.

8. Conditions in the Gezira during the 1937-38 season were generally favourable and the final yield averaged 4.64 kantars to the feddan. The estimated Government share in the net proceeds of the crop of 946,976 kantars was £E. 818,318, compared with £E. 1,151,427 for 890,907 kantars for the 1936-37 season. Sales during the year amounted to 236,423 bales, and, in spite of the record crop, the carry-over of unsold cotton at the end of 1938 was only slightly higher than in the previous year. Agricultural prospects for the establishment of the 1938-39 crop were fair and the crop promises well.

9. The Gash Delta produced over 62,000 kantars, of which the value of the tenants' share is estimated at £E. 56,083 and that of the Government at £E. 24,811. Tokar, which produced a record yield last year, had a comparative crop failure, and the Government receipt from this source dropped by some £E. 95,000.

10. Renewed efforts made by Imperial Airways (Limited) to find a stopping-place in the Southern Sudan resulted in the selection of Rejaf, near Juba, in Equatoria Province, and the time taken for a letter to reach Juba from Khartum was thus reduced from fourteen days to a few hours.

11. Public health was, on the whole, satisfactory, but drastic measures had to be taken to deal with epidemics of smallpox and relapsing fever which invaded the country from both east and west. There was an increase in the malaria incidence in the Northern Sudan due to heavy, badly spaced rains and an unusually high flood level of the Nile. Hospital attendances are becoming stabilised at between  $6\frac{1}{2}$  and 7 million per year. Progress continued in preventive medicine.



12. A comprehensive scheme of educational expansion at all levels, based on the findings of Earl de la Warr's Commission and the reports of Ali-el-Garim Bey was launched during the year. The programme is spread over eight years and involves a capital expenditure of approximately half a million pounds, and the doubling of the annual recurrent expenditure on education by 1946. Numbers increased in all schools and in the teachers' training colleges; the post-secondary schools of veterinary studies and of agriculture were inaugurated.

13. In the sphere of native administration the year was one of consolidation rather than expansion. The publication of the Local Government Regulations kept province authorities busy in the preparation and application of local orders in municipalities, townships and rural areas alike. The result of this legislation has been to coalesce in one body of local government law the heterogeneous sets of regulations made by governors under the old Public Health and Public Order Ordinances to suit the varying needs of the local native administrations throughout the country.

14. A note on local government policy in the Sudan is attached as Appendix V of this report.

15. The number of British personnel employed in classified posts of the civil service rose by fifteen, or 1.59 per cent., owing to increased departmental activity. Egyptian personnel showed a slight increase. Other non-Sudanese personnel decreased by 9.87 per cent.

16. Sudanese personnel increased in number from 4,328 in 1937 to 4,607 in 1938 and now form 74.56 per cent. of the total classified staff in the Government, compared with 50.9 per cent. in 1930 and 36.8 per cent. in 1920. There were 219 entrants for the civil service examination, compared with 157 in 1937. The increase is due to the fact that a greater number of Government employees are now entering for the examination. During the year 359 Sudanese were given employment in technical or clerical posts, and of these 193 have been placed in Government classified posts.

17. The tribal life of the Sudan suffered a great loss by the death in February of Sheikh Sir Ali-el-Tom, K.B.E., M.V.O., Nazir of the Kababish. Appointed at the reoccupation by Lord Kitchener to the chieftom of the tribe which had been in his family for nine generations, he exemplified in his person all the best qualities of the Sudanese chieftain. To the Government he was unswervingly loyal; to the people of the Northern Sudan he was, in their own words, "a Sultan above the sheikhs, the hawk among smaller birds."

18. It is also with deep regret that I have to record the death at Wau in Equatoria Province of Mr. D. J. Bethell, M.C., District Commissioner of the Western District, in which the last five years of his life had been spent.

19. I must also mention the loss to the Southern Sudan occasioned by the death in England of Canon E. C. Gore. Twenty-five years ago he volunteered for work in the Gordon Memorial Mission, and until 1937, when he was compelled by ill-health to return home, he devoted himself to the interests of the Zandi tribe of Equatoria Province.

20. I have to record the retirement from the Government service of several valued officials.

21. Major-General H. E. Franklyn, D.S.O., M.C., left in November to take up an appointment in England. He had spent five years in the Sudan, for the last three and a half of which he was in command of the British and Egyptian troops in the country and Commandant of the Sudan Defence Force. Under his vigorous leadership the Sudan Defence Force has reached a high pitch of efficiency.

22. Mr. W. D. C. L. Purves, C.B.E., joined the political service in 1913. After service in Berber, Blue Nile and Darfur, he became Governor of Dongola in 1929, and in 1935 became the first Governor of the newly-constituted Northern Province, comprising the old Provinces of Berber, Dongola and Halfa. He applied himself unsparingly to the task of co-ordinating these three riverain units for which his previous knowledge of the sedentary cultivator was an invaluable asset. His essential kindness and patience won him the affection of all classes.

23. Mr. J. A. Reid joined the political service in 1914 and served in Khartum and Kordofan until 1923. For the next eight years he served in the White and Blue Nile Provinces and was Governor of the White Nile from 1931-37. He will be remembered for his unbounded energy and enthusiasm and his capacity for making informal contact with the people.

24. Mr. M. Hillary, D.S.O., O.B.E., joined the Finance Department in 1925. He was promoted to Director of Accounts in 1929, and in 1933 became Auditor-General. His wide knowledge of accountancy and of Government finance were of great value.

25. Mr. M. A. Bailey, M.C., came to the Sudan from Egypt in 1925 as Chief Plant Breeder, and in 1935 became Director of the Agricultural Research Service. The reorganisation of the agricultural research of the country and the co-ordination of the various sections under one control are largely the result of his work.

26. Mr. C. J. H. Hunter joined the Sudan Railways in 1913 as a District Traffic Manager. He became Commercial Manager in 1926 and Assistant General Manager in 1930. In this capacity he rendered valuable service during a period of great expansion. He will also be remembered for his social and welfare work among the railways staff.

## CHAPTER II.—FRONTIERS.

27. Good relations have been maintained with trans-border authorities on all frontiers. Minor incidents involving tribes living in the more remote parts of the eastern frontier were settled locally by the administrative authorities on both sides.

28. There was a marked improvement in the south-eastern corner of the Sudan in the relations between the Tapotha and Didinga of Equatoria Province and the Turkana of Kenya, which is the more satisfactory in that it has succeeded a long period of bitter enmity.

29. In the west the usual close liaison was maintained with the French authorities.

## CHAPTER III.—PUBLIC SECURITY.

30. Public security remained good in all parts of the Sudan and no special difficulties were encountered in the detection of crime. Increasing use is being made of tribal gatherings and meetings for the settlement of inter-tribal questions.

31. In the Northern Province there was little serious crime, major courts numbering only six. In Khartum, Omdurman and Khartum North cases of homicide affray and theft decreased, but there was a regrettable increase in what may be termed professional crime, such as counterfeiting, planned burglary, fire raising on insured premises, and fraudulent trading. There was one serious drug offence as a result of which an itinerant Yemani pedlar was arrested with more than a kilo of opium. There was a slight increase of animal theft among the semi-nomadic tribes of the Blue and White Nile Provinces.

32. In the west, Kordofan Province showed a welcome decrease in homicide cases, and in Darfur public security remained good. There were three cases of highway robbery on the El Obeid-El Fasher road, but the establishment of a police patrol checked further cases and led to the arrest of the offenders.

33. In the Southern Sudan there were the usual number of small sectional or clan fights, but none were allowed to develop into serious feuds. The only serious crime was the murder of ten men of Lafit in Equatoria Province and the looting of their cattle by the inhabitants of three villages acting in conjunction. A long and patient investigation by Government and tribal authorities eventually brought the offenders to justice.

34. There was a general increase both in motor accidents and in technical motoring offences.

*Sudan Defence Force.*

35. No further mechanised units were formed, but the armament of the existing five motor machine-gun companies was increased by the addition to each company of seven Ford armoured cars of local design. Bren light machine-guns and Boys anti-tank rifles have been issued to these companies.

36. In addition to inter-unit exercises within the Western Arab Corps and the Equatorial Corps, two motor machine-gun companies worked with the Sudan Horse in a combined exercise, and all five motor machine-gun companies carried out large-scale manoeuvres in the Eastern Area. The Royal Air Force co-operated in all these exercises.

37. Mobile wireless sets, operated entirely by military personnel, were used throughout training and exercises with satisfactory results.

38. The post established in 1936 on the Boma Plateau has been maintained. From it and from stations in the Eastern Area normal frontier patrols were carried out. Dilling was evacuated as a military station on the 31st December, the detachment from there rejoining its parent unit at Kadugli and the Radif Platoon being disbanded.

39. Five more candidates for commissions from a total of over seventy applicants, were selected for training. The nine cadets enrolled in 1935 were commissioned in the rank of Mulazim Tani, on two years probation, on the 1st January.

*Police.*

40. Provincial police forces continue to operate successfully in a great variety of local circumstances. Their spirit is as good as ever; their reliability has never been in doubt; their modernisation to meet the calls of new conditions, especially in urban areas, is proceeding satisfactorily. Efforts made to obtain a greater degree of literacy in the ranks and to improve systems and professional training are already yielding good results. The cadre of police officers, chiefly Sudanese, has been strengthened and better prospects of advancement afforded. For the first time a graduate from the Metropolitan Police School at Hendon has been engaged for the force.

41. A further course for sub-mamurs was held at the police depot in Omdurman. Nine candidates began the course, and five were subsequently appointed as probationary sub-mamurs (police and administration) in the provinces.

42. At the police depot forty-eight policemen attended the elementary course, thirty the clerical course, and twenty the fingerprint course.

43. The number of *fiches* filed in the Identification Bureau increased from 109,875 to 117,349.

## CHAPTER IV.—JUSTICE.

44. The year 1938 saw changes of major importance in the work and organisation of the Legal Department. The first batch of Sudanese law students graduated from the Khartum School of Law during the year. The final examination was held in February consisting of papers on contracts, torts, property, jurisprudence, mercantile law, civil procedure, evidence and criminal law and procedure, and all seven students passed, one in Class I, three in Class II and three in Class III. After the examination the advocate student set up in practice at the Bar in Khartum. The six students seconded from Government service, after six months practical training in the courts and land registries and a further three months refresher course, were in November appointed as district judges of the second grade and magistrates of the second-class, thus bringing the total of Sudanese district judges to eleven, of whom the three seniors were promoted to be district judges of the first grade and to be senior officials. At the same time the number of high court judges was increased to five with the promotion of Messrs. Platt, Harrison and Cumings. With the new cadre of judges it was possible to undertake a reorganisation that had been contemplated for some years but which lack of personnel rendered impossible, namely, to organise the more developed provinces, Khartum, Northern, Kassala, White Nile and Blue Nile and Kordofan as circuits of the high court each staffed by a high court judge permanently resident therein assisted by one or more Sudanese district judges. The Sudanese district judges were given such increased jurisdiction as would enable them to dispose of the bulk of the civil suits and so leave the high court judges free not only to deal with revisions and appeals from decrees in civil suits but also to undertake the trial of serious crime within the circuit and to deal with the confirmation of and appeals from the judgments of subordinate criminal courts. This transference to the judges of criminal work hitherto performed by the District Commissioners and the Governors necessitated and was effected by the amendment to the Code of Criminal Procedure which is referred to in the section devoted to legislation. There is every indication that the important step thus taken is proving satisfactory. The stations of the Sudanese district judges are as follows:—

## Khartum Province—

Khartum (1st grade).

Omdurman.

## Northern Province—

Shendi and Atbara.

Merowe.

Halfa and Berber.

## Kassala Province—

Port Sudan (1st grade).

Kassala and Gedaref.

Blue Nile and White Nile Province—  
 Medani (1st grade).  
 Hassaheissa.  
 Kosti and Dueim.  
 Kordofan Province—  
 El Obeid.

*Judicial.*

45. The number of cases tried summarily by courts established under the Code of Criminal Procedure totalled 24,884, including 19,758 by native benches of magistrates, compared with 16,793 in 1937, an increase of 8,091. Non-summary cases totalled 1,166, of which 886 were heard by magistrates and 277 by major or minor courts; the total figure shows an increase of 112 on that of last year. There were 107 convictions for murder. The death sentence was passed in 93 cases and carried out in 43 cases.

46. The number of civil suits heard by civil courts was 7,787. This shows an increase of 2,141 over last years' figures, with a corresponding increase in fees of £E. 1,240. The following table shows the distribution of work done and the amounts of fees collected:—

<i>Province.</i>	<i>Number of Civil Suits.</i>	<i>Total Court fees collected. £E.</i>
Khartum ... ..	3,529	6,915
Blue Nile ... ..	1,246	1,328
Kassala ... ..	1,098	1,613
Northern Province ...	1,020	1,158
Kordofan ... ..	469	446
White Nile ... ..	243	131
Upper Nile ... ..	52	28
Darfur ... ..	93	50
Equatoria ... ..	37	37
	7,787	11,706

47. The statistics for the Court of Appeal are as follows:—

	<i>1937.</i>	<i>1938.</i>
Appeal Court appeals ... ..	16	11
Revisions ... ..	67	79

48. The Grand Kadi reports that the work done by the Sharia courts was satisfactory. The total number of cases instituted was 11,133, compared with 11,117 for 1937. There were 3,983 estates submitted for administration compared with 3,568 in 1937. There were 76 appeals from district courts to province courts, as against 105 in 1937, as a result of which the original decree was in 60 cases confirmed, in 7 cases altered, and in 9 cases quashed. The number

of revision cases brought before the High Sharia Court was 402 compared with 285 in 1937. Fees collected by the Sharia courts and legal assistants attached to land registries amounted to £E. 6,087, a decrease of £E. 427 compared with last year's figure.

#### *Legislation.*

49. This was another very busy year in the Legislative Section and much more so than the annual supplement, itself of more than average dimension, would appear to indicate. Six ordinances and twenty-nine legislative rules and orders were passed. The most important new measure was the Standard Local Government (Townships) Regulations which, together with the Standard Local Government (Municipalities) Regulations, will form the basis of local government in urban areas. In addition to these regulations, the Section has drafted local orders, which are not reproduced in the supplement, for every municipality, township and rural area in the country. In the result, the heterogeneous sets of orders and regulations made by Governors under the old Public Order and Public Health Ordinances and the undefined administrative powers allowed to native authorities subsequent to the introduction in 1937 of a system of native administration in rural areas have coalesced in a certain body of local government law, which while in the main uniform is yet sufficiently diversified to enable it to meet the requirements of varying local circumstances. The amendments to the Code of Criminal Procedure mark the transfer of jurisdiction in the graver classes of crime in areas in which high court circuits are established to the judge of the high court and the transfer within such circuits to the judge of the high court of the powers, other than those relating to prosecutions, executions upon immovable property and the treatment of lunatics, previously exercised by the Governor. Of the legislative rules and orders, mention should be made of the Air Navigation Orders reclassifying aerodromes in and laying down the routes to be followed by aircraft flying over the Sudan.

#### *Lands.*

50. Kosti Town has been laid out anew and building in accordance with the new scheme has already started. The scheme is developing smoothly. The alterations to the old lay-out were necessitated by the rise in the river level consequent upon the completion of the Jebel Aulia Dam. The lay-out of the harbour front at Port Sudan (West Town) has been modified to provide for development of additional sites by the Government. In Khartum two further blocks of land were rearranged by agreement with the owners concerned in accordance with the provisions of the Khartum Streets Improvement Scheme. Ten additional quarters for Government officials were built by a Khartum landowner under contract with the Government: several vacant plots of land have thus been developed. Natives continue to be attracted by the pump irrigation

schemes for cultivation of Government land; in the Northern Province several of such schemes are being financed locally on a co-operative basis. Additional areas of land were granted on leases to established Missions in Kordofan, Equatoria and the Upper Nile. In the latter province a new mission from Abyssinia has been given two sites. An area of approximately 1,700 feddans at Dibeiker in the White Nile Sub-Province was constituted a Central Forest Reserve. Areas of privately-owned land in the White Nile Sub-Province were acquired by Government during the year under its statutory powers. The land was acquired for purposes of an alternative livelihood scheme for the owners of land in the White Nile whose lands were inundated by reason of the construction of the Jebel Aulia Dam. Imperial Airways (Limited) has leased fresh sites at Gordon's Tree and Malakal. A lease of an area of 600 feddans of Government land in the Yei District of Equatoria which had been held since 1932 by two former officials of the Government and developed as a coffee plantation was abandoned by the lessees, the project having proved unsuccessful.

51. Mining operations continued to be carried on at Gabait by Gabait Gold Mines (Limited) and by Mr. Cayley, who is working under a licence to win alluvial gold in the beds of the Luri and Yei rivers. A second licence covering the beds of the Kaia and Thingaiti rivers was granted to Mr. Cayley. A mining lease in respect of the Wady Oyo Mine, previously worked by Kassala (Sudan) Gold Mines, was granted to Major Bishop. Gabait Gold Mines renewed its prospecting licence over the area adjoining the Gabait Mine, as also did Major Bishop in respect of his prospecting licence covering the Onib Mine. A mineral prospecting licence was granted to Mr. J. A. Maller in respect of an area in the Kassala Province known as Deraheib. Tanganyika Concessions (Limited) continued experiments with the talc-magnesite rock deposits from Qala-el-Nahl, but in December reported that the results obtained were not sufficiently encouraging to warrant further expenditure. The company therefore gave notice of its intention to abandon its exclusive rights over the area at Qala-el-Nahl, and accordingly ceased to have any interest in this country with effect from the 31st December, 1938. This company and its predecessors, Dr. Cuthbert Christy and the Nile Congo-Divide Syndicate (Limited), have been interested in the Sudan since 1917, and it is a matter for regret that their efforts have been unsuccessful.

*Administrator-General's Office.*

52. Fourteen petitions in bankruptcy were presented; in seven cases the debtors were adjudicated bankrupt, two petitions were withdrawn, and in four cases compositions were made. One case is still proceeding. Fifty-two new non-Mahometan estates of the gross value of £E. 38,556 were taken under administration. Seven new trusts were accepted, of which the total value was £E. 15,388.



*Registrar-General's Office.*

53. Three companies were incorporated in the Sudan during the year. One foreign company established a place of business in the country, and the statutory particulars as required by the Companies' Ordinance, 1925-31, were duly delivered to the Registrar for registration. The registration of trade-marks decreased; 37 applications were received, 40 trade-marks were placed upon the register, and 17 transmissions and assignments of marks were recorded. This decrease is probably due to the less favourable trading conditions which prevailed during the year. Twenty-five new partnerships were registered and nine dissolutions notified. The totals on the four registers are :—

Khartum	...	...	...	...	...	136
Port Sudan	...	...	...	...	...	15
Waw Medani	...	...	...	...	...	8
El Obeid	...	...	...	...	...	12

There has been a steady increase in the number of new partnerships registered at Khartum. Thirty-five new business names were registered and seven notices of cessation of business were received. The number of business names now on the register is 199.

54. The following table, giving the number of deeds registered and the amount of fees collected, shows the work done during the last four years in land registration :—

Year.	Town Lands.		Agricultural Lands.		Total.	
	Deeds.	Fees.	Deeds.	Fees.	Deeds.	Fees.
		£E.		£E.		£E.
1935 ... ..	4,463	4,019	12,331	1,519	16,794	5,538
1936 ... ..	4,399	3,757	16,674	1,907	21,073	5,664
1937 ... ..	4,285	5,746	18,292	2,602	22,577	8,348
1938 ... ..	5,208	7,187	14,555	2,588	19,763	9,775

The decrease of 2,814 in the number of deeds registered is attributable mainly to the fact that only one field party has been working in the Gezira in the elimination of sub-minimum shares instead of two parties as in 1937. There has, however, been an increase of £E. 1,427 in the total amount of registration fees collected, although, of the 19,763 deeds registered, 2,716, being sales to the Government, were registered without payment of fees. The land registry party seconded for duty with the Jebel Aulia Dam Compensation Commissioner has continued its useful work. Some 14,838 feddans of land in the Geteina and Dueim districts of the White Nile Sub-Province were settled prior to expropriation by the Government for alternative livelihood schemes. As a result of the elimination of sub-minimum shares by the field party in the Gezira, the register has been greatly simplified and the work of the province administrative authorities in the matter of rent payment relieved. Arrangements

have been made to carry out a revision settlement of certain riverain lands in the Northern Province. Twelve forest settlements were made under the Central Forest and the Provincial Forest Ordinances respectively.

55. The number of non-Mahometan marriages registered under the non-Mahometan Marriages Ordinance was 319 compared with 387 in 1937. The total comprises :—

Marriages performed by district registrars ... ..	12
Marriages celebrated by religious communities under the ordinance ... ..	7
Marriages celebrated by ministers of excepted communities and registered under the provisions of the Excepted Communities Marriages Regulations, 1926 :—	
Roman Catholic ... ..	245
Greek Orthodox ... ..	23
Greek Catholic ... ..	3
Coptic Orthodox ... ..	26
Israelites ... ..	3
	<hr/>
Total ... ..	319

## CHAPTER V.—FINANCE.

### *General Review.*

56. During 1938 the Sudan suffered to some extent from the general uncertainty in international affairs and trading conditions, while financial results were materially affected by the reduction in the annual subvention from Egypt. Agricultural conditions in the 1937–38 season were good save at Tokar, where the cotton crop was a failure. There was a plentiful grain harvest and an excellent date crop was gathered. Gum production established a high record. Despite the maintenance of the general volume of exports, there was a reduction of over £E. 2,500,000 in their value, mainly attributable to the severe fall in the world prices of the country's principal export commodities. The recovery movement, which had been in progress since 1934, continued into the early months of the year, but later there was a marked decline from the high peak of prosperity reached in 1937.

### *Financial Results, 1938.*

57. After providing for a surplus of £E. 153,638, the 1938 budget estimates were balanced at the figure of £E. 4,852,000.

The final result was :—

	<i>£E.</i>
Revenue ... ..	5,131,635
Expenditure ... ..	4,857,784
	<hr/>
Surplus ... ..	273,851

In accordance with usual practice, this surplus will be passed to the General Reserve.

58. Appendix I, Table 1, sets out in detail the financial results for the year together with comparative figures for the last seven years.

*Revenue.*

59. The 1937 and 1938 results are shown in the following table together with the 1938 estimates:—

	1937 Results.	1938 Estimates.	1938 Results.
	£E.	£E.	£E.
Provinces ... ..	616,087	603,765	622,702
Departments ... ..	1,491,089	1,197,790	1,319,305
General Central Services (¹) ...	1,239,875	1,207,635	1,306,470
	3,347,051	3,009,190	3,248,477
Sudan Railways ... ..	450,000	497,500	497,500
Egyptian contribution ... ..	750,000	750,000	562,500
Irrigation Department ... ..	1,479,111	590,400	815,370
Sudan Defence Force ... ..	7,313	4,910	7,788
	6,033,475	4,852,000	5,131,635
To Cotton Equalisation Account	1,284,974	...	...
	4,748,501	4,852,000	5,131,635

(¹) Excluding Sudan Railways and the Egyptian contribution, which are shown separately.

60. Province revenue amounted to £E. 622,702 compared with the estimate of £E. 603,765. The main items contributing to the excess of £E. 18,937 were motor licences and liquor licences. Direct taxation brought in £E. 380,248, the estimate being £E. 381,139. Arrears amounted to less than £E. 5,000 after allowing for date-tax remissions in Northern Province. The total revenue from departments exceeded the estimate of £E. 1,197,790 by £E. 121,515. Notwithstanding the contraction of imports from February onwards, the customs receipt was £E. 124,936 above the estimate of £E. 650,000. Increased use continued to be made by the public of the facilities provided by the Posts and Telegraphs Department, and revenue from this source at £E. 150,483 exceeded the estimate by £E. 15,893. Other departments whose results were better than the estimate were the Legal Department, the Public Works Department and the Education Department, the increases being £E. 9,663, £E. 5,011 and £E. 3,423 respectively. The Agriculture and Forests Department showed a decrease of £E. 41,260 on an estimate of £E. 262,100; this shortfall, however, was mainly due to a carry over to 1939.

61. In General Central Services, the budget figure of £E. 497,500 was taken from the railways as the net contribution to general revenue; the improvement over the budgetary figure was

appropriated to railway reserves. 33,875 tons of sugar were sold in 1938 compared with 33,093 tons in 1937, and despite the fact that the average profit per ton was less than in the previous year, there was an excess of £E. 37,016 over the estimated receipts of £E. 575,000. Gum royalties exceeded the estimate by £E. 48,888.

62. In consequence of a decision of the Egyptian Government to reduce the Sudan subvention to £E. 500,000 in its financial year beginning the 1st May, 1938, there was a shortfall of £E. 187,500 in this item.

63. The total receipt by Government from the sale of Gezira cotton<sup>(2)</sup> and cotton seed during the year was £E. 801,207 or £E. 216,207 above the estimate. In terms of volume sales were satisfactory but prices were disappointing.

The following table gives an analysis of the main sources of revenue :—

**(<sup>2</sup>) Excluding Gondal Demonstration Farm.**

NORMAL REVENUE (excluding receipts from Gezira Project and Egyptian Contribution).

(Figures in parentheses denote percentages of the total revenue.)

—	1903.	1913.	1921.	1933.	1934.	1935.	1936.	1937.	1938.
	£E.	£E.	£E.	£E.	£E.	£E.	£E.	£E.	£E.
1. Direct taxes on natives ... ..	114,359 (48.5)	295,546 (29.9)	600,874 (22.0)	310,220 (12.35)	271,662 (9.05)	304,662 <sup>(4)</sup> (9.05)	336,296 (9.39)	343,097 (8.92)	359,070 (9.37)
2. Royalties and receipts from irrigation projects, &c. (other than Gezira project)	34,211 (14.5)	109,147 (11.1)	120,712 (4.6)	258,144 (10.28)	322,095 (10.72)	368,646 (10.96)	387,775 (10.82)	374,586 (9.74)	348,818 (9.11)
3. Consumption duties (Customs and sugar monopoly)	9,042 (3.8)	186,837 (18.8)	714,219 (26.1)	830,169 (33.04)	995,543 (33.13)	1,213,410 (36.06)	1,381,694 (38.57)	1,519,061 (39.51)	1,386,952 (36.23)
4. Net revenue from railways and gross revenue from Posts and Telegraphs and other commercial undertakings	11,640 <sup>(3)</sup> (4.9)	241,452 (24.4)	957,384 (35.0)	684,066 (27.23)	918,636 (33.57)	917,121 (27.26)	860,946 (24.03)	882,317 (22.95)	877,689 (22.93)
5. Miscellaneous taxes on commercial transactions, court fees, &c.	66,658 (28.3)	157,993 (15.8)	337,726 (12.3)	429,647 (17.10)	496,613 (16.53)	561,119 (16.67)	615,779 (17.19)	725,799 (18.88)	855,910 (22.36)
Totals ... ..	235,910	990,975	2,730,915	2,512,246	3,004,549	3,364,958	3,582,490	3,844,860	3,828,439

<sup>(3)</sup> In 1903 there was a deficit on railway working. The amount of this deficit has therefore been deducted from the gross revenue of the Posts and Telegraphs and other commercial undertakings for that year.

<sup>(4)</sup> Includes receipts of local administration budgets from 1935 onwards.

*Expenditure.*

64. The results for 1937 and 1938 are compared below :—

	1937 Results.	1938 Estimates.	1938 Results.	1938 + or - on Estimates.
	£E.	£E.	£E.	£E.
Provinces ... ..	805,993	850,593	821,425	- 29,168
Departments ... ..	1,776,474	1,937,820	1,800,714	- 137,106
General Central Services ... ..	495,023	528,924	776,348	+ 247,424
Totals ... ..	3,077,490	3,317,337	3,398,487	+ 81,150
Irrigation Department ... ..	956,217	946,603	1,027,844	+ 81,241
Sudan Defence Force ... ..	423,932	434,422	431,453	- 2,969
Totals ... ..	4,457,639	4,698,362	4,857,784	+ 159,422

65. Excluding unforeseen items, expenditure fell within the original budget estimate of £E. 4,698,362 by a margin of £E. 249,440. Of this amount, however, it will be necessary to revote £E. 190,263 in 1939. Supplementary requirements necessitated provision for £E. 408,862, of which £E. 272,467 represented depreciation of the Government's investment holdings in British and Egyptian Government securities, and £E. 77,314 was for part of the cost of the Abdel Magid alternative livelihood scheme. As some of the £E. 408,862 was met against economies on various items within the budget, the actual expenditure charged was only £E. 159,422 in excess of the original budget estimate.

*Liquid Assets.*

66. The position as at the 31st December, 1938, is shown hereunder :—

	£E.
Cash and investments ... ..	8,859,149
Other liquid assets ... ..	1,081,006
	<hr/>
	9,940,155
Less: Current liabilities ... ..	723,249
	<hr/>
Balance ... ..	9,216,906

This balance is represented by—

General Reserve Account ... ..	1,515,514
Cotton Equalisation Account... ..	3,034,974
Railway Capital and Renewals Account	2,921,802
Other accounts ... ..	1,744,616
	<hr/>
	9,216,906

*General Reserve Account.*

67. The budget surplus of £E. 273,851 was passed to this account which also benefited to the extent of £E. 255,002 from miscellaneous receipts. Outgoings amounted to £E. 34,598. The position is shown in Appendix II.

*Loans.*

68. The first half-yearly instalment of Sinking Fund for the redemption of the 4½ per cent. Guaranteed Stock, 1939-73, was paid during the year, and the loan service was increased by £E. 22,592 on this account.

A summary of the position is given in Appendix III.

*Cotton Growing.**(a) Gezira Irrigation Scheme.*

69. Sales of Gezira cotton during 1938 amounted to 236,423 bales against 255,152 bales during 1937 and the annual average disposal over the past thirteen years of 125,787 bales. Despite a record crop of 241,688 bales in the 1937-38 season, the carry-over of 83,760 bales of unsold cotton at the end of 1938 was only 5,240 bales more than the carry-over at the end of the previous year. The Government share in unsold cotton was estimated at £E. 257,596, the corresponding figure in 1937 being £E. 235,922.

In the following statement further details of the last three crops are given :—

	Season 1935-36.	Season 1936-37.	Season 1937-38.
Area under cotton (excluding seed farm)			
... (feddans)	184,740	199,125	206,653
Total yield of seed cotton ... (kantars)	687,661	890,907	946,976
Bales of 430 lb. ...	171,177	222,137	241,688
Average yield per feddan ... (kantars)	3.722	4.474	4.582
Cotton-seed ... (tons)	63,853	82,374	87,004
Estimated divisible proceeds ... (£E.)	2,071,054	3,004,719	2,132,346
Estimated Government share in net proceeds ... (£E.)	791,667	1,151,427	818,318

*(b) Kassala Cotton Scheme (Gash Board).*

70. The results of the last three seasons are compared below :—

	Season 1935-36.	Season 1936-37.	Season 1937-38.
Effective area under cotton ... (feddans)	36,257	30,335	31,850
Total yield of seed cotton ... (kantars)	64,501	68,360	62,534
Cotton-seed ... (tons)	6,259	6,535	5,988
Divisible proceeds ... (£E.)	222,462	201,270	112,065
Shares—			
Tenants ... (£E.)	111,231	100,635	56,033
Government ... (£E.)	48,942	46,151	24,811
Gash Board ... (£E.)	62,289	54,484	31,221

*(c) Tokar Cotton.*

71. A poor Baraka flood, bad sowing conditions and delayed rains caused a comparative failure in the Tokar cotton crop. Production amounted to 27,992 kantars of 315 rotls, compared with 119,226 kantars in the preceding season. The Government receipt from this source was £E. 13,029, including £E. 2,606 allotted to Tokar Cultivators' Reserve. The corresponding receipt in 1937 was £E. 108,239.

*(d) Rain-grown Cotton.*

72. Production in the season 1937-38 amounted to 131,342 kantars of 315 rotls, compared with 124,293 kantars in the previous season. The net profit for the season is estimated at £E. 4,001, against £E. 36,239 for the previous season.

*(e) Ginning Factories (excluding Gezira Area).*

73. The net revenue earned was £E. 43,930, compared with £E. 53,612 for the 1936-37 season, not taking into account overhead charges and allowance for depreciation.

*Local Finances.**(a) Khartum Municipality.*

74. During 1938 Khartum Municipality improved its financial position considerably. Revenue brought to account, including the grant-in-aid by the Central Government of £E. 19,568, was £E. 92,305 against an estimate of £E. 90,569. Nearly all items of revenue contributed to the net excess of £E. 1,736, and the only short-fall of note was £E. 1,419 on the estimate for dues collected on the river foreshore, due largely to the growth of direct delivery of grain and other produce by motor transport. Expenditure, as a result of all-round economies and delay in the completion of the programme of road maintenance, fell within the budgetary figure by £E. 4,221 and totalled £E. 83,530. The surplus on the year's working passed to the municipality reserve was £E. 8,775, thus raising its total to £E. 25,245, of which £E. 4,918 is pledged for the completion of works in progress. Looking back on results, it is evident that the scheme of reorganisation introduced in 1936 has been successful in producing a sound financial structure for the municipality.

*(b) Local Rural Administrations.*

75. Local rural administrations experienced a quiet but successful year. The total revenue of the ten administrations possessing independent budgets amounted to £E. 128,700, and the total expenditure, inclusive of £E. 65,823 contributed to general revenues, was £E. 120,400, leaving £E. 8,300 available for local



administration reserves. The Dar Hamar and Gawamaa administrations completed their first budgetary year in a satisfactory manner and achieved results better than the original estimates. Certain of the administrations have now reached a stage of progress permitting them to undertake increased responsibility for services. In two cases works of a capital nature have been financed from reserves.

*Jebel Aulia Compensation Fund.*

76. The Jebel Aulia Compensation Fund was formed out of the payment of £E. 750,000 by the Egyptian Government in full and final settlement of the Sudan Government's claim in respect of damages arising out of the construction of the Jebel Aulia Dam. Claims against the fund are examined by the Jebel Aulia Compensation Committee and, since its establishment early in 1935, a great deal of careful work has been done and much progress has been made towards the solution of the many and various problems raised by the construction of the Jebel Aulia Dam. The committee recognised at an early date that the payment of cash compensation alone would not secure the future position of the cultivators. Consequently, great attention has been given to the alternative livelihood aspect of the general problem, and the first aim has been to secure adequate food supplies. To this end, irrigation schemes have been established at Abdel Magid, Fatisa and Dubasi to provide for the people first affected by the rising waters of the reservoir. Works for the protection of towns and agricultural basins have been started and progress has been made in the issue of compensation for damage to house property. The position of the fund is shown in Appendix IV.

*Currency.*

77. The total value of currency in circulation on the 31st December, 1938, was £E. 1,827,081 against £E. 2,218,289 at the end of 1937. The marked contraction in circulation of £E. 391,208 is chiefly attributable to the fall in value of the country's principal exports, notably cotton and gum.

*1939 Budget.*

78. The budget for 1939 has been passed as follows:—

	£E.
Expenditure ... ..	4,865,406
Revenue ... ..	4,616,902
	<hr/>
Deficit ... ..	248,504

79. During 1939 the finances of the Sudan Government will be in a stage of readjustment necessitated by the withdrawal, over the

period the 1st May, 1938, to the 1st May, 1940, of the Egyptian contribution of £E. 750,000 per annum, and pending the consolidation of the budgetary position on its new basis a deficit on the estimates is unavoidable.

## CHAPTER VI.—ECONOMICS AND TRADE.

### *External Trade.*

80. In accordance with the agreement made at the signing of the Treaty of Friendship and Alliance between Great Britain and Egypt, an Egyptian economic expert was seconded for service in Khartum. At the end of the year Abdullah Abaza Bey arrived to take up his important duties.

81. In common with most countries of the world the volume and value of the trade of the Sudan in 1938 suffered a recession from the position of the preceding years. The total volume of external trade, excluding transit and specie, decreased by £E. 2,745,441 (18·3 per cent.) from £E. 14,998,572 in 1937 to £E. 12,253,131. It should, however, be noted that the total volume for 1937 was the highest ever recorded for this country. The average for the two years 1935 and 1936 was £E. 11,081,362.

### *Imports.*

82. The total value of public and Government imports remained practically unchanged at £E. 6,283,397, compared with £E. 6,283,076 in 1937; public imports decreased by £E. 613,354 (12·8 per cent.) from £E. 4,771,452 to £E. 4,158,098; Government imports increased by £E. 613,675 (40·6 per cent.) from £E. 1,511,624 to £E. 2,125,299.

### *Exports and Re-exports.*

83. The value of exports decreased by £E. 2,640,091 (32·5 per cent.) from the record 1937 total of £E. 8,130,362 to £E. 5,490,362. Severe as this fall appears, the total value for 1938 has been exceeded in only three previous years besides 1937, viz., in 1928, 1929 and 1936. Re-exports decreased from £E. 585,043 to £E. 479,372.

### *Transit.*

84. Transit trade showed a decrease of £E. 123,332 from £E. 241,102 to £E. 117,770.

*External Trade.*

85. The following table shows the value of external trade in 1913 and in the past five years:—

(In thousands £E.)

—	1913.	1934.	1935.	1936.	1937.	1938.	1938 compared with 1937 per cent.
Public imports ...	1,605	3,071	3,751	3,904	4,771	4,158	— 12·8
Government imports	504	874	1,619	1,471	1,512	2,125	+ 40·5
Exports ... ..	1,185	3,849	4,567	5,581	8,130	5,490	— 32·5
Re-exports ... ..	94	268	435	834	585	480	— 17·9
Totals ... ..	3,388	8,062	10,372	11,790	14,998	12,253	— 18·3

In the above table, for years subsequent to 1913, all sugar is included in Government imports. If sugar were recorded in public imports the comparison would be:—

Public imports ...	1,605	3,299	4,079	4,291	5,349	4,796	— 10·3
Government imports	504	646	1,292	1,084	934	1,487	+ 59·2

*Balance of Trade, 1937–38.*

86. The visible balance of trade, excluding transit goods and specie, in 1937 and 1938 was:—

(In thousands £E.)

—	1937.		1938.	
Public imports (including sugar) ... ..	5,349		4,796	
Less public re-exports ...	499		384	
Net public imports		4,850		4,412
Government imports (excluding sugar) ... ..	934		1,487	
Less Government re-exports ... ..	86		96	
Net Government imports ... ..		848		1,391
Total retained imports ... ..		5,698		5,803
Exports ... ..		8,130		5,490
Excess of exports over imports ... ..		2,432		...
Excess of imports over exports ... ..		...		313

*Imports—Classification.*

87. The following table shows the principal public imports (including sugar) in 1937 and 1938 :—

	1937.		1938.	
	Value.	Percentage of Total.	Value.	Percentage of Total.
Piece goods—	£ E.		£ E.	
Cotton ... ..	1,105,935	20.7	1,144,983	23.9
Artificial silk ... ..	87,249	1.6	74,306	1.5
Silk ... ..	27,626	0.5	13,645	0.3
Sugar ... ..	581,043	10.9	638,566	13.3
Coffee ... ..	216,322	4.0	208,788	4.4
Tea ... ..	352,249	6.6	263,186	5.5
Wheat flour ... ..	213,607	4.0	152,247	3.2
Metals and metalware ... ..	482,671	9.0	261,457	5.5
Motor vehicles, bicycles, parts and tyres ... ..	204,322	3.8	176,571	3.7
Other machinery ... ..	183,232	3.4	129,638	2.7
Tobacco, cigars and cigarettes ... ..	183,162	3.4	173,694	3.6
Sacks ... ..	123,510	2.3	117,935	2.5
Cement ... ..	27,622	0.5	26,134	0.5
Petrol ... ..	65,304	1.2	81,135	1.7
Oil fuel ... ..	25,399	0.5	23,344	0.5
Kerosene ... ..	21,090	0.4	22,383	0.5
Coal and coke ... ..	16,817	0.3	3,857	0.1
Lubricating oils and greases	19,769	0.4	25,324	0.5
Stoneware, earthenware and glassware ... ..	98,657	1.8	93,443	1.9
Spirit, wines and beer ... ..	67,741	1.3	65,795	1.4
Timber ... ..	70,533	1.3	59,204	1.2
Boots and shoes ... ..	86,745	1.6	56,488	1.2
Sweets, jams, conserves, tinned fruits ... ..	61,542	1.2	30,499	0.6
Soap, household ... ..	33,369	0.7	35,623	0.7
Rice ... ..	35,000	0.7	28,490	0.6
Spices ... ..	30,711	0.6	19,361	0.4
Other items ... ..	922,726	17.3	869,929	18.1
Totals ... ..	5,349,003	100.0	4,796,025	100.0

88. The principal increases in Government imports were: machinery, £E. 132,616; metals and metalware, £E. 70,898; coal, £E. 77,688; timber (including railway sleepers), £E. 95,986; arms and explosives, £E. 84,475; and motor cars, cycles, &c., £E. 45,478.

*Imports—Source of Supplies.*

89. The following table shows the approximate value of imports from the principal countries of supply; imports from Egypt have been analysed as carefully as possible and distributed to their true country of origin. One important factor however should not be overlooked; all the sugar imported from Egypt is reckoned as of Egyptian origin whereas in fact, imports of raw cane sugar into Egypt from the Dutch East Indies for refining during 1938 were

greatly in excess of the quantity of sugar supplied by Egypt to the Sudan:—

Country of origin.	1937.		1938.	
	Value.	Percentage of total.	Value.	Percentage of Total.
	£E.		£E.	
Great Britain ... ..	1,521,375	24.2	1,729,707	27.5
Egypt ... ..	1,214,380	19.3	1,247,468	19.9
Japan ... ..	1,184,558	18.9	1,102,707	17.4
British India ... ..	426,639	6.8	286,399	4.6
United States ... ..	176,006	2.8	156,782	2.5
Dutch East Indies... ..	274,632	4.4	244,634	3.9
Ethiopia ... ..	145,042	2.3	78,829	1.3
Belgium ... ..	114,491	1.8	60,310	1.0
Germany ... ..	168,302	2.7	117,382	1.9
Union of South Africa ... ..	83,886	1.3	194,530	3.1
Australia ... ..	145,072	2.3	131,326	2.1
France ... ..	84,854	1.4	53,999	0.8
Kenya ... ..	70,675	1.1	47,023	0.7
Other countries ... ..	673,164	10.7	832,301	13.3
Totals ... ..	6,283,076	100.0	6,283,397	100.0

#### Exports—Classification.

90. The following table shows the principal exports in 1937 and 1938:—

Commodity.	1937.		1938.	
	Value.	Percentage of total.	Value.	Percentage of total.
	£E.		£E.	
Ginned cotton... ..	5,392,511	66.3	3,427,181	62.4
Cotton-seed ... ..	514,164	6.3	242,433	4.4
Gum arabic ... ..	717,798	8.8	662,658	12.1
Millet (dura and dukhn) ... ..	283,510	3.5	304,303	5.5
Sesame ... ..	284,573	3.5	199,672	3.6
Hides and skins, untanned... ..	244,225	3.0	104,838	1.9
Live-stock ... ..	51,504	0.6	38,624	0.7
Gold ... ..	59,255	0.7	87,529	1.6
Dom-nut products ... ..	76,989	1.0	20,799	0.4
Melon-seed ... ..	52,466	0.7	49,166	0.9
Salt ... ..	46,368	0.6	16,270	0.3
Dates ... ..	35,507	0.4	32,717	0.6
Semn ... ..	31,001	0.4	33,259	0.6
Ground-nuts ... ..	54,985	0.7	43,590	0.8
Chick peas ... ..	32,126	0.4	19,564	0.4
Beans ... ..	31,885	0.4	41,830	0.8
Trochus shell ... ..	25,634	0.3	15,691	0.3
Other commodities ... ..	195,952	2.4	150,238	2.7
Totals ... ..	8,130,453	100.0	5,490,362	100.0

*Exports—Destination of.*

91. The following table shows the countries to which exports were consigned:—

Countries to which consigned.	1937.		1938.	
	Value.	Percentage of total.	Value.	Percentage of total.
	£E.		£E.	
Great Britain ... ..	3,507,165	43.1	2,588,808	47.1
Egypt ... ..	691,410	8.5	719,565	13.1
France ... ..	402,881	5.0	277,857	5.1
British India ... ..	1,668,112	20.5	808,816	14.7
United States ... ..	358,474	4.4	192,910	3.5
Japan ... ..	295,043	3.6	75,212	1.4
Germany ... ..	166,394	2.1	103,421	1.9
Eritrea ... ..	115,649	1.4	99,079	1.8
Belgium ... ..	88,276	1.1	71,844	1.3
Italy ... ..	319,453	3.9	135,609	2.5
Holland ... ..	81,896	1.0	60,885	1.1
Ethiopia ... ..	56,090	0.7	31,224	0.6
Australia ... ..	16,189	0.2	26,622	0.5
Other countries ... ..	363,421	4.5	298,510	5.4
Totals ... ..	8,130,453	100.0	5,490,362	100.0

*Trade—General.*

92. The £E. 2,745,441 net decrease in the value of external trade was accounted for by diminished exports to the extent of £E. 2,640,091 and re-exports of £E. 105,671. As already noted the decrease in public imports was offset by an increase in Government imports.

93. The trend of volume of exports may be judged from the following figures:—

Exports—	£E.
1913 ... ..	1,185,186
1914–30 (average) ... ..	3,568,051
1931 (cotton crop failed) ... ..	1,733,795
1932 ... ..	3,797,528
1933 (reduced cotton crop) ... ..	2,605,725
1934 ... ..	3,848,679
1935 ... ..	4,567,279
1936 ... ..	5,581,023
1937 ... ..	8,130,453
1938 ... ..	5,490,362

94. The value of the export of ginned cotton decreased by £E. 1,965,330, cotton-seed by £E. 271,731, sesame by £E. 84,901, gum by £E. 55,140, dom nuts by £E. 56,190 and untanned hides and skins by £E. 139,387. There was an increase of £E. 12,971 in the value of dura exported, the quantity being 54,735 tons compared with 56,152 tons in 1937; the average for 1924–36 was 22,628 tons. The principal buyers in 1938 were Egypt 32,841 tons and Eritrea 16,375 tons.

95. The principal decreases in public imports were metals and metalware by £E. 221,214; machinery, £E. 53,644; motor cars, cycles, &c., £E. 27,751; tea, £E. 89,063; wheat flour, £E. 61,360; boots and shoes, £E. 30,257; and confectionery, £E. 31,043. The quantity of sugar imported was 33,267 tons, only a few tons short of the record import in 1937.

96. Compared with 1937, average unit export valuations for the whole year were lower in the case of most commodities, especially ginned cotton of both Egyptian and American type, cotton-seed, gum, sesame, beans, hides and skins, and dom nuts. The following table gives the average unit export valuations of the principal commodities in 1938, compared with certain previous years; the values are assessed monthly by the Customs Department in consultation with representatives of the Chamber of Commerce:—

(£E. mms. per metric ton.)

—	1930.	1932.	1934.	1936.	1937.	1938.
Cotton, ginned, Egyptian	117.444	56.096	65.129	72.811	79.353	57.374
Cotton, ginned, American	69.225	38.741	48.585	50.741	54.613	34.766
Cotton-seed ... ..	3.657	2.998	2.003	4.092	4.866	2.445
Gum hashab ... ..	48.832	23.745	24.606	29.487	38.728	28.761
Sesame ... ..	12.979	11.649	8.460	13.126	14.060	11.019
Dates... ..	13.828	8.825	9.284	8.154	8.466	8.998
Ground-nuts ... ..	8.289	7.564	5.841	8.205	8.150	7.501
Dom-nuts, whole ... ..	4.690	3.429	4.670	5.869	9.950	4.537
Dura ... ..	4.686	...	4.174	4.609	5.038	5.406
Semn ... ..	78.577	58.837	52.601	54.353	56.778	56.276
Melon-seed ... ..	6.958	6.204	8.429	7.153	9.401	6.908
Hides... ..	38.707	16.311	31.188	47.205	63.822	45.076
Skins... ..	103.421	45.500	67.552	61.124	105.857	50.634
Cattle, head ... ..	5.685	3.411	4.036	4.277	4.932	4.712
Sheep, head... ..	1.089	0.691	0.901	1.054	0.989	0.996

#### *Trade with Great Britain.*

97. Imports from Great Britain were valued at £E. 1,647,942 (26.2 per cent. of all imports) compared with £E. 1,467,941 (23.4 per cent.) in 1937. Exports to Great Britain totalled £E. 2,588,808 in value (47.1 per cent. of all exports) compared with £E. 3,507,165 (43.1 per cent.) in 1937, a decrease of £E. 918,357. The principal export decreases were £E. 594,386 in ginned cotton, £E. 271,679 in cotton-seed and £E. 50,565 in gum arabic.

#### *Trade with Egypt.*

98. Imports from Egypt were valued at £E. 1,445,722 (23 per cent. of all imports) compared with £E. 1,418,228 in 1937 (22.6 per cent. of all imports). The principal item of import is sugar. The whole of the Sudan supply in 1938 (except 154 and 5 tons from Great Britain and Belgium respectively) was purchased in Egypt, at a cost of £E. 636,512 in 1938 and £E. 567,840 in 1937. Exports to Egypt increased from £E. 691,410, or 8.5 per cent. of all exports in 1937, to £E. 719,565 (13.1 per cent.). The principal increase was in the value of dura by £E. 160,804. There were decreases in sesame

by £E. 77,045, hides by £E. 26,333, sheep and goat skins by £E. 16,337 and chick peas by £E. 12,564.

*Trade with Japan.*

99. The value of imports from Japan was £E. 1,101,608 compared with £E. 1,182,001 in 1937. Exports decreased from £E. 295,043 in 1937 to £E. 75,212. The principal decreases were ginned cotton by £E. 172,818, gum arabic by £E. 17,028 and dom-nuts by £E. 28,139. Japan supplies nearly all the cotton and silk and artificial silk piece-goods imported into the Sudan.

*Trade with Eritrea.*

100. In spite of exchange and other restrictions, goods to the value of £E. 116,832 were sent to Eritrea from the Sudan in 1938 compared with £E. 165,410 in 1937. These figures include all exports and re-exports recorded as passing through customs stations. In 1936 the total was £E. 253,096 and in 1935 £E. 363,582, but previous to that year the trade was negligible. The value of imports from Eritrea continues to be insignificant.

*Trade with Ethiopia.*

101. Imports were valued at £E. 78,829 compared with £E. 145,031 in 1937, of which 95 per cent. is accounted for by coffee. The decrease may be ascribed principally to exchange difficulties and other trade restrictions. Exports decreased from £E. 56,090 in 1937 to £E. 31,224. Re-exports decreased from £E. 289,639 to £E. 124,564, of which cotton piece-goods were valued at £E. 82,589. The total trade via Gambela was valued at £E. 54,686, via Roseires and Kurmuk at £E. 168,868 and via Gallabat at £E. 10,370.

*Trade Routes.*

102. Of the import trade 84·7 per cent. was brought in by the Red Sea route, 13·6 per cent. by the Nile route and 1·7 per cent. through frontier posts. Corresponding figures for the export trade were 92·8 per cent., 5·6 per cent. and 1·6 per cent.

*Cotton and Cotton-seed.*

103. Exports of cotton and cotton-seed were :—

	Cotton.		Cotton-seed.		Total Value.
	Tons.	Value.	Tons.	Value.	
Egyptian type ...	55,778	£E. 3,200,226	95,609	£E. 237,961	£E. 3,438,187
American type ...	6,528	226,955	3,530	4,472	231,427
Cotton scarto ...	418	10,290	...	...	10,290
Cotton, unginned ...	...	...	...	...	...
Totals ...	62,724	3,437,471	99,139	242,433	3,679,904



104. The highest previous quantity of exports of ginned cotton was 70,413 tons, valued at £E. 5,392,511 in 1937; these exports were, however, abnormal in that they included a quantity of surplus held in stock from previous years' crops. The principal countries of destination of ginned cotton in 1938 are shown in the following table:—

—	Egyptian Type.	American Type.	Total.
	Tons.	Tons.	Tons.
Great Britain ... ..	34,856	2,135	36,991
British India ... ..	13,146	1,188	14,334
Italy ... ..	1,626	86	1,712
France ... ..	2,195	1,589	3,784
Japan ... ..	868	...	868
United States ... ..	632	...	632
Poland ... ..	620	274	894
Switzerland ... ..	997	38	1,035
Other countries ... ..	838	1,218	2,056

105. Exports of ginned cotton and cotton-seed for the past four years have been:—

Year.	Cotton.		Cotton-seed.	
	Tons.	Value.	Tons.	Value.
1935 ... ..	37,704	£E. 2,382,013	90,196	£E. 354,566
1936 ... ..	48,037	3,344,437	78,478	321,193
1937 ... ..	70,413	5,392,511	105,661	514,164
1938 ... ..	62,306	3,427,181	99,139	242,433

*Gum Arabic.*

106. Exports were:—

Variety.	1937.		1938.	
	Tons.	Value.	Tons.	Value.
Gum, bleached... ..	180	£E. 11,440	196½	£E. 10,861
Gum, hashab ... ..	17,035	659,746	21,916	630,335
Gum, talh and dust ... ..	2,546	46,612	1,867½	21,462
Totals ... ..	19,761	717,798	23,980	662,658

107. The quantity of hashab gum exported in 1938, 21,916 tons, was most satisfactory, the average for the three preceding years having been 19,243 tons. The price was somewhat disappointing, the average export value being about 25 per cent. lower than in 1937. The average local price of hashab gum at El Obeid, the principal market in Kordofan, was 452 milliemes per kantar compared with

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991 milliemes in 1937. From a revenue point of view, the quantity exported is of great importance because the royalty levied is quantitative, not *ad valorem*. Stocks in the Sudan at the end of 1938, including consignments sold and awaiting shipment, were about 2,800 tons, according to a reliable trade estimate; the stock at the end of 1937 was estimated at 2,500 tons. Total exports of gum (hashab, bleached and talh) since 1909 have been:—

					<i>Tons.</i>
1909-18 (average)	...	...	...	...	14,639
1919-28 (average)	...	...	...	...	18,171
1929-33 (average)	...	...	...	...	18,697
1934	...	...	...	...	21,081
1935	...	...	...	...	22,454
1936	...	...	...	...	22,638
1937	...	...	...	...	19,761
1938	...	...	...	...	23,980

108. In 1938 Great Britain took 5,772 tons of gum, United States 3,963 tons, France 2,628 tons, Germany 2,526 tons, Belgium 1,959 tons, Japan 524 tons, Holland 907 tons, Australia 919 tons, Sweden 861 tons, Italy 760 tons and thirty-nine other countries the balance of 3,161 tons.

*Live-stock Trade.*

109. Recorded exports of cattle and sheep decreased; the numbers exported since 1933 are:—

					<i>Cattle.</i>	<i>Sheep and Goats.</i>
1933	...	...	...	...	5,533	4,975
1934	...	...	...	...	8,976	15,660
1935	...	...	...	...	14,604	21,657
1936	...	...	...	...	10,478	11,180
1937	...	...	...	...	9,004	5,453
1938	...	...	...	...	7,717	2,042

The average export valuation of live-stock was practically unchanged. In addition, there were exports, estimated at 12,000 head, of cattle on the hoof to neighbouring territories. Exports of camels by land are also reported to have been satisfactory.

*Sesame.*

110. The value of exports in 1938 showed a considerable falling off from the high peak attained in 1937, but the quantity and value compared very favourably with previous years. Exports for the past four years have been:—

		<i>Tons.</i>	<i>£E.</i>	<i>Percentage of Total Exports.</i>	<i>£E. mms. per Ton.</i>
1935	...	12,346	137,304	3·0	11·120
1936	...	13,765	180,687	3·2	13·126
1937	...	20,240	284,573	3·5	15·060
1938	...	18,121	199,672	3·6	11·020

*Transport and Communications.*

111. The number of registered motor vehicles at the end of the year was :—

	1937.		1938.	
	Vehicles.	Motor cycles.	Vehicles.	Motor cycles.
Private ... ..	3,332	193	3,501	170
Government ... ..	808	21	1,004	43
	4,110	214	4,505	213

*Port Sudan Shipping.*

112. The following table shows the number and net registered tonnage of vessels, including naval vessels, calling at Port Sudan during the last five years :—

Year.	British.		Non-British.		Total.	
	No. of vessels.	Tons.	No. of vessels.	Tons.	No. of vessels.	Tons
1934 ...	574	2,225,106	312	1,095,516	886	3,320,622
1935 ...	693	2,575,072	488	1,476,732	1,181	4,051,084
1936 ...	653	2,474,579	495	1,545,555	1,148	4,020,134
1937 ...	610	2,278,074	564	1,618,142	1,174	3,896,216
1938 ...	549	2,322,922	604	1,681,401	1,153	4,004,323

*Sudan Chamber of Commerce.*

113. The Sudan Chamber of Commerce continued to increase its strength and influence amongst the trading community and is the recognised channel for representing general commercial views to the Government through the Department of Economics and Trade.

*Customs.*

114. A decline in the volume of trade for the year reduced the revenue collected by the Customs Department, but, although the volume of trade was some £E. 2,750,000 less than the record of the previous year, the greater part of this decline was due to a depreciation in the value of exports, while public imports, which form the basis of customs revenue, were maintained at a relatively high level. As a result the fall in customs revenue was less than anticipated, and although £E. 96,000 lower than in the previous year the total collected was considerably greater than in any year prior to 1937.

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115. The following figures show the details of revenue collected :—

—	1937.	1938.	Increase or Decrease.
	£E.	£E.	£E.
Import duties ... ..	785,133	758,075	— 27,058
Export duties ... ..	73,974	46,999	— 26,975
Royalties ... ..	182,636	228,306	+ 45,670
Royalties (petroleum products)... ..	1,265	1,041	— 224
Quay dues ... ..	77,813	68,716	— 9,097
Revenue from sugar ... ..	671,872	612,016	— 59,856
Consumption duty... ..	25,233	15,622	— 9,611
Surtax on re-exports to Egypt... ..	490	369	— 121
Contraventions ... ..	1,380	548	— 832
Sundries ... ..	8,316	6,786	— 1,530
Total ... ..	1,828,112	1,738,478	— 89,634
<b>Deduct:—</b>			
Refunds on re-exports ... ..	19,397	13,022	— 6,375
Surtax credited to Egypt ... ..	490	369	— 121
Exemptions ... ..	27,451	40,072	+ 12,621
Total... ..	47,338	53,463	+ 6,125
Net total ... ..	1,780,774	1,685,015	— 95,759

116. Included in the figure for import duty is the balance of the adjustment of duty (imports and exports) on trade with Egypt, which in 1938 amounted to £E. 152,439. Of this sum £E. 109,900 represented the duty on the import of tobacco and cigarettes from Egypt, compared with £E. 118,114 in 1937. The increased amount of royalties collected is almost entirely attributable to an increase in the export of gum which rose from 19,761 tons in 1937 to 23,980 in 1938. The decrease in consumption duty collected is due to smaller imports of tea and matches. The value of tea imports fell to £E. 263,186, compared with £E. 352,249 in 1937, while the quantity of matches fell to 3,683 cases, against 10,018 cases in 1937. The revenue from the sale of sugar amounted to £E. 612,000, a decrease of about £E. 60,000 on the previous year's figure, although the tonnage sold in the year increased by 2·4 per cent. The reduction in the revenue was due to increases in the prime cost, while sale prices remained unchanged throughout the year.

117. The customs expenditure during 1938 was £E. 38,686, giving a figure of 2·3 per cent. as the cost of collection of all revenue, compared with 2·2 per cent. in 1937 and 2·3 per cent. in 1936.

118. In April the Customs (Amendment) Ordinance, 1938, established a free list comprising the following :—

Aircraft and parts and accessories thereof.  
Antiquities over 100 years old.

Cinematograph films exposed and for exhibition on premises licensed for public entertainment or for educational purposes.

Fertilisers and chemical manures.

Living animals.

Seeds, bulbs, plants and tubers for planting and sowing only.

In the same month the Customs Order, 1938, amended the schedule of the Customs Ordinance to increase the duty on woven fabrics and articles containing silk from 40 per cent. to 50 per cent. *ad valorem*. The duty on boots and shoes was also amended from 10 per cent. *ad valorem* to 20 millièmes per pair or 10 per cent. *ad valorem*, whichever is the greater. Consequent on an increase in the rate of excise duty on alcoholic liquids imported into Egypt the Customs (Amendment to Schedule) Order, 1938, published in July reduced the rates of duty on imports from Egypt, but not on those from other countries.

119. In 1938 84·7 per cent. of the imports and 92·8 per cent. of the exports of the country passed through Port Sudan, compared with 88·5 per cent. and 95·9 per cent. respectively in 1937. The number of vessels calling at the port, excluding naval vessels, was 1,133, and although this figure shows a decrease of seven from last year's figure, the gross tonnage of vessels cleared increased by 203,529 tons to 6,579,643. The amount of cargo handled was less than in 1937, and the total movement of benzine, kerosene and fuel oil, including imports and reshipments was 130,605 tons, compared with 140,560 in 1937. Ninety-nine vessels took bunker oil at the port, compared with eighty-one in 1937, and coal was supplied to 122 vessels, a decrease of fifteen on last year's figure. The number of declarations presented was 41,670, compared with 44,324 during 1937, and the net revenue collected decreased from £E. 686,885 in 1937 to £E. 621,280. A new customs quay office was opened in April.

120. The volume of trade through the port of Suakin increased by some £E. 13,000, mainly due to imports of cotton piece-goods for the dyeing factory. Seven thousand six hundred and three pilgrims on their way to and from Mecca passed through the port, an increase of over 100 per cent. on the numbers of last year. A simplification in customs formalities for these pilgrims was introduced. An increase of 16 per cent. is recorded in the volume of trade through the customs station at Wadi Halfa. The number of packages cleared increased by nearly 270,000 and reflects the growth of trade between the Sudan and Egypt. At Khartum revenue showed a small decrease, due largely to a reduction in tobacco imports from Egypt. The revenue from customs stations on the eastern frontier again declined in relation to the volume of trade with Italian East Africa. Coffee imports were lower through all stations and the exports of Sudan salt dropped appreciably. A considerable volume of transit trade to Italian East Africa via Gambeila developed during August and September. The

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efforts made to clear and complete the transit of the goods before the close of the navigable period of the Sobat River were gratefully acknowledged by the Italian authorities. At Juba, the customs station for the southern frontiers, a small increase in revenue was recorded.

121. Imports and exports of dutiable goods by parcel post decreased by 10 per cent. Although postal traffic with Egypt showed a fall in number of parcels, the total value of the contents was approximately the same as in 1937.

122. The number of cases of infringement of the Customs Ordinance and Contraband Goods Ordinance were less than in 1937. Forty-two specific cases were dealt with in 1938, compared with fifty-five in 1937, and fines totalling approximately £E. 670 were inflicted.

123. Unit values of nearly all exports show a decline, due to unsettled conditions in world markets. The most noticeable decreases were in the values of long staple cotton from £E. 3·6 to £E. 2·5 per kantar, gum hashab from £E. 38·7 to £E. 28·8 per ton, hides from £E. 63·8 to £E. 45·1 per ton, and skins, which fell from £E. 104·9 to £E. 48·5 per ton. The prices of imports remained fairly steady in 1938 except for material decreases in the unit values for coffee, soap and flour.

124. Sugar sales amounted to 33,886 tons, compared with 33,093 tons in 1937, an increase of 2·4 per cent. During the early months of 1938 the sales were considerably higher than in the early months of 1937, reflecting the increased spending power of the population due to the higher prices of the 1937 exports. The sales figures for August and onwards compare unfavourably with those for the same period in 1937. The expenditure by the public was estimated at £E. 1,440,910, compared with £E. 1,436,720 in 1937. A partial decontrol of sugar in the Halfa and Kareima districts proved successful and was extended to include Omdurman and Khartum early in the year and to the whole of Kordofan Province in November. With the exception of minor adjustments at a few places in Blue Nile Province, the maximum retail prices remained unchanged throughout the year.

125. Air transport services continued to expand in 1938 and the numbers of aircraft attended during the year show a considerable increase. In October Rejaf was substituted for Malakal as the regular southern stop for Imperial Airways services in the Sudan. The Ala Littoria services have again been augmented. In February permission was given for east-bound services on the Khartum-Asmara route to overfly Kassala, completing their clearance at Khartum.

126. Relations with neighbouring Customs Administrations were strengthened, and co-operative measures introduced for the mutual improvement of frontier control and for the efficient clearance of transit goods. The arrangements made with the Egyptian Customs Administration for the exchange of information on matters affecting the prevention of smuggling on the northern frontier have already had effective results.

## CHAPTER VII.—AGRICULTURE AND FORESTS.

*General.*

127. The rains in 1938 were generally satisfactory. Unfortunately, hopes of a bumper harvest were upset by a severe locust invasion during the summer months, which reduced the yield to a figure below the average. Except in a few areas, however, there should be no actual shortage of grain. Production in the main rain-growing areas is estimated at some 284,000 tons of dura and dukhn, compared with 299,000 tons and 393,000 tons in the two preceding years.

128. The Nile flood was much above average with maximum readings of 16·56 and 21·54 metres at Khartum and Roseires respectively. Flooding caused considerable damage to house property in the Northern Province and minor damage to pump schemes, but the loss was offset by increased cultivation of riverain lands and high-level basins.

129. The output of cotton was only some 21,000 kantars short of the record figure of 1,292,755 kantars obtained last year, but good yields generally were offset by the poor prices prevailing for both lint and seed. The Gezira did well with average yields of 4·538 and 4·755 kantars per feddan for the Syndicate and Kassala Cotton Company areas respectively, but Tokar, owing to bad flood and climatic conditions, had the worst season recorded for many years. The Gash Delta was fair and other Government schemes generally good, especially the alternative livelihood schemes at Abdel Magid, which produced 6·05 kantars per feddan in the first season. There was a rise in the rain-grown cotton total, due to increased production in the Nuba Mountains areas.

*Locusts.*

130. There was a heavy invasion of locusts over the greater part of the Sudan during the summer months. A vigorous campaign of hopper destruction in which over 15,500 sacks of poison bait were used was instituted in the provinces affected and comparatively few of the hopper swarms matured. Four types of locust were noted as causing damage. The Desert Locust (*Schistocerca gregaria*) appeared on the Red Sea littoral and damaged dura and dukhn crops in the Baraka area. The Tree Locust (*Anacridium moestum*) was found in the central area and was probably responsible for damage to cotton in the Nuba Mountains. The Red Locust (*Nomadacris septemfasciata*) penetrated from the south, causing little trouble. The main damage was done by the Hairy Chested Locust (*Locusta migratorioides*) which appeared from the south-west and bred enormous swarms of hoppers over most of the northern Sudan. Though it is unlikely that there will be any actual shortage except in localised areas, damage both to crops and grazing was extensive. In White Nile and Upper Nile Provinces the loss to rain crops and early dura was estimated at 25 per cent. In Darfur there was an almost complete loss in certain districts. It is feared that the invasion next year may be even heavier.

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*Cotton Yields.*

131. The following table shows the final yield of cotton from the various centres of production for the season 1937-38 :—

Type of cotton and locality.	Amount stated as harvested.		Amounts received at Ginning Factories.		
	Area. Feddans.	Kantars (315 rotls).	Kantars (315 rotls).	Lint Kantars (100 rotls).	Equivalent in bales of 400 lbs.
<i>Sakel Type.</i>					
Sudan Plantations Syndicate (Limited) ...	167,982	762,288	...	...	...
Kassala Cotton Company (Limited) ...	38,671	184,688	...	...	...
Total Gezira area	206,653	946,976	947,530 <sup>(5)</sup>	1,028,298 <sup>(5)</sup>	254,503
Tokar Delta ...	20,000	28,116	28,137	29,356	...
Gash Delta ...	31,850	62,534	62,475	63,688	...
Government Estates—					
Dueim ...	526	2,260	2,316	2,287	...
Gondal ...	390	1,974	1,962	2,170	...
Abdel Magid ...	1,720	10,418	10,362	10,734	...
Private Estates—					
White Nile Province	10,155	38,599	38,719	39,528	...
Khartum ...	1,474	2,140	2,092	2,041	...
Total Sakel type	272,768	1,093,017	1,093,593	1,178,102	291,580
<i>American Irrigated.</i>					
Government Schemes—					
Dongola ...	2,177	8,564	} 8,837	7,834	...
Sagia cotton ...	570	597			
Berber ...	2,420	12,314	11,926	9,644	...
Private Estates—					
Zeidab ...	5,159	20,970	20,974	21,500	...
Other ...	1,526	5,888	6,067	5,411	...
Total American Irrigated ...	11,852	48,333	47,804	44,389	10,986
<i>American Rain-grown.</i>					
Kordofan ...	116,000	115,874	115,870	103,521	...
Upper Nile ...	7,500	2,890	2,823	2,687	...
Equatoria ...	18,698	12,583 <sup>(6)</sup>	11,566	11,261	...
Total Rain-grown	142,198	131,347	130,259	117,469	29,073
Total American type ...	154,050	179,680	178,063	161,858	40,059
Total all varieties	426,818	1,272,697	1,271,656	1,339,960	331,639

<sup>(5)</sup> Includes 554 kantars of seed cotton and 609 kantars of lint from Government sources.

<sup>(6)</sup> Includes 1,107 kantars Kajo Kaji cotton ginned in Uganda.



*Cotton Crop Prospects, 1938-39.*

192. The following table gives the approximate areas and probable yields for the current season:—

—	Feddans.	Estimated yield, kantars of 315 rotls.
<i>Sakel Type.</i>		
Sudan Plantations Syndicate (Limited) ... ..	167,066	} 800,000
Kassala Cotton Company (Limited) ...	33,255	
Total Gezira ... ..	205,321	800,000
Tokar Delta ... ..	40,000	80,000
Gash Delta... ..	33,282	63,000
Government Estates—		
Ducim ... ..	500	2,000
Gondal ... ..	390	1,600
Abdel Magid ... ..	4,515	20,500
Private Estates ... ..	9,515	35,510
Total Sakel ... ..	293,523	1,002,610
<i>American Irrigated.</i>		
Government Pump Schemes—		
Berber ... ..	2,018	9,498
Dongola ... ..	2,061	9,800
Private Estates—		
Zeidab ... ..	5,554	20,867
Other Estates ... ..	873	2,791
Total American Irrigated	10,506	42,956
<i>American Rain-grown.</i>		
Kordofan ... ..	115,000	107,300
Upper Nile ... ..	6,000	3,800
Equatoria ... ..	16,260	10,800
Total Rain-grown ... ..	137,260	121,900
Total American ... ..	147,766	164,856
Total all varieties ... ..	441,289	1,167,466

*Cotton Ginning.*

193. A new factory is in course of construction at Ghorashi in the Gezira area. The Gezira ginneries again handled a record total and most other factories were kept fully employed. The Shukoli factory was closed down as the Kajo Kaji cotton was exported to Uganda for ginning. The total quantity of cotton received at ginneries amounted to 1,271,656 kantars of 315 rotls. The out-turn from this amounted to 1,339,960 kantars of 100 rotls lint, 16,512 kantars of 100 rotls scarto and 107,234 metric tons of seed. The figure for seed excludes the amounts produced at southern ginning factories from which no exports of seed are made. Seed production from these factories amounted to roughly a further 13,100 metric tons. Of this total some 2,971 metric tons were reserved for sowing

and the remainder was used for the production of suction gas fuel, or converted into cotton seed oil, or destroyed. The surplus dumps of seed at the Nuba Mountains factories now provide a welcome addition to the food of native flocks and herds, with a resulting improvement in both their general condition and milk output. The ginning out-turn for lint again reached a high average figure: Sakel-type averaged 107·7 rotls of lint and American-type 90·9 rotls per kantar of seed cotton. The oil extracting plant at Kadugli functioned satisfactorily throughout the season and the total production of oil amounted to 195 metric tons.

*Cotton Areas and Output for the last five years.*

134. The following table gives the approximate areas in feddans of cotton grown for the last five seasons under the various methods of cultivation:—

Year.	Rainland.	Artificial Irrigation.	Floodland.	Total.
1933-34 ... ..	59,414	192,619	68,846	320,879
1934-35 ... ..	96,916	194,450	59,891	351,257
1935-36 ... ..	123,036	204,689	50,310	378,035
1936-37 ... ..	161,300	222,552	73,335	457,187
1937-38 ... ..	142,198	232,770	51,850	426,818

The total output of Sakel and American cotton, expressed in kantars of 315 rotls of seed cotton as weighed in at ginneries for the same period has been as follows:—

Year.	Sakel.	American.	Total.
1933-34 ... ..	511,296	140,457	651,753
1934-35 ... ..	918,311	178,986	1,097,297
1935-36 ... ..	810,764	158,419	969,183
1936-37 ... ..	1,123,230	169,525	1,292,755
1937-38 ... ..	1,093,593	178,063	1,271,656

*Crop Returns excluding Cotton.*

135. Returns from all available sources show a total cultivated area of 2,902,855 feddans compared with 2,637,991 feddans in 1937 and a ten year average of 2,436,999 feddans for the period of 1927-36. The following list gives the estimated areas of the principal food crops. (The figures for Darfur, Upper Nile and Equatoria Provinces are excluded as their returns are either lacking or incomplete):—

Dura	...	...	...	1,658,987
Dukhn	...	...	...	317,455
Sesame	...	...	...	283,976
Groundnuts	...	...	...	46,247
Wheat	...	...	...	20,026
Maize	...	...	...	25,198
Barley	...	...	...	4,685
Beans	...	...	...	3,440

*Gezira Irrigation Scheme.*

136. Excluding Abdel Magid, which is not, strictly speaking, part of the Gezira scheme, additions to Fawar and the start of the new Turis block in the Kassala Cotton Company's area increased the canalised area to a total of 836,341 feddans gross. For the 1937-38 season the following areas were cultivated :—

—	Cotton Feddans.	Dura Feddans.	Lubia Feddans.	Average Cotton yield. Kantars per Feddan.
Sudan Plantations Syndicate (Limited) ... ..	167,982	84,080	12,807	4.53
Kassala Cotton Company (Limited) ... ..	38,671	19,771	3,538	4.77
Totals ... ..	206,653	103,851	16,345	4.582

137. The rainfall was generally favourable for crop establishment, and the incidence of disease was light, though pink bollworm was, as usual, prevalent at the end of the season. Approximately 95,000 feddans were sown with X1530 A seed and 110,000 with sakel. The Syndicate sales office at Port Sudan continued to operate, and 68,324 bales were sold by auction or private treaty.

138. The areas under cultivation for 1938-39 are :—

—	Cotton Feddans.	Dura Feddans.	Lubia Feddans.	Total Feddans.
Sudan Plantations Syndicate (Limited) ... ..	167,066	82,869	13,464	263,399
Kassala Cotton Company (Limited) ... ..	38,255	19,861	3,045	61,161
Totals ... ..	205,321	102,730	16,509	324,560

Weather conditions during the sowing season were difficult, but the crop is now well established and promises well.

*White Nile Alternative Livelihood Scheme.*

139. The first season's cropping of the Abdel Magid area produced highly satisfactory results. The total yield of cotton was 10,418 kantars from 1,720 feddans, an average of 6.05 kantars per feddan. The quality of the lint was, however, lower than was expected, and 842 bales remained unsold at the end of the year. The dura crop was excellent, and averaged just over 6½ standard ardebs to the feddan. The lubia crop was also outstandingly good, and produced valuable supplies of fodder for the animals on the scheme. During the season the area was increased to 16,500 feddans

gross, and the number of tenancies rose from 344 to 903. Prospects for the current season are good, though unlikely to reach last season's standard.

Irrigation started in August at Fatisa, where dura only was planted. Locust damage was severe, but the estimated yield is 5 ardebs per feddan for the 3,059 feddans planted. Work is still in progress at Dubasi, and an irrigated dura crop will be grown in 1939.

*Tokar Delta.*

140. The vagaries of flood cultivation are well illustrated by the fact that Tokar, after producing a record crop in 1936-37, had its worst season for many years. A poor flood, bad weather conditions and asal infection combined to reduce the area until only about 10,000 feddans of really good cotton remained. The market opened on the 7th March and closed on the 31st May, but buyers were few and prices realised the low average of 591 millièmes per kantar. The total amount marketed was 88,565 small kantars of a value of £E. 52,340. The establishment of the crop was financed by a cultivation grant obtained by setting aside one-fifth of the Government revenue from the previous season's crop.

The 1938 flood was a good one, and prospects are considerably better. Some 60,000 feddans were sown with cotton, mostly with X1730 A, which it is hoped will prove more successful than the X1530 A sown last season. Weather conditions to date have been favourable, and the estimated yield is 250,000 small kantars.

*The Gash Delta.*

141. The 1937 flood reached Kassala on the 22nd June and flowed for 102 days. The estimated discharge at Magauda was 409 million cubic metres, and the irrigated area amounted to 44,537 feddans, of which 34,435 were sown with cotton. The varieties sown were :—

					<i>Feddans.</i>
Domains sakel	...	...	...	...	15,495
Lecrem	...	...	...	...	1,831
X1730 A	...	...	...	...	17,109

The sakel was heavily attacked by leaf-curl, and there was an estimated loss of 30 per cent. Damage was also caused by rats. The final yield was 62,534 kantars, an average of 1.96 kantars to the feddan. Well centres in the delta were satisfactorily watered, and, in conjunction with the pipe-line supply from Gamman, satisfied local demands.

The 1938 flood was late in starting and uneven in incidence. Four hundred and ninety-seven million cubic metres passed Magauda in ninety-one days. During a high peak the Mitateib canal broke, and the escaping water breached the railway line. Of a total watered area of 52,541 feddans, 36,518 were sown with cotton and 11,500 with dura. The estimated cotton yield is 62,500 kantars. Considerable damage was caused to the dura crop by birds.

*Southern Provinces and Nuba Mountains.*

142. The production of rain-grown cotton in the Upper Nile and Equatoria areas decreased, but this was more than offset by a large increase in the Nuba Mountains. As a considerable portion of the crop had been covered by the sale of futures at a time when world prices were higher, the price paid to the cultivators was left unchanged. Quality improved slightly except in Equatoria.

The estimated crop for the 1938-39 season is 122,000 large kantars.

The following table shows the output in kantars of 315 rotls for the last four seasons :—

Season.	Upper Nile (Northern area).	Kordofan (Nuba Mountains.)	Equatoria.	Total.
1934-35 ... ..	5,341	129,149	9,647	144,137
1935-36 ... ..	5,131	91,643	22,321	119,095
1936-37 ... ..	5,000	98,222	21,071	124,293
1937-38 ... ..	2,890	115,874	12,583	131,347

143. Dr. J. G. Myers, the economic botanist, who has been working in Equatoria Province, has produced two reports, one a general ecological survey and the other a more detailed examination of the Yei-Yambio area. Surveys of particular village communities have also been undertaken by staff of the department in the Nuba Mountains. An Inspector of Agriculture has been posted to the Dinka area, where an embryonic system of mixed farming is indigenous.

Advice was given in the running of school plots and prison farms in the Nuba Mountains area, and a new investigation station started near Talodi. The sixteen demonstration and the four experimental farms have been maintained, and the fruit and vegetable gardens have continued to supply local staff and inhabitants. In Equatoria the farm at Meridi has been expanded, and experimental work continued at Opari and Kagelu.

*Pumping Schemes.*

144. The areas and yields of the principal crops on the eight Government pumping schemes in Northern Province were as follows :—

Crop.	Feddans.	Yield.
American cotton ... ..	4,597	20,878 kantars.
Dura... ..	2,344	9,849 ardebs.
Wheat ... ..	3,247	10,728 ardebs.
Maize ... ..	607	2,340 ardebs.
Leguminous ... ..	3,080	Includes forage crops.
Various ... ..	81	

145. Although the cotton yield was satisfactory, the type grown on these schemes has a low ginning outturn. The search continues for a strain which will produce better lint while retaining the other good points of the present type. Apart from cotton, valuable food and forage crops were produced. The local wheat has been largely replaced by an imported rust-resistant variety, and pump scheme cultivators are also showing considerable interest in lubia, citrus and the improvement of date plantations.

Privately-owned schemes had a satisfactory year, though in the Khartum area crops were poor owing to the heavy incidence of pests.

*Cotton Sales at Port Sudan.*

146. All Government cotton was offered for sale by auction at the Port Sudan sales office, which had come into being the previous year. In spite of the low prices ruling in world markets the bulk of the cotton put up for sale was disposed of at fairly satisfactory prices. The following table shows the sales results:—

—	Total bales received.	Bales sold by auction.	Net Weight rotls.	Value.	Samples, &c., rotls.	Value.	Bales unsold.
<i>A.—Government Cotton.</i>				£E.		£E.	
Sakel—							
Balance of 1936-37 crop ...	2,889	20,221	2,535,138	220,547	13,651	440	1,452
1937-38 crop—							
Lint ...	18,784						
Scarto ...	266	266	92,990	473	...	...	...
American—							
1937-38 crop—							
Lint ...	50,219	48,502	12,985,534	222,170	11,221	217	1,717
Scarto ...	...	...	...	...	...	...	...
<b>Total, Government</b>	<b>72,158</b>	<b>68,989</b>	<b>21,613,662</b>	<b>443,190</b>	<b>24,872</b>	<b>657</b>	<b>3,169</b>
<i>B.—Private Cotton.</i>							
Sakel—							
1937-38 crop—							
Lint ...	44	40	17,322	355	20	...	4
Scarto ...	1	1	369	2	...	...	...
American—							
1937-39 crop—							
Lint ...	743	743	309,166	5,805	140	3	...
Scarto ...	...	...	...	...	...	...	...
<b>Total, private</b>	<b>788</b>	<b>784</b>	<b>326,857</b>	<b>6,162</b>	<b>160</b>	<b>3</b>	<b>4</b>

In addition to the above, 4,617 tons of Government and 252 tons of private cotton seed were sold at values of £E. 13,078 and £E. 329, respectively. Of the unsold cotton the whole of the American and 614 bales of Sakel were shipped to England for sale. There was a balance of 842 bales of Abdel Magid cotton in store at Port Sudan on the 31st December, 1938, which will be offered for sale during the

1938-39 season. Of the cotton shipped to England 1,142 bales were sold by the end of the year. The figures shown in the table above do not include small sales of scarto and lint, which were effected locally or through the headquarters office.

*Fibres.*

147. Although the Sudan produces a large number of plants from which fibres can be obtained, investigations have not yet revealed any promising source of supply for the export market. Sunn hemp has been grown at Bouga, and the inhabitants are finding the fibre greatly superior to the local substitutes for rope-making. The areas adjacent to the Rahad and Dinder rivers carry large quantities of wild hibiscus, which produce a good quality fibre, but so far it has not proved possible to exploit it commercially.

*Coffee.*

148. Coffee growing is extending with some rapidity in Equatoria, particularly in Yei district, where nursery technique is understood and practised by many of the inhabitants. With the revision of the preference formerly afforded to Sudan coffee in Egypt the trade has been thrown back on the resources of the internal market where the competition with cheap imported Brazilian and other coffees is proving severe.

*Date Culture.*

149. Progress continues to be made in the improvement of date cultivation in the Northern Province. A bulletin printed in Arabic has been distributed and demonstration groves have been established on Government pump schemes. Continual propaganda is bearing fruit in the appearance of a growing enthusiasm for the removal of worthless trees and the substitution of improved type. Auctions have been started at Kareima and Tangassi resulting in better prices to growers. The production of local dates in cellophane packets by the Abu Hamid factory is steadily increasing.

*Forestry.*

*Fuel.*

150. Government departments were supplied with 71,570 cubic metres of wood fuel from the department's reserves and wood stations. The policy of concentrating all Government and commercial demands in reserves was continued, thus ensuring that areas felled are regenerated and inroads on desert scrub reduced. Further progress was made in developing the charcoal trade with Egypt.

*Reserves and Afforestation.*

151. Survey work and settlement was completed in eleven areas on the Dinder, and demarcation for survey was begun of ten areas

between Mafaza and Shammam on the River Rahad in Kassala Province. Seven areas on the Blue Nile north of Singa have been selected for reservation to meet the needs of the local population. A resettlement of Debeiker forest in White Nile Sub-Province was completed and the area gazetted as a central reserve. There were small extensions in the Equatoria plantations, and, in Blue Nile Province, areas estimated at 600 and 700 feddans, respectively, of *Acacia arabica* were sown in the Singa and Sennar circles. An annual block of 88 feddans was added in *Eucalyptus* sp. and Neem to the Fawar pole plantation, which is under seasonal irrigation from the Gezira canal system.

#### *Utilisation.*

152. Conversion of Launi forest in Singa circle was completed during the year and the mill closed. Part of the plant was re-erected as a one-rack-bench mill at Zamurkha, in the same circle, and part sent to Wau for a second sleeper mill on the Busseries River. Seven mills are now working in Blue Nile, Kassala and Equatoria Provinces. Sixty-eight thousand, nine hundred and twenty-two sleepers were produced for Sudan Railways besides 70,826 cubic feet in other sizes for general purposes. Of this 46,098 cubic feet was *Acacia arabica* from the five northern mills, 22,917 cubic feet mahogany from Nyin Akok, and the remainder *Daniellia* and *Isobertia*. A stage of training has been reached in the northern mills which obviates the necessity of permanently resident British supervisors at the mills themselves. The five mills are under the management of locally-trained mill foremen and are subject to frequent supervision by the assistant conservators.

#### *Nurseries and Plant Issues.*

153. One hundred and forty-nine thousand young Neem trees, which were removed as thinnings by departmental labour from the Fawar village plots, were issued as stumped plants to applicants, official and private, in many parts of the Central and Northern Sudan for shade in villages and house compounds. Arrangements have been made to continue the issue in 1939. From the Khartoum nursery 45,500 *Eucalyptus* sp., 30,635 Mesquite (*Prosopis juliflora*), and 2,000 *Zizyphus* sp. were pot-raised and issued, mainly to the irrigated pole plantations at Fawar, and to the mesquite rainland experimental plots at Rufaa, Fawar and Khartoum. Five thousand eight hundred *Dalbergia* Sissoo stumps were sent to Singa circle, and 3,500 *Tamarix articulata* cuttings to Fatisa scheme. At Kagelu, Yei district, an active nursery programme was continued. Numerous introductions were added to the collection of over 200 different economic plants already growing there and there was a large distribution of trees of dietetic value.



*Education in Forest work.*

154. The five rangers under training have entered on the second year of their course which includes practical training in the reserves, plantations, and nurseries. For the use of the public a handbook to Khartum arboretum has been prepared, together with notes for teachers and others conducting excursions to the Khartum sun forest, arboretum, and forest nursery.

*School of Agriculture.*

155. The School of Agriculture, which forms part of the Government programme for the extension of post-secondary education, was started in September with a first year of six students. The course lasts for three years and is of diploma standard. The school is temporarily housed in buildings already existing at Shambat, but a programme has been drawn up for the necessary extensions which will be begun in 1939.

*Agricultural Research Service.*

156. As last year the period actually covered in this report is from May 1937 to April 1938.

157. As would be expected, in view of the financial interests involved, the major portion of the agricultural research work is still devoted to Gezira problems. Nevertheless the expansion of experimental work to district farms was continued and a full programme on four farms was attempted. The extra work and responsibility was undertaken by the local agricultural staff, without, as yet, any diminution in their other duties. It is expected that in the future they will be able to devote still more time to the collection of experimental data as a basis for continued progress.

158. In the Gezira as a whole, the meteorological conditions were satisfactory for the cotton crop; the rainfall was slightly above normal, and there was an exceptionally cool spell in November 1937. On the Research Farm, July was a very wet month but a fairly dry August enabled the experimental cotton to be sown to schedule. The farm yields were good, the sakel yield of 4.83 kantars per feddan being a record. The Gezira average yield was also a record for the period since the dam was opened. Sakel averaged 4.09 kantars per feddan and X1530 A gave 5.03 kantars per feddan in the Sudan Plantations Syndicate areas. The corresponding figures for the Kassala Cotton Company were 4.62 and 4.95 kantars per feddan.

159. Blackarm, both in the Gezira and on the Research Farm was, fortunately, never more than of minor importance, though at one time in early October it looked dangerous in certain places. The large-scale observations on the methods by which blackarm was carried from place to place were discontinued. Confirmation was obtained of the result that infected leaf debris when exposed during

the rains became non-infective. The work on the protection of blackarm resistant cotton progresses steadily and is hopeful. Leaf-curl was slight on the farm, but records taken towards the end of the season, on areas where sakel was being grown, show the necessity for continued care in applying control measures. "Wilt" also was scarce, but studies were continued in this connexion on the rotting of cotton roots and the fungi isolated therefrom. Pink bollworm damage was a little more prominent than usual, though the counts made showed that the actual pink bollworm population per feddan was rather less than normal. Jassids were abundant in the northern blocks of the scheme, but did not appear to affect yields to an appreciable extent.

160. Several experiments on the manuring of cotton were carried out, continuing previous work and giving similar results. In other experiments extra cultivations gave increased yields of cotton in varying degrees, but a very marked increase was obtained where the top layer of soil had been "fired," before the crop was sown. A "measured water duty" trial was of interest, in which the application of decreased volumes of irrigation water to cotton after the 1st January did not produce a decrease in yield. If confirmed in future years these results may be of considerable practical importance. Of new types of Egyptian cotton suitable for the Gezira, X1730 A filled nearly half the Gash Delta and will be available for the Gezira in the coming season. A new high quality cotton, also selected from sakel, has reached the stage where large scale propagation can be undertaken. It is an advance on ordinary sakel in yield, leaf-curl resistance and quality. Trials of a large variety of leguminous, food and fibre crops were made.

161. Serial soil records on rotation experiments are being accumulated and the interesting fact that a dura (*Sorghum* sp.) crop, contrary to popular opinion, is no more exhausting than a cotton crop, has already emerged. These experiments also provide no evidence of a progressive soil deterioration even when cotton is grown in rotation with two successive dura crops. The effect and value of the cracking which is so striking a characteristic of Gezira soils is being worked on objectively. Drainage studies are being continued, but a practicable method of draining the Gezira soil is not in sight.

162. Studies of the life history of "seid grass" (*Cyperus rotundus*) which is a troublesome weed in the Gezira have enabled practical suggestions for its control to be made. These were tried with satisfactory results in a badly "grassed" area. Weeds in canals constitute another potential danger to the scheme and preliminary work in mapping the incidence of the different kinds of weeds present and determining their main growth periods has been completed.

163. Outside the Gezira, experimental work has proceeded mainly on the lines of obtaining data on agricultural methods. Sowing dates, spacings, cultivation and soil moisture conservation methods for different crops have been investigated. Some difficulty was encountered in establishing the cotton crop at Kadugli because of a short June–July rainfall. An experiment at Opari showed that varietal differences were maintained irrespective of the standard of cultivation. The ecological and soil surveys of Equatoria Province, though still unfinished, have already indicated a wide field of possibilities for detailed examination. The important problem of soil erosion in this area, though not yet the menace it is in other parts of Africa, cannot be neglected.

164. The Chemical Analytical Section continues to serve departments of Government, provinces and private firms in its specialised capacity, and has been very fully employed.

165. The Entomological Section's staff devoted much of their time to pest control measures. Campaigns were conducted against locusts and stainer bugs. Plant quarantine work has greatly increased and assistance was given in coping with a plague of rats in the Gash delta. A suspected virus disease of cotton in the Dongola District was investigated with a view to discovering the vector of the disease.

#### CHAPTER VIII.—VETERINARY.

##### *Diseases.*

166. Cattle plague of a benign type was widespread. Veterinary staffs were, however, able to deal with outbreaks as they occurred, and in no case did the disease develop into an epizootic. The serum produced at the Malakal Laboratory became contaminated with bacteria of particularly virulent type which had never before been encountered in similar circumstances. In consequence, nearly all the season's output of 100,000 doses had to be destroyed. Fortunately, a large carry-over of serum from 1937 and an increased output of vaccine allowed of all urgent demands for prophylactics being met. Eighty-three thousand six hundred and sixty-two cattle were serumised and 117,331 doses of vaccine were issued.

167. Contagious bovine pleuro-pneumonia occurred in all provinces except Khartum and Kassala; in these two provinces the disease was detected in export quarantine parks, but did not spread to local herds. In seventy-two outbreaks, involving 21,785 cattle, 15,728 were vaccinated and an additional 19,256 trade cattle were treated prophylactically.

168. Mild outbreaks of foot-and-mouth disease occurred in Blue Nile and Kordofan Provinces. All trade cattle destined for Egypt were artificially infected with virulent lymph some months before the opening of the export season. As a result of this policy, the export trade was for the first time for some years undisturbed by outbreaks.

169. Trypanosomiasis in camels (*T. evansi*) was widespread. Infection was heavy in Northern Kordofan, where, following an exceptional rainfall, biting flies capable of transmitting trypanosomes were found in grazing areas usually free of them. Losses in Government-owned camels were reduced to a minimum by routine testing and the treatment of reactors with naganol. Of the 14,748 camels treated with naganol, 13,440 were privately owned.

170. The incidence of horse-sickness was light in the horse-breeding areas of Darfur and Kordofan. In Blue Nile, where prior to the introduction of vaccine losses were heavy, 319 horses were treated and only four deaths occurred.

171. Rabies remains widespread. Positive cases occurred in dogs, donkeys, sheep and a jackal. The campaign for the destruction of stray dogs and poisoning of wild carnivora was intensified.

*Trade in Cattle, Sheep and Camels.*

172. Exports of cattle via Wadi Halfa and Port Sudan declined from 8,985, valued at £E. 44,399, to 7,256, valued at £E. 33,550, and that of sheep from 5,417 at £E. 5,359 to 1,840 at £E. 1,346. Less prosperous trade conditions in Egypt caused a marked falling off in demands from the Cairo and Alexandria markets. Sales of cattle on the hoof to other neighbouring territories were estimated to exceed 12,000 head. Following good rains, all exported cattle and sheep were in prime condition.

173. A decline in the number of exported camels from 27,000 to 19,195 is attributed to a stoppage of the trade for over four months following an outbreak of foot-and-mouth disease in Upper Egypt at the end of April. While the Egyptian markets were open sales were steady at prices ranging from £E. 3 to £E. 13.

*Hides and Skins.*

174. The unsettled state of the world's markets caused a falling off in demands and prices in both products. Hide exports fell from 1,328 tons, valued at £E. 116,667, to 1,321 tons, valued at £E. 59,546, and those of sheep skins from 1,048 tons at £E. 109,994 to 790 tons at £E. 38,281. A marked increase was observed in the number of air-dried hides prepared by approved methods which came on the export market.

*Research.*

175. Preoccupation with routine duties continued to restrict the research activities of the laboratories. Following the loss of most of the year's output of cattle plague serum, studies had to be carried out on serum preservatives. Although existing stocks could not be saved, a new preserving technique was evolved that should prevent similar losses in future. Infection experiments with foot-and-mouth disease virus led to the adoption of an infection technique that has since kept

the export quarantine parks free from this disease. A second aberrant type of camel trypanosome (*T. evansi*) was detected and studied.

*Education.*

176. A full professional course of veterinary education for Sudanese was instituted with the opening of a small veterinary school. Three students who had completed one year's study in preliminary science at the Kitchener School of Medicine were enrolled for a further three years' instruction. All passed their examination at the end of their first year.

CHAPTER IX.—IRRIGATION.

177. The Blue Nile flood maintained high levels for an unusually prolonged period; the maximum level of 21·54 metres at Roseires was reached on the 27th August. The raising of the reservoir level commenced on due date and water flowed in the main canal on the 19th July. Driftwood and débris required the usual constant attention.

178. The Gezira irrigated area was increased by some 10,000 feddans in the alternative livelihood scheme at Abdel Magid, and the total for the 1938-39 season stands at:—

Cotton...	...	...	...	210,789
Dura ...	...	...	...	107,746
Lubia ...	...	...	...	18,921
Fallow	...	...	...	515,177
				<hr/>
Total	...	...	...	852,633

179. The rainfall was abnormally heavy in the north end of the scheme, causing difficulty to cultivators. Locusts did a considerable amount of damage in places over the area, and dura watering was prolonged after the 31st October to restore in as far as possible some of the damage done. A further consequence of the locust attack was a shortage of forage in areas round the south-west of the scheme, and lubia watering of a more considerable area than usual, some 8,500 feddans, is being carried on into January to provide forage for the agricultural cattle.

180. The installation of two pump schemes was undertaken on the east bank of the White Nile at very short notice, to provide alternative livelihood for inhabitants disturbed by the reservoir conditions in that river. The greatest difficulty was the obtaining of plant and piping from England. The efforts of the manufacturers' representatives, together with those of the five other departments concerned, enabled the growing of a double area of grain on one of the sites.

181. High flood discharges in the Gash river produced a major and unavoidable breakaway in the vicinity of Neteiteib canal head,

which finally reached the railway and did considerable damage to the line. The cultivable area ultimately suffered no serious diminution, and steps are being taken to minimise the results of similar breaks in future.

#### CHAPTER X.—PUBLIC WORKS.

182. Demands on the department continued to increase and the total budgetary expenditure amounted to £E. 464,087 against an estimate of £E. 550,430. Expenditure on works and services outside the budgetary provision amounted to £E. 106,857, bringing the total expenditure to £E. 570,944, an increase of £E. 58,618 over the corresponding figure for 1937.

##### *Buildings and Miscellaneous Works.*

183. Expenditure on the maintenance of buildings was £E. 49,854 and on new buildings £E. 160,393. New headquarter offices for the Departments of Customs and Economics and Trade were completed. These new offices, with the new headquarter offices for the Department of Agriculture and Forests completed in 1937, form a single block of offices built around the four sides of a quadrangle. A new prison for Khartum Province is in course of construction, and when built will be a model of its kind for future prisons. It has been designed on the most hygienic lines compatible with its function. Twelve two-storied houses for senior officials were started, of which nine were completed before the end of the year. A post office was built at Khartum North to a new design. One two-storied house for a senior official was completed in Omdurman and three more are under construction. The new customs offices and examination sheds at Wadi Halfa were completed. The third and last cook-house in the British barracks in Khartum was equipped with the latest type of steam cooker. Other work in the British barracks undertaken during the year, included garages and workshops necessitated by the mechanisation of the British battalions. In Said Pasha barracks, occupied by the Royal Air Force, only minor works were undertaken. A new workshop was provided for the Mechanical Transport Section of the Sudan Defence Force. At Nyala in Darfur Province a three-year building programme was completed. In the Equatoria Province the principal buildings put up were three houses for Northern Sudanese staff at Juba, a new prison and extensions to the hospital at Meridi, extensions to the Sudan Defence Force offices and stores at Torit and extensions to the hospital at Wau. The Egyptian army barracks at Port Sudan were rehabilitated and occupied by Egyptian troops. Other new buildings in Port Sudan include three two-storied houses for senior officials, improvements and extensions to the hospital, isolation wards at the prison, a new wireless station and native officials' quarters. The quarantine at Suakin was enlarged to accommodate an increasing number of pilgrims. At Gebeit, a new petrol store and garages were

built for the British army camp. Work in El Obeid in Kordofan Province included new wholesale and retail grain markets, the improvement of the gum market, a house for a senior official and an enlargement of the civil court to accommodate the Sharia Court. Other buildings in Kordofan Province were extensions to the hospital at Bara, the enlargement of Kadugli prison and a new prison at Muglad. Four houses for senior Sudanese officials were built at Wad Medani and an upper storey added to the Wad Medani Club to house four bachelors. A new market was built in the town. At Nasir, in the Upper Nile Province, a rest-house was built for the Royal Air Force large enough to accommodate five officers and twelve men. A new type of house was designed for Sudanese officials in Malakal, which is completely mosquito-proof and contains many new amenities without increasing the cost of construction. It consists of a house frame, built of Sudan mahogany, which can be filled in with mud or brick walls according to locality. The anti-amaryl rest-house on Malakal aerodrome was completed and brought into use. Three swimming-baths were designed and built, one for the Khartum Club, another for the Juba Hotel and the third for the Khartum North British Barracks. The first two are of the fill and empty type, but the third will be provided with a continuous filtration plant, the first of its kind in the country. The first season's work on the removal of sand accumulations in and around Tokar was brought to a successful conclusion in May. Eight hundred and ninety-five thousand cubic yards of sand were removed and deposited at a distance from the town.

#### *Aerodromes and Landing Grounds.*

184. There was a considerable increase of work in connexion with aerodromes and landing grounds. New landing grounds were provided at Wadi Halfa and El Obeid, though the latter has not yet been brought into use, and the existing landing grounds at Port Sudan, Suakin and Fasher were enlarged. At Juba the all-weather runway, 1,100 yards by 55 yards, was completed. Buildings required for the air mail service were erected at the site of the new marine alighting area 6 miles up-stream of Juba. An all-weather runway, 800 yards by 50 yards, was completed at Geneina on the West African air mail route. At Malakal two all-weather runways, 800 yards by 50 yards, have now been completed, and a third is in hand and will be completed in 1939.

#### *Water Supplies.*

185. The revenue earned from the Port Sudan water supply amounted to £E. 23,178, an increase of £E. 2,346 over the corresponding figure for 1937. There was a reduction in the number of ships taking water from 602 in 1937 to 547 in 1938. The second instalment of the renewal of the 6-inch diameter pipe-line from the headworks at Khor Arbaat was completed, 9-inch diameter asbestos

cement pipes being used. The total length of pipe renewed to date is 14 miles, and there remains 4 miles still to be done. The revenue earned at Tokar amounted to £E. 1,731, a decrease of £E. 149 on the corresponding figure for 1937. At Juba the revenue increased from £E. 898 in 1937 to £E. 922. The treatment works at Juba will be duplicated in 1939 to meet the increased demand. El Obeid had a successful year financially, the revenue earned amounting to £E. 3,212 compared with £E. 2,426 in 1937, but the increased demand owing to partial failure of the rains threw a heavy burden on the plant and restrictions had to be imposed. A programme for increasing the supply has been drawn up for 1939. The gross revenue earned at the fourteen water supply installations in Kordofan and Darfur Provinces and at Tendelti in the White Nile Sub-Province was £E. 7,953. The water yards have been very busy throughout the year. At Tendelti the flow of the Khor-el-Nil, which started in August and continued well into October, will refresh the shallow wells and replenish the deeper water-bearing strata so that the water supply during the next twelve months should cause no anxiety. Surveying for water in Kordofan was continued, and two drilling rigs were in operation. Six boreholes were drilled in the Eastern and thirteen in the Western Jebels, and water was found in three and six of them respectively. Two successful boreholes were drilled at Khwoi in Dar Hamar, Western Kordofan, and next year a water yard will be established. The sinking of ten wells in the Nuba Mountains was completed, and the work on twelve more was in hand at the end of the year. Two boreholes were drilled at Gebeit in the Red Sea hills for the use of the Egyptian army camp. During the past ten years there has been difficulty in maintaining the supply of water in the wells at Fasher in Darfur Province, which are the only source of supply after the town lake has dried up. The wells have been deepened, and the supply will be augmented in the coming year.

*Communications.*

186. The three roads connecting Juba in the Equatoria Province with Torit (69 miles), Nimule (126 miles) and Aba (126 miles) were maintained in a satisfactory condition. The reconstruction of the road to Torit was completed early in the year. A connecting road  $3\frac{1}{2}$  miles in length from the Nimule road to the bridge over the Anyama River on the Sudan-Uganda border is under construction and will be completed early next year. Rejaf, about 6 miles up-stream of Juba, has become a stopping-place for Imperial Airways flying-boats, and a road connecting Rejaf with the Nimule road was completed. A new road from Mundri to Wau, a distance of 260 miles, is under construction, and when completed next year will provide an all-weather road connexion between Juba and Wau, a distance of 456 miles. The trace of a new road between Chukudun and Nagichot, involving an ascent of 4,000 feet in 16 miles, was surveyed. In Port Sudan the town roads continued to be maintained under the supervision of the department. Various road and bridge projects in



Kordofan Province were investigated, and plans were laid for improving the main roads in the Nuba Mountains. In the Upper Nile Province 173 miles of road were fully graded, 38 miles partially graded and 983 miles of graded roads were maintained.

*Mechanical and Electrical Engineering.*

187. In addition to a large amount of work passing through the Khartum workshops, the installation of a water supply at Wadi Halfa, of extensions to the water supply at Juba, a combined water and electricity supply at Malakal and an electricity supply at Juba have kept this section fully employed. A scheme has also been prepared for a combined water and electricity supply for the new town of Kosti.

*Architectural Branch.*

188. The chief architect prepared plans for the buildings at Kosti, comprising offices for the District Commissioner and his staff, hospital, prison, veterinary lines, native court-house, girls' school and officials' houses. During the second half of the year he was engaged on the design of the new secondary school at Wadi Seidna and on the design of a new hospital of 400 beds, and a new headquarters for the Sudan Medical Service to replace their present inadequate quarters in the River Hospital buildings. The design of buildings has not undergone any great change, and economy in design and protection from the sun continue to be guiding principles.

*Civil Mechanical Transport.*

189. At the end of the year there were 590 vehicles in service, compared with 547 in 1937. The total distance covered amounted to approximately 4,450,000 miles. The central garage in Khartum and the garages at Wad Medani and Malakal were maintained and administered by the department.

*Geological Survey.*

190. Activities were mainly concerned with the development of water supplies in Kassala, the Blue Nile, Kordofan and Darfur Provinces. The construction and repair of a number of wells and storage tanks was supervised. Advice was given in the selection of a site for the new elementary school at Wadi Seidna.

*Stores.*

191. The total expenditure brought to account amounted to £E. 275,043, inclusive of charges of £E. 28,663 on account of Sudan Railway freight and customs duty. The corresponding figures for 1937 were £E. 287,042 and £E. 42,930. The value of purchases from local firms amounted to £E. 164,256, an increase of £E. 5,677 over last year. This section continued to supply engineering stores to the Sudan Irrigation Department, Stores Department and the provinces and to operate the petrol and oil contracts on behalf of Government.

## CHAPTER XI.—COMMUNICATIONS.

*Railways and Steamers.*

192. The gross revenue earned by the department during 1938 amounted to £E. 2,750,022 and the net revenue to £E. 1,155,434, compared with a net revenue of £E. 1,356,451 earned in 1937. The gross revenue decreased by £E. 92,372, compared with the previous year, due mainly to a fall in imports traffic.

193. Full provision for depreciation amounting to £E. 340,031 was debited to working expenses. After making appropriations amounting to £E. 657,934 for interest, sinking fund charges, pensions, capital and renewal adjustments, the balance accruing to Government was £E. 497,500.

194. The following table gives a summary of the main figures during the last five years :—

Year.	Revenue.	Expenditure (?).	Ratio of Expenditure to Earnings.	Gross Profit.	Appropriation from gross profit.	Balance accruing to Central Government.
	£E.	£E.	Per cent.	£E.	£E.	£E.
1934 ...	2,161,811	1,265,819	58·6	1,106,023 <sup>(9)</sup>	500,317 <sup>(9)</sup>	605,706
1935 ...	2,511,827	1,316,633	52·4	1,195,194	653,694 <sup>(9)</sup>	541,500
1936 ...	2,621,834	1,371,681	52·3	1,250,153	752,153	498,000
1937 ...	2,842,394	1,485,943	52·3	1,356,451	906,451	450,000
1938 ...	2,750,022	1,594,588	58·0	1,155,434	657,934	497,500

(?) Includes the full charge for depreciation.

(9) Includes the following amount charged to Expenditure on account of depreciation, but written back to the credit of the Appropriation Account—

1934 ... .. £E. 210,031

(9) Includes the following amounts transferred to the Railways Renewals Account—

1934 ... .. £E. 100,906  
1935 ... .. £E. 45,683

195. The total recorded capital expenditure to the 31st December, 1938, was £E. 11,538,565. Of this total, £E. 9,198,058 was on account of the railways and £E. 2,340,507 on account of the steamers and other ancillary services.

196. The route mileage of the railway at the end of the year was 1,991 (3,206 kilom.) and the mileage of the river services operated was 2,325 (3,744 kilom.).

*Railways.*

197. The following table shows the numbers of passengers carried, together with the relevant revenue, during 1938 and 1937 :—

	1938.		1937.	
	Number.	£E.	Number.	£E.
Sleeping car ... ..	7,645	5,869	6,546	4,222
First-class ... ..	17,982	35,709	16,490	39,677
Second class ... ..	37,250	22,979	29,527	28,860
Third class ... ..	116,916	49,832	102,267	43,914
Fourth class ... ..	995,758	118,628	1,062,133	127,230
Totals ... ..	1,167,906 <sup>(10)</sup>	233,017	1,210,417 <sup>(10)</sup>	243,903

<sup>(10)</sup> Not including sleeping car.

198. Revenue earning goods carried during the year amounted to 680,751 tons as compared with 717,112 tons in 1937. Of this, stone traffic accounted for 5,822 tons in 1938, as against 19,896 tons in the previous year. Goods receipts decreased by £E. 7,962 from £E. 1,843,350 in 1937 to £E. 1,835,388 in 1938, the average earnings per ton mile was 1·405*d.* against 1·412*d.* in the previous year. Live-stock receipts decreased from £E. 24,660 in 1937 to £E. 22,331 in 1938, and the number of head decreased from 103,145 to 90,243.

199. The following table shows the tonnages of the principal commodities carried during the last five years :—

Exports.	1934.	1935.	1936.	1937.	1938.
	Tons.	Tons.	Tons.	Tons.	Tons.
Public ... ..	275,288	261,301	282,394	304,306	302,881
Government ... ..	7,336	10,369	17,404	20,230	22,480
Total ... ..	282,624	271,670	299,798	324,536	325,361
Cotton, ginned ... ..	25,512	46,535	42,723	58,050	56,011
Cotton, unginced ... ..	10,708	12,435	12,003	10,193	15,746
Cotton-seed ... ..	50,126	83,986	74,876	100,550	97,024
Dates ... ..	1,710	1,432	1,051	1,702	816
Dom-nuts ... ..	8,720	9,096	8,105	7,177	3,731
Dura, dukhn and maize ... ..	116,746	55,076	77,781	68,266	67,238
Garad ... ..	839	1,088	1,600	2,857	488
Ground-nuts ... ..	6,657	4,658	6,144	5,474	5,935
Gum hashab ... ..	19,429	20,959	21,838	17,538	22,321
Gum talh ... ..	1,816	1,764	1,087	2,615	1,719
Hides and skins ... ..	2,377	2,062	2,451	3,063	2,150
Melon seed ... ..	3,786	5,533	7,860	5,671	7,077
Senna mecca ... ..	316	435	503	491	503
Sesame ... ..	14,557	10,604	18,779	18,494	20,625
Miscellaneous ... ..	19,325	16,007	22,997	22,395	23,972

N.B.—The above figures represent tonnage of commodities consigned to the different ports, and they therefore include commodities consigned for local consumption at the ports.

Imports.	1934.	1935.	1936.	1937.	1938.
	Tons.	Tons.	Tons.	Tons.	Tons.
Public ... ..	155,495	206,981	197,034	190,113	169,770
Government ... ..	8,446	15,112	17,438	15,107	14,807
<b>Total ... ..</b>	<b>163,941</b>	<b>222,093</b>	<b>214,472</b>	<b>205,220</b>	<b>184,577</b>
Cement ... ..	26,886	49,218	42,667	16,570	13,361
Coal, coke and patent fuel ... ..	14,316	17,128	12,282	5,286	2,147
Coffee ... ..	805	2,324	2,176	1,572	4,794
Dura and dukhn ... ..	330	197	33	70	210
Empty sacks and gunnies ... ..	4,653	5,542	5,657	5,474	5,578
Flour ... ..	12,707	17,969	12,456	14,845	13,837
Fuel oil, lubricating oil ... ..	9,737	11,727	14,869	16,657	12,799
Iron and ironwork ... ..	1,345	1,710	7,542	9,986	6,309
Liquors and beer ... ..	1,324	1,614	1,732	1,956	1,919
Machines and machinery ... ..	1,105	1,047	1,543	1,228	1,332
Petroleum, benzene and kerosene, &c ... ..	12,922	17,550	20,616	22,762	23,287
Piece-goods ... ..	7,473	8,584	9,218	10,063	9,593
Provisions ... ..	1,381	1,123	3,762	4,523	3,082
Rice ... ..	1,060	2,080	1,665	2,279	1,804
Salt ... ..	10,677	12,320	15,217	16,286	13,049
Soap ... ..	2,250	2,307	2,043	1,565	1,685
Sugar ... ..	17,168	26,175	26,627	35,610	33,153
Tea ... ..	2,358	2,758	3,355	4,185	3,311
Timber ... ..	4,336	5,994	6,897	6,835	5,965
Various ... ..	31,108	34,226	24,115	27,468	27,362

Local Traffic.	1934.	1935.	1936.	1937.	1938.
	Tons.	Tons.	Tons.	Tons.	Tons.
Public ... ..	326,835	359,527	317,928	152,834	146,983
Government ... ..	21,488	31,569	43,413	34,522	23,830
<b>Total ... ..</b>	<b>348,323</b>	<b>391,096</b>	<b>361,341</b>	<b>187,356</b>	<b>170,813</b>
Bricks ... ..	2,135	1,208	2,159	1,759	730
Coffee ... ..	1,279	1,215	1,131	1,146	640
Cotton, ginned ... ..	96	104	94	118	190
Cotton, unginced ... ..	35,890	61,522	54,936	65,662	65,217
Cotton-seed ... ..	3,281	2,460	1,850	2,009	1,642
Cotton stuff ... ..	612	694	820	870	884
Dates ... ..	7,788	8,754	11,649	11,164	10,213
Dura, dukhn and maize ... ..	21,661	28,402	46,466	30,752	34,241
Gum ... ..	372	2,220	2,326	2,550	2,247
Onions ... ..	1,422	1,841	2,375	2,818	2,759
Gunnies and empty sacks ... ..	1,616	1,519	1,370	1,351	1,129
Sand, stone and rubble ... ..	240,753	240,437	189,195	19,385	4,797
Sesame ... ..	2,701	3,983	1,703	2,084	1,535
Miscellaneous ... ..	28,717	36,737	45,267	45,688	44,589

*Steamers.*

200. The working results of the three branches of steamer services during 1938, compared with 1937, are shown below :—

—	Revenue.		Working Expenses.		Net Receipts.		Ratio of Expenditure to Earnings.	
	1938.	1937.	1938.	1937.	1938.	1937.	1938.	1937.
	£E.	£E.	£E.	£E.	£E.	£E.	Per cent.	Per cent.
Southern Reaches	148,792	191,721	164,816	161,602	16,024	30,119	110·8	84·3
Halfa-Shellal Reach	47,302	42,156	47,454	41,629	(loss) 152	527	100·3	98·7
Dongola Reach	16,460	18,135	17,850	17,290	(loss) 1,390	845	108·4	95·3
	212,554	252,012	230,120	220,521	17,566 (loss)	31,491	108·2	87·5

The number of passengers carried in all classes on the southern reaches was 28,153, compared with 28,111 in 1937, the relevant receipts being £E. 20,011 and £E. 21,031. Goods transported showed a decrease from 73,678 tons in 1937 to 48,973 tons in 1938. The goods revenue decreased from £E. 130,770 in 1937 to £E. 82,564 in 1938.

*Port Sudan.*

201. One thousand one hundred and fifty-three ships called at Port Sudan during the year compared with 1,174 in 1937.

202. The comparative working results of the port are as follows :—

	1937.	1938.
	£E.	£E.
Revenue ... ..	241,245	222,710
Expenditure ... ..	132,937	143,053
Profit ... ..	108,308	79,657
Ratio of expenditure to earnings ... ..	55·1%	64·2%

The total tonnage dealt with was 746,591 tons, compared with 855,295 tons in 1937. Inwards traffic totalled 400,265 tons, a decrease of 46,799 tons on 1937. The total tonnage of outwards traffic was 346,326 against 408,231 in 1937. The outwards tonnage was the second highest on record. Transshipment traffic totalled 10,163 tons in 1938, compared with 10,624 tons in 1937. Animals exported amounted to 2,877 in 1938, as against 3,740 in 1937.

Passengers embarked and disembarked were 9,250, including 4,299 British troops; the figures for 1937 were 8,266 and 3,576.

203. The labour situation has been generally satisfactory throughout the year.

204. There were the usual minor mishaps to shipping during the year in the harbour, the most serious being the case of the steamship *Baron Ramsay*, which dragged her anchors on the 28th May during a strong gale. Despite all efforts and the assistance of tugs, she bore down on the south quays, where she was brought square to berth. Slight damage was caused to Pontoon No. 40 and the ship's gangway was crushed between her side and fender. A violent gale arose on the 14th August, which caused the motor vessel *Cheshire* to drag her anchors and come to rest alongside the reef in front of the swimming pool. The ship sailed the same day; the only damage apparent from the incident was a slight roughening of one blade of the starboard propeller. On the 3rd April the steamship *Carnaro* ran aground near Marsamarhu, which is well beyond the limits of the outer harbour. Assistance was requested by wireless and two tugs were despatched; before they reached the scene, however, a further message was received from the steamship *Somalia* stating the vessel had sunk.

205. Meetings of the Harbour Advisory Board were held on the 17th January and the 15th December.

206. Visits to the submarine coral garden by the specially designed glass-bottomed motor launch *Murgan* again increased. The receipts were £E. 892 compared with £E. 845 in 1937.

207. Revenue from the hire of craft for fishing increased from £E. 51 to £E. 107.

208. Receipts from the swimming pool were £E. 1,056, compared with £E. 901 in 1937.

209. Maintenance and inspection of coastal lights, buoys and beacons were carried out in March, April, October, November and December. Wingate Reef flasher, which has been running over twelve years, gave trouble and is being overhauled. Abingdon and Salak beacons were out of use for a short period owing to damage sustained by heavy seas.

#### *Catering Services.*

210. The gross revenue of the catering services amounted to £E. 67,473 in 1938, compared with £E. 67,348 in 1937. Expenditure rose from £E. 63,104 to £E. 64,789, and net revenue decreased from £E. 4,244 to £E. 2,684.

#### *Tokar-Trinkitat Light Railway.*

211. Due to the poor cotton crop, the receipts from the Tokar-Trinkitat Light Railway decreased from £E. 17,621 in 1937 to £E. 4,337 in 1938.

*Mechanical Transport.*

212. All departmental demands were satisfactorily met.

*Agency Bookings.*

213. Agency bookings, which included tourist traffic, amounted to £E. 30,756 in 1938.

*Goods and Cattle Traffic.*

214. The cotton crop was again generally satisfactory. The export of sesame reached the record figure of 20,625 tons, compared with 18,494 tons in 1937. There was a satisfactory increase in the export of gum, the total being 24,040 tons, an increase of 19 per cent. over the 1937 figures. Questions concerning rates continued to receive close study throughout the year and a number of alterations were made. Further progress has been made towards the preparation of revised regulations governing the carriage of traffic by rail and river.

*Passenger Traffic.*

215. Passenger journeys decreased by 40,339. The decrease was in the fourth class, all other classes showing an increase.

*Permanent Way.*

216. The following resleepering of track was carried out: 83·292 kilom. in wood and 3·623 in good second-hand steel. The strengthening of bridges on the Port Sudan line which started in 1937 was completed. The Kassala line was closed for sixteen days during July owing to the Gash outbreak from its course south of Mitateih canal head. Serious washouts occurred on the El Obeid line early in August due to exceptionally heavy rains in the Nuba Mountains, which caused Khor Abu Habl to flow with unprecedented volume. The sections concerned were not reopened for traffic until early September. Heavy rains on the Suakin line on the 19th November caused this section to be closed to traffic for eight days.

*Kosti Transshipment Station.*

217. The construction of the quay wall and part of the levee bank was completed in June. The river is being dredged to enable ships to accost the quay at all times of the year. Work has started on the protection of the railway line between Hillet Abbas and Kosti.

*Locomotive Running.*

218. During the year all demands for locomotives were met. Engine working remained substantially the same as previously and there were no incidents of special note. Six new Garratt locomotives were put into service during the first half of 1938. No difficulty was experienced in obtaining deliveries of coal.

*Accidents.*

219. There were no serious accidents during the year.

*Competition by other Forms of Transport.*

220. There is little appreciable change in the position from last year either with regard to passengers or goods.

*Staff.*

221. Additional facilities for recreation and other amenities for the native staff were introduced during the year.

*Aviation.**Empire Air Mail Scheme.*

222. Renewed efforts were made during the year to establish a stopping-place at Juba in Equatoria Province, and, after exhaustive surveys, a suitable reach of the Nile was found at Rejaf, which is some 6 miles south of Juba. This was classified as a principal intermediate stopping-place and brought into regular use on the 15th October, to the great benefit of the Southern Sudan as a whole.

*General.*

223. The civil aviation control organisation was extended during the year and arrangements were made, to take effect early in 1939, for the civil authorities to take over the administration and maintenance of the main route aerodromes. Two Sudanese aerodrome officers were appointed and trained under the auspices of the Royal Air Force.

224. Construction work on the runways at Malakal, Juba and Geneina continued. At Wadi Halfa the aerodrome had become too small for modern types of aircraft and a new one was constructed some 6 miles south of the town, measuring 1,200 yards square. A new site for the aerodrome at El Obeid was selected and the ground prepared and tests carried out. Arrangements were also made for the installation of emergency fire-fighting and medical equipment at main route aerodromes.

225. Imperial Airways operated their London to East and South Africa Empire Service three times a week in each direction, and their Khartum to Lagos service once a week in each direction.

226. Ala Littoria increased their services from three a week to four in both directions between Benghazi and Asmara.

227. There were two major accidents involving civil aircraft, though in neither case did the personnel suffer any injury. Approximately three-quarters of a million miles were flown by civil aircraft over the Sudan, a considerable increase on previous years.



*Posts and Telegraphs.**General.*

228. The classified staff of the department at the end of the year consisted of 26 British, 166 Egyptian and 425 Sudanese, the unclassified Sudanese staff numbering 737. Four fourth year Gordon College boys from the science section obtained posts in the department, two on the engineering side and two as technical assistants in the meteorological section. Seventeen Sudanese boys recruited from provincial employment bureaux were accepted for training as telegraphists.

*Revenue and Expenditure.*

229. The total revenue, including the value of free services, amounted to £E. 242,514 compared with £E. 234,327 in 1937. Expenditure at £E. 224,232, exclusive of free services rendered by other departments and provinces, showed a decrease of £E. 15,833, due mainly to a reduction in expenditure on capital works.

230. A comparative analysis of revenue and expenditure compared with 1937 is given below:—

Revenue—	1937.	1938.
Cash—	£E.	£E.
Net sale of stamps ... ..	48,319	46,937
Share of postage on incoming parcels	11,019	10,098
Net commission on money orders and postal orders ... ..	9,933	9,865
Net commission on c.o.d. parcels ...	1,471	1,403
Transmission of telegrams ... ..	47,177	42,384
Telephone rentals ... ..	7,914	8,479
Telephone call fees ... ..	2,838	3,504
Other items ... ..	4,696	6,334
	138,892	135,906
Commercial departments ... ..	14,006	14,574
Free services ... ..	81,429	92,034
	234,327	242,514
	Increase = 3½ per cent.	
Expenditure—		
Salaries and wages ... ..	134,961	136,267
Personal allowances ... ..	8,633	8,696
Services (cash) ... ..	16,250	14,383
Stores and materials ... ..	6,844	8,044
Departmental services ... ..	34,722	35,211
Capital works provided for within the budget ... ..	38,655	21,631
	240,065	224,232
	Decrease = 6½ per cent.	

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231. The main items of capital expenditure incurred during 1938 were landline renewals £E. 7,500, telephone development £E. 11,000, wireless £E. 2,500 and meteorology £E. 650.

*Postal Services.*

232. From February onwards all first-class mails between the Sudan, Egypt and India were conveyed by air, the "all up" scheme being extended to Australia and New Zealand later in the year. Three services weekly by air and two by surface route, for other than first-class mail, were maintained between Khartum, Cairo and London. Of the 18,750,000 items of ordinary correspondence dealt with, about 5 million between countries participating in the "all up" scheme and 2,300,000 as surcharged air mail correspondence were carried by air.

233. The number of parcels dealt with was 181,909 compared with 192,582 in 1937. Fewer parcels were received from Egypt, and some reduction in the use of service internally was caused by a revision of rates intended to divert the carriage of merchandise to the more appropriate medium of the Sudan railways. The revenue accruing from the parcels service was £E. 16,710 compared with £E. 17,972 in 1937.

234. The number and value of postal orders dealt with continued to increase. Money orders, however, although slightly greater in number, fell in total value from £E. 3,153,773 in 1937 to £E. 3,085,688 in 1938, and the total revenue from both services was £E. 9,997 compared with £E. 10,100 in 1937.

235. Savings bank deposits at £E. 149,267, compared with £E. 141,157 in 1937, again showed a satisfactory increase, though not so marked as during the three previous years. The number of depositors increased from 12,642 to 14,282, the average balance per depositor being just under £E. 10·500 mms. A scheme to encourage thrift in the Equatoria Province was introduced under which savings deposit accounts could be opened through the agency of province authorities at places where no post office exists.

*Telegraph and Telephone Services.*

236. Telegrams of all kinds dealt with numbered 957,502 compared with 979,214 in 1937, and the cash revenue of £E. 42,384 showed a decrease of £E. 4,793, or approximately 10 per cent. on that of the previous year. Competition from accelerated air services probably contributed to this decline.

237. The demand for telephones continued to increase, and the number of subscribers rose from 2,034 in 1937 to 2,252 in 1938, while the number of trunk calls recorded on the extended systems, notably the Khartum-Atbara-Port Sudan line, was very satisfactory. Revenue from rentals and call fees increased from £E. 10,752 to just under £E. 12,000 in 1938.

*Meteorology.*

238. Considerable progress was made in the improvement of the network of observing stations in the Southern Sudan, where several additional telegraphic reporting stations provided valuable information in the daily production of forecasts. The number of observing stations maintained by the services throughout the Sudan was, eight first class, eight second class and six third class. About 18,000 weather reports and forecasts were given to aircraft, which was more than double the 1937 figure, while the number of telegrams dealt with by the service increased from 27,788 to 49,080.

*Engineering.**Wireless.*

239. The installation of a wireless direction-finding station at Juba was begun in December. This is the sixth station to be erected in the Sudan. New transmitting stations were erected at Port Sudan and Wau, the old type power supply being replaced by Diesel sets. The number of wireless stations maintained by the department remains at twenty-three.

*Telegraphs and Telephones.*

240. Land-line renewals between Kosti and El Obeid and on sections of the routes north of Atbara were carried out. In March the Khartum telephone exchange was changed over from manual to automatic working and subsequently extended to a capacity of 900 lines. Subscribers soon became accustomed to the system of dialling, and the change-over has been successful in every respect. Preliminary work for a similar change-over at the Omdurman exchange was carried out during the year. A telephone circuit on copper wires was erected between Khartum and Port Sudan with repeater equipment at Atbara, and from the end of February telephone facilities between these places was made possible. Excellent quality of speech is recorded. The trunk system was also extended to Berber, Zeidab and Erkowit.

## CHAPTER XII.—SURVEYS.

*General.*

241. Throughout the year the staff were fully occupied and it was found impossible to meet all the requests for assistance submitted by provincial survey officer which were necessitated by the general increase in maintenance and minor surveys for administrative purposes which has been noticeable in recent years. The only new survey of major importance begun in 1938 was the precise level survey, following the course of the Atbara River, which will link the Nile at Atbara with the Gezira and Blue Nile precise level systems, the immediate purpose of which is to provide data for the examination of the Atbara River basin as a possible storage area.

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This survey will help to complete the network of precise levels which is gradually being built up and in conjunction with the geodetic survey of the thirtieth arc meridian, now in progress, will ultimately control the systematic surveys of the country.

242. The Local Government Ordinances promulgated during the year called for the preparation of a large number of special plans of the more important towns for deposition. This entailed additional field surveys to establish town boundaries and the employment of draughtsmen withdrawn from other duties for the preparation of the plans.

*Technical Training.*

243. The programme of departmental training was extended by the addition from March onwards of a full-time class of apprentice computer-draughtsmen. Ten boys, who had completed their education in the primary schools, were selected for further training in mathematics, drawing and area computation with a view to subsequent employment on the establishment. Four young native surveyors attended a six-weeks' field course in topographical plane-tableing and three others were attached to an experienced cadastral planetabler, engaged on the Shendi resurvey, under conditions which enabled useful work to be combined with instruction. A young Sudanese fitter received instruction in instrument repair work from the British superintendent of technical equipment.

244. The annual voluntary survey school was held during the leave season. Seven surveyors attended and, in the senior examination which concluded the course, five candidates were successful, one candidate obtained sufficient marks to secure a pass in the junior examination, and there was one failure. At the request of the Governor, Upper Nile Province, a special course in elementary survey work was arranged for a native road foreman from that province.

*Thirtieth Arc of Meridian.*

245. On completion of the reconnaissance of the second section observation was commenced from Amentego base and carried in a southerly direction until the party was withdrawn early in May. Owing to unforeseen calls on the time of the survey officer in charge it was not possible for the party to return to the field before mid-November, so that the effective field season in 1938 was less than six months. Notwithstanding the short season good progress was made and at the close of the year observation had been carried down latitude  $15^{\circ} 30'$ . Of the eighteen degrees of latitude through which the Sudan section of the thirtieth arc of meridian extends, one-third has been completed so far as field observation is concerned, and the preliminary computation of the first section, that between the Adindan and Amentego bases, is in hand. Horizontal angles were observed at twenty-four stations and the closure of sixty-eight triangles gave a mean triangular closing error of 0.63, which is exactly the same

closing error as that of the seventy-eight triangles comprising the first section, a tribute to the consistency of both instrument and observer. As the second section of the chain extends over a distance of 375 miles between bases, a Laplace point was introduced to control azimuth, and observations for latitude, longitude and azimuth were made at two main stations, Jebel-esh-Shawwaf and Mitnat-el-Guwwala.

*Production of Topographical Maps.*

246. Fifteen sheets of the 1 : 250,000 series maps and one sheet of the international 1 : 1,000,000 series were revised and issued. The garrison and landing ground maps, hitherto published as separate units, were issued as a combined map in the latest edition. Demands for the new edition of the road map were under-estimated at the first printing, and a reprint was found to be necessary shortly after publication. One thousand and ninety-two new names were added, and 169 old names were deleted from the manuscript copy of the *Index Gazetteer of the Anglo-Egyptian Sudan*.

*Cadastral Surveys.*

247. Although no large development schemes were undertaken there was an increase in the demand for surveys in connexion with minor projects and the investigation of new conditions created by the building of the Jebel Aulia Dam and the heightening of Assouan. In order that surveyors attached to the province offices could be released for field duties, a considerable amount of computation and draughting work from these offices was transferred to Khartum.

248. A small computing and checking section was established early in the year, and has already proved its value. The need for such a section had long been realised, but its formation was prohibited by the size of the staff necessary while the older methods of computation were retained. With the new twin Brunsviga NZ-13 calculating machine, traverse computations now take one-third of the time formerly required and the possibility of substituting mechanical for logarithmic methods in other types of computation is being examined. The principal tasks of the new section were the checking and computation of river, town and Gezira theodolite traverses embodying 538 traverse stations, the checking of 129 area computation sheets and 168 planetable sheets. Spot levels were reduced and contours interpolated on the plans of Kosti, Sori, Sali, Akkad, Zawat and Koya.

249. The headquarters drawing office prepared some 300 field sheets for surveyors engaged on the Shendi, Kerma and Khartum Province resurvey. Tracings were made of 56 maps of Dongola district, 43 maps of Halfa District and 80 maps of Kerma Basin. Areas were computed for 772 plots covering 10,260 feddans of the Fatisa and 500 plots covering 7,580 feddans of the Wad Ez Zaki pump schemes.

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250. Field surveys included 44 kilom. of river traverse in Shendi district and 19 kilom. in Merowe district to control the planetable resurvey in these areas. The Nile banks in Halfa district were surveyed to determine the erosive effects, if any, of wave action due to the higher level of the Assouan reservoir. Contoured plans of two prospective sites for a new secondary school were made, and quarry sites were surveyed at Rauwiyah, Jebel Aulia and Gummuiya South. A comprehensive survey of Aba Island pump scheme was made, and contoured plans were prepared of seven villages which may ultimately be affected when the Jebel Aulia reservoir is filled to capacity.

251. An extension of the Blue Nile precise level system involving 236 kilom. of levelling and the survey of ten cross sections of the river basin was completed. As a result of this extension precise bench marks are now available along the Blue Nile from Bumbodi, where the river enters the Sudan, to its junction with the White Nile at Khartoum. Work was continued in the Gezira canalised area, and 27,292 feddans lying in Abu Ushar, Wad-el-Agab, Tabat Right Minor and Gamusiya systems were surveyed. A preliminary survey of 13,341 feddans in Mesellemiya was made and a number of village boundaries were demarcated.

#### *Town Surveys.*

252. Although the work of the Town Survey Section was, in general, confined to maintenance of existing town maps, the redesign of Kosti town was a notable exception. Early in the year contoured plans of the area were available and a number of alternative designs were submitted for consideration by the authorities concerned. The plan finally approved was passed to a native surveyor for setting out on the ground. Building proceeded simultaneously with setting out, and it was found necessary to retain the surveyor in Kosti to ensure that no departure from the approved alignment occurred.

253. The resurvey of Rufaa town was continued; 1,042 plots were mapped and 737 concrete block corners established. Town extensions were laid out in Khartoum, Khartoum North, Dueim and Wadi Halfa. The Mulazimin quarter of Omdurman, for many years an undeveloped Government reserve, was demarcated in accordance with the approved plan and is now being developed. At Port Sudan the village of Deim Abu Hashish was surveyed in detail and arrangements were made for the survey of Flamingo Bay for inclusion in a map of the municipal area.

254. The drawing office compiled and issued an extension to the 1:10,000 maps of Khartoum district to include the dockyard and marine alighting area at Gordon's Tree. The 1:5,000 registration map of Khartoum was revised and reprinted. A plan showing the traverse framework of Fasher was prepared, which will ensure that future surveys in that town are accurately recorded.

*Map Printing Section.*

255. The record of map issues, usually a reliable guide to the activity of the department, was the highest attained since 1930, both in number and value. A total of 38,257 maps and sunprints, valued at £E. 2,586, were issued. Of the printed maps included in the above figure, 1,982 sheets were printed in two colours, 7,234 sheets in three colours and 2,191 sheets in four colours.

*Instrument Repair Section.*

256. Two hundred and thirty-three instruments of various types were repaired by the section, the attention required varying from minor adjustments to complete overhaul. Forty-three of these instruments belonged to other departments, the repairs being valued at £E. 85·500 mms.

## CHAPTER XIII.—PUBLIC HEALTH.

*General Health.*

257. The public health of the Sudan was in general satisfactory, but there were epidemics in several areas. Smallpox and relapsing fever invaded the country from both east and west, and although the number of cases and deaths was small, drastic and extensive precautionary measures were necessary. Phenomenal and badly-spaced rains, combined with a record high flood level of the river, caused an increase in the incidence of malaria in the Northern Sudan.

*Health of Khartum and Omdurman.*

258. The incidence of malaria was high during the second half of the year around Khartum, as it was impossible to prevent mosquito breeding in the rural area and the invasion of the city by adult mosquitoes. Efforts were made, with the assistance of the Royal Air Force, to poison the larvæ in their breeding places by dusting Paris Green from the air. Intestinal diseases were also more prevalent than usual.

*Health of Officials.*

259.

Nationality.	Number of Officials Employed.	Total.		Average Days' Sickness.		Died.	Invalided.
		Placed on Sick List.	Number of Days' Sickness.	For all Officials.	For those who were sick.		
British ... ..	864	246	1,920	2·22	7·80	1	2
Egyptian ... ..	539	127	1,029	1·91	8·10	1	3
Sudanese ... ..	3,281	919	8,454	2·57	9·19	6	8

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*Sudan Defence Force.*

260. The health of the force remained satisfactory throughout the year. The admission rate, &c., is shown below :—

Strength	...	...	...	...	4,438
Total number of admissions	...	...	...	...	3,604
Total number of days' sickness	...	...	...	...	38,146
Average days sick—					
For whole force	...	...	...	...	8·59
For those sick	...	...	...	...	10·58

*Progress of Work.*

261. *Curative Medicine.*—The following figures show the number of in-patients, out-patient attendances, and operations performed during the last ten years :—

<i>Year.</i>		<i>Admissions.</i>	<i>Attendances.</i>	<i>Operations.</i>
1929	... ..	46,033	2,675,085	4,337
1930	... ..	49,911	3,840,923	6,110
1931	... ..	59,736	4,044,439	6,798
1932	... ..	59,642	4,264,412	7,287
1933	... ..	70,315	5,092,999	8,609
1934	... ..	85,990	6,039,197	10,082
1935	... ..	89,093	6,112,303	11,124
1936	... ..	96,081	6,500,441	11,229
1937	... ..	101,038	6,675,989	12,063
1938	... ..	104,366	6,989,990	11,439

In the Northern and Central Sudan the numbers are becoming stabilised and vary with the state of public health. The increase this year is accounted for by the high incidence of malaria in many districts. In the Southern Sudan, where there is more sickness than elsewhere, medical work is still increasing.

262. *Preventive Medicine.*—A network of supervisory sanitary officials has now been organised throughout the Sudan, and is practically complete except in the south, where the training of local staff takes longer than in the remainder of the country. Anti-mosquito work has been intensified, particularly in the Northern Province. Propaganda is disseminated through the Graphic Museum and at agricultural shows, especially in connexion with improvement of housing, nutrition, anti-malarial measures, and general sanitary precautions. A committee in Khartum has evolved suitable types of houses for various districts and has acted in an advisory capacity as regards Sudanese housing generally. A similar committee has recently been formed to deal with nutrition. Progress has been made in the organisation of school medical work throughout the country. Water supplies are being improved as quickly as funds and staff permit.

*Maternity and Child Welfare Clinics.*

263. There are now clinics in the principal towns of the Northern Sudan and in Juba. New clinics were opened during the year at



El Obeid and Merowe. Nine thousand and seventy-nine attendances with 4,143 new cases were reported in Khartum, Khartum North and Omdurman. In Omdurman 71 per cent. of pregnant women attended for ante-natal examination and advice.

Figures for Omdurman were as follows:—

Maternal mortality rate: 5·14 per 1,000 live births.

Puerperal sepsis: 2·06 per 1,000 live births.

Infant mortality rate: 92 per 1,000 live births.

With the posting of British sisters it was possible to establish a clinic at Juba in the Equatoria Province. This is the first step towards organising maternity and child welfare work in this backward area.

#### *Ophthalmology.*

264. This popular department draws its patients from all parts of the Northern Sudan, and carried out valuable work among school children. The incidence of trachoma among the boys of the Gordon College has declined from 85 per cent. in 1932 to 17 per cent. in 1938.

The following figures show the work carried out during the last five years:—

—	1934.	1935.	1936.	1937.	1938.
In-patients ... ..	326	501	565	750	840
Out-patient attendances...	46,945	68,973	55,683	66,118	76,076
Operations performed ...	245	453	734	1,258	885

#### *Epidemic Diseases.*

##### *Cerebro-spinal Meningitis.*

265. The extensive epidemics which ravaged the Central and Western Sudan in recent years have definitely died down. The disease has only been reported in sporadic form during the year, except in the Aweil District of Equatoria Province, where an outbreak, which had abated with the advent of the rains in 1937, flared up again during the following dry season. The incidence during the last ten years has been as follows:—

<i>Year.</i>	<i>Cases.</i>	<i>Deaths.</i>
1929 ... ..	464	340
1930 ... ..	865	665
1931 ... ..	348	240
1932 ... ..	532	384
1933 ... ..	166	131
1934 ... ..	4,231	3,341
1935 ... ..	3,249	2,154
1936 ... ..	13,440	8,827
1937 ... ..	446	293
1938 ... ..	234	124

*Diphtheria.*

266. Fifty-one cases with 13 deaths were reported, compared with 36 cases and 8 deaths in 1937. The small focus of infection in the cataract country south of Wadi Halfa has now definitely died out. Sporadic cases are reported from the larger towns in the Northern Sudan. One case was reported in Equatoria Province.

*Relapsing Fever.*

267. This disease spread across the Central Sudan from Abyssinia in the east, and from French Equatorial Africa in the west, among the pilgrims wandering to and from Saudi Arabia. In the irrigated area of the Gezira numerous sporadic cases were reported throughout the year. It was only by a widespread delousing campaign extending as far as Darfur and Kassala and by early treatment of cases that it was possible to keep the disease under control. About 100,000 persons were deloused during the year. Three small outbreaks were reported in Darfur Province. In all, 1,124 cases were reported during the year with 116 deaths.

*Smallpox.*

268. At the beginning of the year sporadic cases were occurring in Kassala and Blue Nile Provinces, where a constant stream of infected West Africans returning from Abyssinia was continually reintroducing the infection. As the result of intensive vaccination campaigns during the past two years, the disease soon died out in Kassala and the outlying areas of Blue Nile Province, but flared up in two short but virulent outbreaks in the irrigated area of the Gezira. In this area many women had evaded vaccination and a large number of them in two villages contracted the disease. The outbreaks were stamped out at once, as well as several small secondary outbreaks which occurred in and adjacent to the Gezira. In Kordofan Province minor outbreaks were reported in the Nuba Mountains and the Eastern District. In the autumn cases were reported in Western Darfur among pilgrims travelling to Mecca who had been infected in French Equatorial Africa. It was found necessary to establish a quarantine at Geneina, and to carry out an extensive vaccination campaign throughout the whole province. Five hundred and twenty-seven cases were reported during the year with 158 deaths, and 1,348,694 vaccinations were carried out.

*Endemic Diseases.**Ankylostomiasis.*

269. This disease is only of importance in the Kajo-Kaji, Rumbek and Wau Districts of Equatoria Province, where it is a major public health problem.

*Bilharziasis.*

270. This disease is now of little general public health importance. Its incidence among the indigenous population in the

irrigated area of the Gezira remains negligible, but it is only by continuous effort and close supervision that it has been possible to prevent the disease from becoming endemic in this important area. There is a constant influx of immigrants into the Gezira from infected areas in other parts of the Sudan and neighbouring countries. The incidence in Merowe and Dongola Districts of the Northern Province has been reduced from 18·5 per cent. in 1928 to 2 per cent. in 1938 by mass examination and treatment, and mollusc destruction over a long period. In the White Nile Sub-Province the incidence of rectal bilharzia has been reduced by the provision of safe village water supplies from properly constructed wells. By far the greater number of cases of bilharziasis are now diagnosed by routine examination when the disease is more or less symptomless. Few cases report sick and still fewer require hospital treatment. Water holes in the southern part of Kassala Province became infected for the first time this year, and rigorous measures were taken to remedy matters. Rectal bilharziasis is prevalent in parts of Equatoria Province.

*Blackwater Fever.*

271. The incidence during the last five years has been as follows:—

Year.	Cases.	Deaths.
1934 ... ..	34	9
1935 ... ..	18	9
1936 ... ..	38	14
1937 ... ..	20	5
1938 ... ..	29	8

*Dysentery.*

272. The incidence of bacillary dysentery gives some indication of the standard of public health, particularly in the towns, and the steady decline in the percentage of admissions in recent years shown in the table below corresponds with a general improvement in the standard of sanitation:—

—	1929.	1930.	1931.	1932.	1933.	1934.	1935.	1936.	1937.	1938.
Amoebic dysentery	3·02	2·68	3·28	2·51	3·25	3·00	2·83	2·49	2·48	2·76
Bacillary dysentery	0·75	0·37	0·41	0·41	0·38	0·28	0·26	0·18	0·13	0·13
	3·77	3·05	3·69	2·92	3·63	3·28	3·09	2·67	2·61	2·89

*Enteric Fever.*

273. Two hundred and thirteen cases were reported, compared with 165 in 1937 and 135 in 1936. This disease has been introduced into the Sudan as the result of increasing contact with the outside world, and is still mainly restricted to areas such as Khartum,

Omdurman, Malakal, Dongola and Wadi Halfa where infection from outside the Sudan is particularly liable to occur. It has a sporadic distribution, and flies and human carriers are the most probable agents of infection.

*Guinea Worm.*

274. This disease is a cause of much disability in the Nuba Mountains and Equatoria Province. The preventive measures carried out are the construction of properly-protected wells and the immediate treatment of those suffering from the disease. One hundred and eighty-five wells have recently been constructed in Equatoria Province in a campaign against this disease.

*Kala-Azar.*

275. Two hundred and ninety-five cases were reported, compared with 336 in 1937, and 214 in 1936. The disease is endemic over a large area along the eastern frontier of the Sudan, and its incidence varies little from year to year.

*Leprosy.*

276. The distribution of leprosy in the Sudan is as follows:—

Province.	Under treatment in camps or settlements.	Under observation and treatment as hospital or dispensary out-patients.	Total under treatment.	Under observation but not under treatment.	Total cases.
Blue Nile ... ..	45	22	67	80	147
Darfur ... ..	...	7	7	...	7
Equatoria ... ..	1,763	...	1,763	2,831	4,594
Kassala ... ..	19	...	19	...	19
Khartum ... ..	...	29	29	...	29
Kordofan ... ..	102	26	128	1,713	1,841
Northern ... ..	...	56	56	2	58
Upper Nile ... ..	...	6	6	...	6
Total ... ..	1,929	146	2,075	4,626	6,701

277. One thousand nine hundred and twenty-nine lepers were in camps and settlements, and 4,772 were under observation at the end of the year. Leprosy is a comparatively rare disease in the northern third of the Sudan, only eleven new cases in a population of 252,395 occurring in Khartum Province during the year. In the Central Sudan the incidence of leprosy is high among certain settled tribes, but low among nomads, whether the Arabs of Kordofan and Kassala or the swamp dwellers of the Upper Nile Province. In the Southern Sudan the incidence is very high in many parts of Southern Equatoria Province, especially the Zande District. In the Northern

Sudan the system of home isolation is in force; here the leper lives at home, under the supervision of the public health authorities, in a separate room or house. In the Central Sudan small leper villages are sited near dispensaries, and in the south big leper settlements cater for the large number of lepers requiring treatment. Experience shows that it is not possible to eliminate this disease rapidly either by curative or preventive measures, and it appears that it will only be finally eradicated by the general raising of the standard of living.

*Malaria.*

278. Phenomenal, badly-spaced rains and a record river flood resulted in an increase in the incidence of malaria in Khartum Province and the Gezira. The recent organisation of mosquito brigades in the northern province proved effective in keeping the disease under control. In the Blue Nile Province, anti-malarial measures are being constantly improved in the Gezira, as the result of experience and by practical application of the results of the medical malarialogist's work in this area. Investigations are at present being carried out in the White Nile area to decide the most effective methods of dealing with the difficult problems which the Jebel Aulia reservoir will create. Mosquito brigades have been strengthened in many towns in the Central and Southern Sudan.

*Rabies.*

279. This disease is endemic throughout the Sudan. Five hundred and fifty-seven persons received anti-rabic treatment during the year compared with 534 in 1937 and 373 in 1936. Two cases died despite treatment and six deaths were reported among untreated persons.

*Sleeping Sickness.*

280. One hundred and ten cases were reported in Equatoria Province, compared with 89 cases in 1937. Of these 106 occurred in the Zande District, and four in Kajo-Kaji Sub-District. Special attention is being paid to the destruction of tsetse-fly by systematic catching of flies along rivers between wide cleared blocks, and the prophylactic use of Bayer 205 is being given a trial. The following table shows the distribution of cases in Equatoria Province during the last ten years:—

<i>Year.</i>	<i>Yubu.</i>	<i>Yambio.</i>	<i>Yei.</i>	<i>Kajo-Kaji.</i>
1929 ...	18	...	...	...
1930 ...	37	1	...	...
1931 ...	61	1	...	...
1932 ...	49	14	...	...
1933 ...	70	12	1	...
1934 ...	20	2	4	6
1935 ...	80	...	1	10
1936 ...	142	...	...	8
1937 ...	63	1	2	23
1938 ...	106	...	...	4

Three hundred and ninety-eight thousand seven hundred and ninety-eight palpations for sleeping sickness and 2,808 gland punctures were performed during the year. Eighty-two thousand two hundred and seventeen tsetse flies were caught by squads of fly boys in Yubu and Kajo-Kaji areas.

*Tuberculosis.*

281. The percentage of admissions for pulmonary tuberculosis was 0·59 per cent., compared with 0·48 per cent. in 1937.

Admissions to hospitals for tuberculosis during the last four years were :—

	1935.		1936.		1937.		1938.	
	Pul.	Non-pul.	Pul.	Non-pul.	Pul.	Non-pul.	Pul.	Non-pul.
<i>Northern Sudan.</i>								
Admissions for tuberculosis	415	302	451	313	418	331	550	336
Total admissions ...	58,445		65,392		66,881		67,622	
Percentage tuberculosis to total admissions ...	0·71	0·51	0·69	0·47	0·62	0·49	0·81	0·49
	1·22		1·16		1·11		1·30	
<i>Southern Sudan.</i>								
Admissions for tuberculosis	86	69	68	36	70	64	73	68
Total admissions ...	30,638		30,689		34,207		36,744	
Percentage tuberculosis to total admissions ...	0·28	0·22	0·22	0·11	0·20	0·19	0·20	0·18
	0·50		0·33		0·39		0·38	

The following table shows the admissions for pulmonary and non-pulmonary tuberculosis in the last ten years, and the percentage rate of tuberculosis to other admissions :—

Year.	Pulmonary.		Non-pulmonary.		Total.	
	Ad-missions.	Per-centage.	Ad-missions.	Per-centage.	Ad-missions.	Per-centage.
1929 ...	302	0·65	322	0·70	624	1·35
1930 ...	480	0·95	300	0·61	780	1·56
1931 ...	390	0·65	294	0·49	684	1·14
1932 ...	421	0·70	281	0·47	702	1·17
1933 ...	521	0·74	394	0·56	915	1·30
1934 ...	557	0·65	437	0·50	994	1·15
1935 ...	501	0·56	371	0·42	872	0·98
1936 ...	519	0·54	349	0·36	868	0·90
1937 ...	488	0·48	395	0·39	883	0·87
1938 ...	623	0·59	404	0·39	1,027	0·98

The figures for the past year show an increase, which may be partly accounted for by the heavy incidence of malaria. But apart from this, with increasing contact with the outside world a rise in the incidence of tuberculosis is to be anticipated. The disease continues to be a serious problem in certain districts. In the Wadi Halfa and Dongola districts of the Northern Province the incidence is higher than in the remainder of the Sudan owing partly to local conditions and partly to the return of infected residents from Egypt, where the climate and conditions of work predispose them to the disease. Attempts are being made by home visiting to examine and re-examine house contacts and to follow up cases after discharge from hospitals. Taking the Sudan as a whole it is hoped that the steady rise in the standard of living which has taken place during the last twelve years may counterbalance the increased risk of infection from outside.

#### *Venereal Diseases.*

282. The incidence of syphilis remains high, but fortunately the Sudanese have a high racial immunity and the more serious complications are seldom seen. In particular, locomotor ataxia and general paralysis of the insane rarely occur. There is evidence to show that syphilis is not an important factor in causing abortion in the Sudan. Gonorrhœa is probably a more serious public health problem. It is the most important cause of sterility and urethral strictures are common. Adequate facilities are available at Port Sudan for the treatment of sailors with venereal diseases in accordance with the requirements of the Brussels Convention.

#### *Yaws.*

283. This disease has been almost eliminated from the Sudan. It still occurs in a few districts in the south, but the recent extension of the dispensary system to outlying areas should enable it to be effectively dealt with in every district.

#### *Suakin Quarantine.*

284. The number of pilgrims leaving the Sudan again showed a marked increase. The figures for the last ten years are as follows:—

1929	...	...	3,866	1934	...	...	1,459
1930	...	...	4,791	1935	...	...	1,672
1931	...	...	2,414	1936	...	...	3,404
1932	...	...	1,348	1937	...	...	6,346
1933	...	...	970	1938	...	...	8,159

All pilgrims were vaccinated and inoculated against cholera before departure from Suakin to Saudi Arabia. Calf lymph and cholera vaccine made at the Stack Medical Research Laboratories in Khartum were used with satisfactory results. Pilgrims paid in advance their return steamship fare and the quarantine charges in

Saudi Arabia and at Suakin. The general health of the pilgrims on their return was satisfactory. There was no case of any quarantine disease. Twenty pilgrims were admitted to hospital, of whom two died. Considerable improvements were effected in the facilities and the organisation of the quarantine camp. The period of quarantine was reduced from five to three days when the camp opened, and later to one day only.

*Port Sudan Quarantine.*

285. Quarantine restrictions were enforced against Siam for the whole year on account of cholera and against Bombay from January to June on account of smallpox.

*Wadi Halfa Quarantine.*

286. One thousand three hundred and thirty Egyptian labourers passed through the quarantine, of whom two were repatriated as unfit. Eighty-one were treated for bilharzia, either at Wadi Halfa or at their destination.

*Kitchener School of Medicine.*

287. Twenty-seven students were under training as medical or sanitary students. Eleven were in the first year, eight in the third year, seven in the fifth, and one repeated the final year. The results of the professional examinations held during the year were as follows :—

<i>Subject.</i>	<i>Number of candidates.</i>		
	<i>Passed.</i>	<i>Failed.</i>	
Biology, chemistry and physics ...	11	7	4
Anatomy and pharmacology ...	8	8	...
Medicine, surgery and obstetrics and gynæcology ...	7	6	1
			(Referred for three months in medicine only.)

In addition one student referred from last year passed a special final examination held in April. Sir Alfred Webb-Johnson, C.B.E., D.S.O., F.R.C.S., the visitor appointed by the Conjoint Board of the Royal College of Physicians, London, and the Royal College of Surgeons of England presided over the final examinations in medicine, surgery and obstetrics and gynæcology. The Conjoint Board of the Royal Colleges have recognised the course at the Kitchener School of Medicine provided a satisfactory standard of general education has been reached, and a visitor appointed by them supervises the examinations. A candidate who has obtained the school-leaving certificate with the required number of credits for matriculation and the diploma of the Kitchener School of Medicine,



is eligible to sit for the final qualifying examination of the Conjoint Board after a further year's study at a recognised hospital in Great Britain, the course of study required by the General Medical Council being one year longer than that at the Kitchener School of Medicine.

*Graphic Museum.*

288. This institute has proved of value, both for teaching medical and public health students and for public health propaganda among the general population.

*Post-Graduate Training.*

289. Two Sudanese doctors completed a three months' course of post-graduate study in London, one at the British Post-Graduate School at Hammersmith and the other in the London County Council Group Laboratories at the Archway Hospital. Annual post-graduate courses of six months' duration have been organised in Khartum in connexion with the Kitchener School of Medicine.

*Sanitary Officers.*

290. Two candidates sat for the diploma of the Royal Sanitary Institute in December, and both were successful.

*Dispensers.*

291. A class of three selected medical assistants sat for a qualifying examination as hospital dispensers after a two years' course. One was successful.

*Sanitary Overseers.*

292. Courses of training were held in Khartum throughout the year. Eight candidates qualified.

*Nurses' Training School.*

293. Five female nurses completed a two years' course of training at Omdurman.

*Midwives' Training School.*

294. Fifteen candidates passed the qualifying examination and were licensed to practise in the Sudan. Three hundred and nineteen have been trained since the school opened, of whom 253 are still practising. The distribution of midwives and pupils in the provinces is as follows :—

Blue Nile ... ..	45	Khartum ... ..	65
Darfur ... ..	9	Kordofan ... ..	34
Kassala ... ..	24	Northern ... ..	73
Upper Nile ... ..	3		

*Laboratory Assistants.*

295. Two candidates passed out as laboratory assistants during the year and a class of seven commenced training. Eleven laboratory assistants were given a revision course of four months' duration. There are twenty-five trained laboratory assistants in charge of hospital laboratories in all parts of the Sudan.

*Medical Assistants.*

296. Ten selected hospital orderlies under training at Omdurman Hospital and fourteen southern orderlies at Juba have passed the qualifying examination and are being posted to dispensaries in outlying districts.

*Stack Laboratories.*

297. *Routine Work.*—22,633 examinations were carried out compared with 20,432 in 1937, and 18,041 in 1936. As much routine work as possible is decentralised to provincial hospital laboratories, of which there are now twenty-four. The increase of work is distributed over the more important routine tests, especially Widal reactions, Kahn tests, and faeces examinations. Routine bacteriological examinations of water supplies have been carried out and large quantities of cholera, typhoid and rabies vaccine made and issued. One million three hundred thousand doses of calf lymph were issued during the year with very satisfactory results. By reason of its efficacy it was possible to stamp out a dangerous epidemic of smallpox in the Gezira and other parts of the Central Sudan with little loss of life. Past experience has shown that this would not have been possible with calf lymph made outside the Sudan owing to deterioration in transit. The pilgrims leaving for Jedda were vaccinated with Sudan lymph with a high percentage of positive reactions.

298. *Research Work.*—Investigations were carried out on the following subjects:—

- (1) The epidemiology of relapsing fever.
- (2) The etiology of Kala-azar with special reference to possible transmission by sandflies and to the existence of animal reservoir hosts.
- (3) Vaccine lymph.
- (4) Trachoma.
- (5) Yellow fever, with special reference to the mouse protection test, and the possible existence of the disease in the Sudan.
- (6) Enteric fever.
- (7) Diphtheria.

The medical entomologist continued his malarial investigations concerning the bionomics of mosquitoes of the irrigated area of the Gezira, Khartum and the Sennar and Jebel Aulia reservoirs.

*Missions.*

299. The following table shows the work carried out by medical missions :—

—	In-patients.	Out-patient attendances.	Operations.
<i>The Church Missionary Society.</i>			
Omdurman... ..	1,433	93,183	269
Lui (Equatoria Province) ... ..	557	126,680	160
Zeraf Island (Upper Nile) ... ..	258	4,965	159
Ler (Upper Nile) ... ..	79	7,283	44
Sallara (Nuba Mountains) ... ..	132	9,267	1
<i>The Sudan United Mission.</i>			
Heiban (Nuba Mountains) ... ..	...	8,125	2
Abri (Nuba Mountains) ... ..	156	5,358	...
Tabanya (Nuba Mountains) ... ..	57	4,284	...
Rom (Upper Nile) ... ..	36	2,926	...
<i>The American Mission.</i>			
Doleib Hill (Upper Nile) ... ..	...	18,271	...

300. The Royal Air Force have afforded willing and immediate help not only in 1938 but for many years previously in evacuating sick and transporting specialists in case of grave medical emergency in outstations. They have also given valuable assistance to the public health authorities in Khartum and Sennar by dusting Paris Green from the air over the flooded areas in an attempt to destroy mosquito larvæ which it was found impossible to reach in any other way.

## CHAPTER XIV.—EDUCATION.

*Northern Sudan.*

301. Proposals for educational expansion and reform at all levels of the educational system, based primarily upon the recommendations contained in the reports of Lord De La Warr's Commission and of Ali El Garem Bey, were submitted by the Director of Education in June. The comprehensive programme, which entails heavy expenditure, both capital and recurrent, has been accepted in outline and is being embarked upon forthwith. The rate of progress to be maintained in carrying this programme into full effect must necessarily be related to the condition of the country's finances, but the timetable indicated in the Director of Education's proposals will not be retarded without prior authorisation by the Central Government. The programme, which is spread over the next eight years, envisages capital expenditure of approximately half a million pounds by 1946, and raises the total recurrent expenditure on education, which was approximately £E. 150,000 in 1936 to approximately £E. 300,000 in eight years' time.

302. The following table shows the number of pupils attending Government schools in the Northern Provinces :—

	1937.		1938.	
	Schools.	Pupils.	Schools	Pupils.
Gordon Memorial College ... ..	1	325	1	357
Intermediate Schools ... ..	11	1,110	11	1,308
Boys' Elementary Schools ... ..	102	13,095	106	13,773
Elementary Teachers' Training College ... ..	1	70 <sup>(1)</sup>	1	85 <sup>(1)</sup>
Sub-grade Schools and Khalwas ... ..	610	23,000	631	23,000
Instructional Workshops ... ..	2	216	2	266
Girls' Training College ... ..	1	40	1	60
Girls' Elementary Schools ... ..	34	3,320	35	3,411
Total ... ..	...	41,176	...	42,260

(<sup>1</sup>) Approximate.

#### *Gordon Memorial College.*

303. The British tutorial staff increased from six to eight and the Sudanese teaching staff from eighteen to twenty. On the occasion of the transfer of two of the British staff and their replacement by newly recruited British, two more of the Sudanese staff were appointed to be tutors in charge of Houses. Four of the six Houses are now in charge of Sudanese. One hundred and four new boys were accepted in January, bringing up the total number of boys to 357 in fourteen classes, compared with 325 in thirteen classes in 1937. The classes were divided into three fourth-year, three third-year, four second-year, and four first-year. There was, in addition, one specialised Kadis class of seven pupils in the third year—the last remaining of the old specialised classes. The improvement of the syllabuses continued, and, in particular, a new revised English syllabus was completed. A civics course was tried out in two fourth-year classes, and will be further developed next year. Particular attention was paid to improvement of the system of discipline, to out-of-class activities and to teaching method. Four classes were taken on educational tours during the holidays. The best fourth-year class of twenty-two boys sat for the Cambridge School Certificate Examination; twenty secured certificates and sixteen exemptions from the Cambridge Previous Examination.

#### *Intermediate Schools.*

304. Pupils attending the eleven intermediate schools increased by nearly 200, and in certain towns the demand for entry could not be fully met. Expansion of educational facilities at the intermediate stage has been planned for the future. Meanwhile, improvement in the standard of existing schools is taking place.

*Elementary Teachers' Training College.*

305. The numbers in this college at Bakht-er-Ruda increased from seventy to eighty-five, and fifty-three teachers attended the refresher courses. A new stage in the introduction of reforms was reached with the holding of the first long course on nature study and local geography. Hitherto refresher courses had been confined to improvement in Arabic and arithmetic method. A course in art and handwork for selected teachers was also conducted. A practical result of the experimental work carried out by the staff of the training college is evidenced this year by the completion of revised textbooks on arithmetic, nature study and geography.

*Boys' Elementary Schools.*

306. Four new schools were opened, and pupils attending the 106 schools numbered 13,773, an increase of 678 over the 1937 figure. To meet the insistent demand for an expansion of elementary educational facilities the intake to the teachers' training college is being doubled. As the trained product becomes available, new schools will be established and the staff at existing schools brought up to full strength. Twenty-one new sub-grade schools were opened.

*Technical Schools.*

307. One hundred and thirty-four boys were under instruction in the Omdurman technical school, including woodworkers, builders, smiths and painters. The school continues to attract a large number of boys and there is no difficulty in obtaining a maximum entry. The output quickly secure employment. The needs of the employer are watched and, where necessary, the curriculum of the school is adjusted to meet these needs. In the instructional workshops of the Sudan Railways at Atbara, 132 boys were under training.

*Girls' Education.*

308. A further class was added to the girls' training college and the number of students under training rose from forty to sixty. This process of considerably increasing the output of trained teachers will continue, and expansion of elementary education should proceed apace with the availability of trained staff. A new elementary school was opened in Omdurman, and the buildings for new schools at Sennar and Khartoum Deims neared completion. The British staff was strengthened by the appointment of a superintendent of elementary schools and a mistress at the girls' training college.

*Post-Secondary Education.*

309. The School of Veterinary Studies commenced the first year of a three-year course in January, and in September the School of Agriculture opened in buildings at Shambat, a rural suburb of Khartoum. Final plans were made for the establishment of the new

School of Science, which will provide the pre-professional training required by students going on to the Schools of Medicine, Agriculture, Engineering and Veterinary Studies, and, in a simplified form, by those under training to be science teachers in the intermediate schools. The School of Engineering vacated the Gordon College building in November and is now housed in compact and attractive premises of its own.

*Non-Government Schools.*

310. The following table shows the number of non-Government schools and pupils in the Northern Sudan :—

—	Schools.	Boys.	Girls.	Total.
Church Missionary Society ... ..	8	123	836	959
Roman Catholic Mission ... ..	5	586	96	682
American Mission ... ..	4	416	244	660
Hellenic Community ... ..	4	216	178	394
Egyptian Coptic ... ..	6	1,129	322	1,451
Diocesan School for British Children ... ..	2	18	17	35
Unity High School for Girls ... ..	1	...	57	57
Armenian Community ... ..	2	15	29	44
Indian Community ... ..	2	22	26	48
Native Primary School ... ..	1	130	...	130
Ahfad School ... ..	1	393	...	393
Syrian Catholic School ... ..	1	25	18	43
Evangelical School ... ..	1	160	40	200
Private Schools ... ..	12	958	140	1,098
Total ... ..	50	4,191	2,003	6,194

The attendance in non-Government schools was well maintained and satisfactory management and progress recorded.

*Scouting.*

311. The Khartum and Atbara local associations report a year of keen activity, and the strength of the thirty-one troops, eight rover crews and the wolf cub pack has been maintained. The five companies of girl guides attached to the Church Missionary Society's schools at Omdurman and Wad Medani, the American Mission at Khartum North, the Unity High School for Girls and the Catholic Sisters' Schools at Khartum have been continued with enthusiasm.

*Southern Sudan.*

312. Comprehensive proposals for the reorganisation and expansion of the educational system at all levels, including the education of girls and women, have been framed. Those affecting the work in the area occupied by the Church Missionary Society have been finally agreed upon and accepted; in the case of other missionary societies, negotiations are well in hand. In brief, the basis of this

reorganisation is the provision of efficient teacher training centres—more particularly for the elementary vernacular and bush schools—of selected trained educationalists in the mission personnel, an improved administration and educative effectiveness of the bush school system which will become an integral part of the educational scheme, and revision and improvement of the schools' syllabus. Subsidies, conditional upon defined standards of efficiency, will be paid by Government to the missionary societies.

313. Numbers attending the three intermediate schools increased from 233 to 284, and improvement in the standard of these schools was noticeable. In the Upper Nile Province the American Mission established an elementary vernacular school at their Akobo station, and the Sudan Interior Mission, new to the Sudan this year, took up work at Doro and Chali-el-Fil. This mission is also taking over the stations at Melut and Paloich, formerly controlled by the Sudan United Mission, and the foundations for schools at all four stations are being laid. The thirty-five elementary schools had an attendance of nearly 3,000 and 648 pupils attended the eighteen girls' schools. The Roman Catholic Mission's two normal schools were attended by seventy pupils and a most useful teachers' refresher course was held at the Church Missionary Society's intermediate school at Loka. One hundred and nine boys were under instruction at the three trades schools and the attendance at the 604 out-schools is recorded at 15,435. The missionary societies have carried on their educational work steadily, and it is satisfactory to record their expressed desire to co-operate fully with Government in the arduous task of planning and carrying into effect a system designed to give to the peoples of the south the maximum benefit from an education best suited to them.

314. As the result of a decision to obtain the services of a linguistic expert to undertake a series of visits to the Southern Sudan and assist in reaching a working solution of a number of unresolved dialectical and orthographical problems which were left over from the Rejaf Language Conference in 1928, Dr. A. N. Tucker, of the School of Oriental Studies, spent the months of April, May and June in the Upper Nile and Equatoria Provinces. The main purpose of this visit was to study the Dinka dialect and make recommendations with a view to agreement upon a standard orthography. He also made preliminary investigations into Shilluk. His report is now under consideration by the competent authorities concerned.

*Antiquities Service.*

315. An expedition from the Egypt Exploration Society under the leadership of Mr. H. W. Fairman completed the excavation of the ancient town site and cemeteries at Sesebi. Two important sets of foundation deposits were discovered and the outlines of the streets and houses within the city were laid bare. The stone, which has been long buried, is very liable to disintegrate on exposure, and it was possible to cover again some of the masonry. Before departure at the

end of the winter season, the society's activities were transferred to a site on the left bank of the Nile at Amara, and a few trials revealed interesting remains of a temple dating from the reign of Rameses II. Work was resumed in November, and at the end of the year the very imposing walls and columns of an important temple still existing to a height of about 8 feet with well-preserved reliefs had been exposed. Mr. Addison, with the assistance of Mr. Kirwan, has continued to study the material obtained at Jebel Moya by the late Sir Henry Wellcome and visited the Sudan during the spring to examine the site and also a quantity of material stored locally. Mr. L. P. Kirwan arrived in November to examine and study some of the ancient sites in the Central and Eastern Sudan contemporaneous with Egyptian civilisation. The results of his studies of these purely Sudanese cultures will be of great interest. An Arabic translation of the *Antiquities Guide* was published towards the end of the year.

#### *Museums.*

316. Both the ethnological and natural history collections have continued to expand, and the gift of a valuable collection of Dervish and other historic objects was received from Lieutenant-Colonel E. B. North, C.M.G., D.S.O.

### CHAPTER XV.—GAME PRESERVATION.

317. Revenue of the department was £E. 4,063 and expenditure £E. 4,489.

318. Returns of game killed in 1937 received too late for inclusion in the report of that year amounted to 130 head killed by thirteen licence holders. In 1938 186 head of game were killed by fifteen visiting sportsmen, and 992 head by 125 officers, officials and residents.

319. Six thousand and seventy-four kilog. of hippopotamus hide and 3,214 kilog. of ivory were exported, and 371 kilog. of ivory passed in transit through the Sudan during the year.

320. Sales of animals and birds to the value of £E. 1,094 included one male giant eland and one bush-buck to Chicago, and one buffalo, four saddlebill stork and two secretary bird to M. Schultz of Tanganyika Territory.

321. Arrivals from collecting stations included 5 giant eland, 4 Nile lechwe, 5 situtunga, 2 giraffe, 1 addax, 2 white-eared cob and 6 antbear.

322. Entrance fees to the zoological gardens amounted to £E. 202.



## CHAPTER XVI.—STORES.

323. The international situation, floods, locusts and heavy programmes of building, education and resettlement all contributed to the amount of subsidiary but essential stores services which had to be rendered during the year. There was also a certain amount of lee-way still to be made up from the period of strict economy during which stores had to outlast their normal life. On the military side the modernisation and mechanisation of the Sudan Defence Force made further progress, involving new weapons and many changes of pattern; material and establishments.

324. The prices of raw materials and manufactured goods purchased abroad continued to rise, but there were signs of stabilisation and even of a lowering of price in some commodities during the latter half of the year. Deliveries were still slow, but showed an improvement over 1937.

325. Cash disbursements for the year amounted to £E. 59,498 for stores and £E. 13,288 for printing, a total of £E. 72,786, compared with £E. 123,442 for the previous year, whose larger figure was due to heavy forward purchases and to the non-arrival of much material that had been expected in 1936.

326. The bulk of stores issues are free and not costed, but the following repayment services were also rendered:—

	£E.
Stores ... ..	3,405
Grain and flour...	8,975
Departmental expenses ..	411
Sales ... ..	251
Printed matter ... ..	5,949

327. The value of stocks on hand rose from £E. 148,581 at the beginning to £E. 154,506 at the end of the year.

328. The contract price for grain again rose slightly; 1,811 metric tons were purchased at a cost of £E. 8,208. Demands on the depot were normal. One hundred and forty-seven tons of bran costing over £E. 1,500 had to be bought to mix as poisoned locust bait.

329. The output of the general workshops at Khartum North increased in value from £E. 33,336 to £E. 34,852, and in quantity from 225,000 to 311,850 articles. In addition, some 17,800 articles were repaired.

330. The arms workshops were again extremely busy. Their work included the overhaul of 4,429 rifles, 174 pistols, 68 machine guns, 347 bicycles and 175 typewriters. Towards the end of the year a good deal of experimental work was carried out on the

mounting of anti-tank and automatic weapons on armoured fighting vehicles.

331. The number of petroleum stores erected and licensed again rose; the number of both large and small installations is now 186.

## CHAPTER XVII.—PROVINCES.

### *Northern Province.*

332. The Nile flood, which reached its peak at Atbara on the 9th September, was above normal in height, volume and duration. Although some damage was caused to buildings and date palms on low-lying land near the river, the flood brought prosperity rather than loss to the riverain cultivators; basins were extensively flooded and the people were able to cultivate large areas which are seldom watered; excellent crops of cereals and leguminæ were grown, and grazing areas on the islands and basins increased. Serious damage was threatened by a big invasion of locusts which bred out in vast numbers to the east and west of the river, and the danger was only averted by the efforts of the people, who, under the leadership of the native authorities and with assistance from Government in the form of transport and poison bran, destroyed large quantities of eggs and hoppers. The rains failed and grazing and rain-grown cultivation in the southern areas of the province, which lie within the rain belt, was still further reduced by the depredations of the locusts. The date crop failed, partly owing to climatic conditions at the time of pollination, and relief in taxation on this account was necessary in the southern and most poverty-stricken part of Wadi Halfa District. Elsewhere the failure was partially offset by a large carry-over from the abundant crop of 1937.

333. Notwithstanding these set-backs, a steady improvement in the conditions of the people has been maintained. Money circulated freely if not abundantly. The steady exodus of men in search of casual or permanent work in Egypt or in other parts of the Sudan continued. This is no new problem, but it creates a permanent shortage of labour which is felt particularly in agricultural enterprises. On the other hand, the amount of cash remittances sent to their families at home by these emigrants is considerable. In the more populated and prosperous areas a desire among cultivators to improve their methods of agriculture was noticeable; there was, for example, a distinct increase in the use of ploughs and in the purchase of ploughs of European pattern. Great interest was shown in improved methods of date culture, as demonstrated on certain Government pump schemes. Steps were taken to foster this interest by increasing the number of demonstration areas in the date-growing districts, by verbal instruction and encouragement, given by an agricultural inspector specially detailed for work on date culture, and by the extensive distribution of a bulletin on date-growing,

written in simple language. A bulletin on ploughing was also published.

334. Government pump schemes enjoyed a satisfactory year, although damage by flood was extensive, particularly at Ganditu in Shendi District, where 815 feddans in the rotation were inundated. In the seven pump schemes in which cotton is grown and is the main crop, 4,195 feddans produced an average of 4·27 kantars. The Sudan Plantations Syndicate at Zeidab sowed 5,554·25 feddans with cotton and picked an average of 3·75 kantars. In the Debeira scheme, near Wadi Halfa, the native board of management continued to administer the agricultural side of the plantation profitably and successfully.

335. Private pump schemes, especially the larger enterprises, continued to suffer from lack of labour, and several were compelled to reduce the area under cultivation on this account. The popularity of the small portable pump of about 4 inches diameter increased. These pumps are within the means of the prosperous small-holder, and, provided that they can be maintained in good repair, compete favourably with the old-fashioned sagia. At the same time experiments were begun in the fitting of ball-bearings to the frictional parts of the sagia, which greatly reduces the load. Five of the agricultural co-operative societies formed in Dongola District continued to operate pump schemes under the general supervision of the district commissioner, but, financed as they are for the most part by absentee members, it has become clear that their administration will present a difficult problem to the committee of management.

336. Basin cultivation gave promise of an excellent crop owing to the high flood. Over 50,000 feddans in the large basin at Kerma in Dongola District were inundated. The bulk of this basin is still used for grazing only, but, thanks to new works carried out last year, a slightly wider distribution of silt was made possible, and a satisfactory crop of wheat was grown. In the Shendi basins excellent harvests of dura, wheat and chick-peas were reaped. Results in these basins, which were due as much to increased use of the plough as to extensive flooding, gave a great impetus to agriculture in this district. The expropriation of registered cultivation and grazing rights in these basins, which their holders were not exercising, was begun, and should assure their future development on a sounder agricultural basis.

337. The general health of the people remained satisfactory. In the southern areas there was a high incidence of malaria in January and again in October, but, in spite of the high flood, the rest of the province suffered less than is usual. This must be attributed to the work of the public health service and to the co-operation with the sanitary overseers of local authorities and householders. The people as a whole are beginning to appreciate the value of public health measures. The projects for slum clearance

initiated in 1937 in Wadi Halfa and Berber progressed more rapidly than was expected owing to the readiness of the people to co-operate in the work. Conditions in rural areas improved more slowly than in the towns, but the high flood assisted the authorities by destroying many houses built on unhealthy and low-lying sites near the river. Administrative, agricultural and medical officers continued their attempts to interest the people in vegetables, fruit and other nutritive articles of food.

338. The chief agricultural show was held at Shendi and proved a great attraction. There were 1,800 exhibits of agricultural produce, and the "Ideal Home" was visited by 8,000 persons. Booths were occupied by representatives of the Railway, Survey and Postal Departments, in which the elementary machinery of these technical services was explained. The ploughing match attracted 100 entries. Smaller shows were held at Dongola and Berber and horticultural shows, in which the native vegetable gardener took an increasing interest, at Atbara and Wadi Halfa.

339. The export of dura to Egypt rose considerably, 21,209 tons passing through Wadi Halfa. There was a steady decrease in the export of cattle and sheep and sales of animals were generally less than in 1937. Only 3,401 tons of dates were exported to Egypt, of which approximately 1,000 tons were part of the 1937 crop, compared with 4,282 tons last year. The date packing factory at Abu Hamed continued to manufacture packets of soft dates, and found a ready internal market for its output of 22,465 packets. This industry has caused a demand for the Mishrig variety of dates, which, in turn, has increased the price of shoots. The dom-nut industry in Atbara all but ceased, owing to a sudden drop in price from 410 mms. to 80 mms. per kantar, due chiefly to a lack of demand from Japan. Over 2,000 tons of chick peas passed through Shendi auction market. The consumption of sugar increased.

340. Tourist traffic through Wadi Halfa increased, and great satisfaction was shown at the decision to keep open the Nile Hotel at Wadi Halfa throughout the year. One thousand and forty-nine aeroplanes landed in Wadi Halfa where a new aerodrome was constructed. Good use was made of the motor road from Wadi Halfa through the inhospitable country of the second and third cataracts as far as Dongola, and the greater proportion of the sugar imports and date exports were carried by motor transport over this road. The famous and adventurous date fleet, which annually shoots the rapids of the third cataract, sent off only a few boats. A new motor road was made from Berber to Abu Hamed.

341. The main direct taxes, namely, date tax, land tax and animal tax, which produce nearly half the revenue (total £E. 88,000 odd) of the province were collected efficiently and without difficulty by the local authorities.

342. Cases of serious crime were again happily few. Only one minor and six major courts were held. There was a noticeable decrease in the number of criminal cases tried by native courts from 3,678 in 1937 to 2,608 in 1938, but civil cases showed a slight increase. The courts continued to work satisfactorily, and there was a normal number of appeals. Sentences of imprisonment were imposed on 196 persons, compared with 434 in 1937. Fines in criminal cases tried by native courts amounted to £E. 892, compared with £E. 1,087 in 1937. The two native benches of magistrates in Atbara and Wadi Halfa disposed of 1,272 cases. The town committees, established last year in the larger centres, were extended to most of the towns, and embryo town councils, with advisory powers, did useful work in the fields of education, sanitation and urban development. The work done on these committees helps to promote a civic sense among the townspeople, and the committees have become an integral part of local government in the towns. Leaders of the local governments showed a proper sense of responsibility in their work during the locust campaign and the anti-malarial measures which followed the high flood.

343. The demand for more education at all levels continued to increase and became even more insistent. At Atbara the demand for vacancies in the boys' elementary school exceeded the supply five-fold. The demand for girls' education was steady but less overwhelming. Owing to shortage of teaching staff it was not possible to open any new boys' elementary schools, but boarding houses attached to elementary schools were opened in four places and were found to be most popular and successful. The aim of these boarding houses is to provide an opportunity for educating the sons of notables who live in places where no school exists. They also enable the school to serve the needs of a wider area. In every elementary school an educational fund was established, supplied largely from monies raised by the sale of tickets for schoolboy plays, administered often by the local educational committee of the locality, and used for the furtherance of educational projects in the school or village. Efforts were made to stimulate a variety of activities outside the class room by the introduction of new games. Parents' Day, initiated in 1937, was adopted in all schools and proved to be most popular. Gardening as a hobby, the production of news-sheets and the acting of plays were encouraged among the boys. School libraries were founded and visits made to places of educational interest. A comprehensive house system was introduced into the intermediate schools of Berber and Atbara. Three first-class khalwas were converted into sub-grade schools, and a girls' sub-grade school, the only one of its kind in the Sudan, was opened. The province educational officer gave lectures in the native officials' clubs, and, with a view to adult education, made extensive use of a magic lantern in the course of his tours through the rural districts.

*Khartum Province.*

344. In March the 2nd Battalion the Royal Welch Fusiliers relieved the 1st Battalion the Black Watch (R.H.R.), and was, in turn, relieved by the 1st Battalion the 22nd (Cheshire) Regiment in November. The 2nd Battalion the York and Lancaster Regiment relieved the 1st Battalion the East Surrey Regiment in December.

345. Administration of the rural district was greatly simplified when the riverain communities, remnants of many waves of migration, agreed to federate into four circles for purposes of local government. In the towns the local committees of the municipal council met regularly. Self-interest is still occasionally in evidence, but, on the whole, recommendations were stamped with a new and welcome sense of responsibility. The crisis of September brought forward universal assurances of loyal support for the Government.

346. Statistical comparison of recorded crime in the municipal area is becoming misleading. Although the figures remain fairly constant, the types of offences are changing. Simple cases of homicide, affray and plain theft have steadily decreased and are now confined to the lowest classes of the inhabitants. On the other hand, offences associated with professional criminals and dishonest trading, such as counterfeiting, planned burglary, fire raising on insured premises, and fraudulent trading, are steadily increasing and involve long and patient investigations. Comparative figures are as follows :—

	1936.	1937.	1938.
Informations ... ..	8,253	7,587	7,017
Arrests ... ..	3,283	2,997	3,109
Non-summary trials ...	190	193	213
Summary trials ... ..	5,722	5,050	5,130
Trials by town benches	3,066	3,324	3,898
Persons tried ... ..	8,819	8,145	8,592
Persons convicted ... ..	7,824	7,234	7,607

347. A rapid rise in the number of traffic accidents, especially of those involving cyclists, gave rise to anxiety during the first half of the year. Mobile traffic police were then introduced with very beneficial results. Fifteen fatal accidents occurred on country roads outside the towns; the number of other road accidents involving injuries to persons was 115, and involving damage to vehicles was 179, compared with 151 and 128 respectively in 1937. The number of civil cases again showed a large increase, being 3,529 against 2,472 in 1937 and 1,990 in 1936. Fees amounted to £E. 6,915, compared with £E. 6,109 in 1937. The total amount on which execution was made rose from £E. 7,295 to £E. 17,673. The native courts disposed of 505 criminal and 540 civil cases.

348. The standards of conduct, discipline and efficiency of the police force remained high. No major changes in duties or establish-

ment took place during the year, although the responsibilities of police in urban areas are steadily increasing.

349. The rains were very heavy and the rivers unusually high; thus conditions favourable to fly and mosquito breeding prevailed during August and September, and were followed by a greatly increased incidence of malaria, typhoid fevers, dysentery and diarrhoea (gastro-enteritis). Measles and whooping cough—commonly mild diseases in the Sudan—were experienced in a severe form, but the province was free from the more devastating epidemic diseases. There were 23,721 cases of malaria reported, about one in ten of the population of the province, compared with 3,654 in 1937. There were nearly five times as many primary cases of malaria (731) notified in the three towns as in 1937 (149). One thousand five hundred and eighty-one cases of dysentery came to notice, compared with 966 in 1937, and there was much gastro-enteritis among children. The number of cases is not known, as this disease is not notifiable. Enteric fevers showed an increased incidence in the three towns, especially in Khartum, where twenty-seven cases were notified, compared with nine in 1937. Two cases of smallpox were recognised during a period when the disease was widespread in the Gezira, and some 60,000 persons were vaccinated. There were fifteen cases of relapsing fever, of which eleven were imported; of the four locally-contracted cases, three occurred in immigrants from the west. A dispensary was opened in Shambat in May and the local villagers later in the year put up a good dispensary building; in Gereif West a fine new dispensary was built by the inhabitants, and in Gereif East a new room was added to the existing buildings. There was again an increase in attendances at dispensaries from 161,366 in 1937 to 248,115.

350. As the main centres of education for the Sudan lie in Khartum, interest in development remained as high as ever. Both Government and private schools are full to capacity and expansion is only limited by the accommodation and the supply of teachers available. One new municipal girls' school was opened in Omdurman during the year.

351. Rabies still persists in the province, but no serious outbreak of animal disease was reported in 1938.

352. The all-weather road to Gordon's Tree was extended to Jebel Aulia in the spring; the railway embankment, from which the track had been taken up, was utilised as the core. Serious breaches were, however, caused by floods following exceptionally heavy rains, and traffic was interrupted. Other tracks outside the towns deteriorated under heavy motor traffic; the road to the north was particularly affected by the daily convoys proceeding to the film camp at the Shabluka Gorge. In the towns 23,843 square metres of metalled surface were newly laid, 65,628 square metres repaired and 6,012 square metres of new footpaths constructed. All earth

formation roads in the built-up areas and on the main exits from Khartum and Khartum North were constantly recambered by graders. Three new traffic roundabouts were constructed. The adoption of rubber-tyred transport by all except a residue of carters has facilitated new constructional methods. Instead of narrow-metalled strips of macadam for wheeled transport, wider surfaces of sand mixed with bitumen are being substituted. This has enabled more attention to be given to footpaths, kerbing and permanent and temporary drains, thus greatly enhancing appearances and effecting economies.

353. There was a very considerable building activity during the whole year. The Government programme included the erection of a block of offices to accommodate the headquarters of the Department of Customs and Economics and Trade, which adjoins and forms a quadrangle with the offices occupied by the Department of Agriculture and Forests. An innovation was the erection of two-storied quarters for officials on the southern face of Khartum and along the river front at Omdurman. The most noteworthy buildings in course of construction by private enterprise were the Egyptian Club and the new premises for Messrs. Gellatly, Hankey and Co. (Sudan) (Limited). A remarkable feature was the rebuilding of many insanitary ruins and the completion of houses in native residential quarters, particularly in Omdurman. These works appear in no returns, but can completely change the character of a quarter. Two hundred and sixty-two sets of plans for new permanent buildings were approved in 1938 and the value of the buildings erected is estimated at £E. 115,968. In addition, 1,615 permits for erection of non-permanent buildings in the classified zones were issued by the municipal engineer's office and innumerable other approvals given for buildings in the satellite villages.

354. Inhabitants of the province who derive their livelihood from the soil or from regular employment considered 1938 a prosperous year. Merchants and traders took a gloomier view and complained of dull markets and lack of profits. The traders' view was confirmed by a decline in the circulation of money and the consumption of meat and sugar, but taxes were paid promptly. Anxiety caused by the unsettled international situation was aggravated by a restriction in credit facilities, several prominent exporting and distributing firms failed and general confidence was weakened.

355. A successful military tattoo was held in January.

356. The Khartum telephone exchange was changed over from manual to automatic operation on the 17th March with remarkable smoothness.

357. In November the London Film Corporation filmed the Sudan scenes of the "Four Feathers" on a location near the Shabluka Gorge.

358. The crisis of September was faced steadily and schemes for local protection were first improvised and then improved.



*Blue Nile Province.*

359. In June a party consisting of some 240 Amhara and Galla refugees, mostly soldiery who had been conducting a guerrilla campaign against the Italian posts in the Gojjam area, surrendered their arms to a Sudan police post on the frontier and were brought to Singa for disposal. Sheikh Hamdan Abu Shok of Gubba, who arrived as a refugee last year, died at Singa and his entourage have now returned to Abyssinia. Refugees from indigenous tribes near the Sudan border have continued to arrive, although in diminishing numbers. They have been provided with sites for building and cultivation in the area south of Roseires. Following on the improved state of security on the frontier, all emergency police posts have been withdrawn with the exception of those at Amari and Qeissan, and the remaining sectors are now covered only by patrols.

360. In spite of severe damage caused by locusts to crops in both the rain-grown and irrigated areas, the past year has been one of prosperity in the Gezira and Rufaa Districts. Although cotton prices remained at a comparatively low level, accelerated sales resulted in large payments to the tenantry by the two cotton companies. These payments have been reflected in an increased activity in all markets and an improved return in the figures of revenue derived from them. Further south, in the Fung area, the locust invasion was more severe and more prolonged, and in the absence of any substantial alternative means of livelihood the rural population suffered severely. Considerable reductions in taxation and the promise of a good winter crop of maize on the banks of the falling river have, however, done much to relieve a situation which at one time showed signs of becoming serious. The position, however, particularly at the southern end of the area, still gives cause for anxiety.

361. At a meeting held in February near Kurmuk and attended by the Governors of the two provinces concerned, a final settlement was made regarding the adjustment of the inter-province boundary necessitated by the transfer to the Upper Nile of the areas inhabited by certain pagan tribes of nilotic type. Following upon the realignment of this boundary, alternative grazing grounds have had to be found for some of the nomadic Arab communities who had hitherto taken part in an annual southward migration in search of water and pastures in the neighbourhood of Kurmuk. This has been done by opening to them a strip of country on both banks of the Dinder River south of Ereif-ed-Dik.

362. The extension of the area under the control of the Mek of the Fung Gism, which began in 1937, has been continued by the addition of the Gule Mangilate, itself formerly a part of the Fung Kingdom. In order to facilitate his control over the semi-nomadic Arabs in the Fung area, the warrants of the courts having jurisdiction there have been placed on a territorial instead of a tribal basis.

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363. For various reasons the administration of that part of the Shukria Nazirate which falls within Rufaa District has during the past few years been showing signs of deterioration. A growing tendency on the part of the people to bring their affairs direct to the district headquarters for settlement and a reluctance to rely upon their own agencies for execution of their orders have resulted in a loss of prestige and self-confidence on the part of the local government. Steps which it is hoped will bear fruit in the coming year have been taken to check this tendency, and arrangements have been made to strengthen local government staff.

364. The number of criminal cases tried during the year was 11,290. Comparative figures are as follows:—

	1937.	1938.
Non-summary courts ... ..	184	159
Summary courts ... ..	1,454	1,328
Town benches ... ..	1,377	1,433
Native courts ... ..	7,672	8,370
	10,687	11,290

365. The incidence of crime contains no features calling for particular comment, but an increase in animal theft among the semi-nomadic tribes of Rufaa and Sennar Districts is giving cause for considerable local anxiety. The end of the year saw the application in the province of the new legal circuit system by the appointment to Hasiheisa of a Sudanese district judge, the assumption by the circuit judge who is a judge of the high court of the presidency, when circumstances permit, of major courts convened in all districts save that of the Fung, and the discharge by him of the Governor's duties as a confirming authority in dealing with appeals against decisions given by courts of a lower category.

366. Thanks to improved frontier conditions and the increasing efficiency of the local government, the police establishment of the Fung District will be considerably reduced in the new year.

367. There was no serious shortage of labour at any time in the Gezira irrigated area. The proportion of western labour for picking rose by 5 per cent., the attraction of Abyssinia having proved short-lived. A local labour enquiry showed that in nearly every block there exists a permanent organisation by which tenants bring in labour from surrounding districts and the annual migration of labour may be said to have become part of the economic life of these districts.

368. In recent years a growing tendency has been observed among the immigrant labour from the Western Sudan, French Territory and Nigeria to form permanent settlements on sites in the irrigated area separate from those already occupied by indigenous villages. Hitherto these settlements, although they have provided

useful sources of labour for the cotton fields, have not been officially recognised by the appointment and remuneration of headmen. A survey of these settlements was made during the year and approval has been given for the issue of salaries to such of these headmen as are considered to have a sufficiently important command. It is hoped that this scheme will facilitate the control of labour in the Gezira area and also provide a closer administration of these immigrant elements.

369. The rains generally, after a late start, were unusually heavy, and, but for the damage caused by locusts, which invaded all districts in great numbers, an exceptionally good grain harvest would have been secured. Thanks largely to repeated watering in the irrigated area and to late rains in certain areas outside it, an average crop in the northern part of the province and an average yield of three standard ardebs per feddan within the irrigated area was harvested. In the Fung area the damage was more severe, and after repeated and abortive sowings of grain the population in despair turned their attention to sesame, but even this crop, after making a good start, produced results which show a considerable reduction on those of last year. On the other hand, the varied crops sown towards the end of the year on the banks of the falling river are showing exceptional promise, and in the reservoir area between Sennar and Karkoj maize, melons and sweet potatoes are giving excellent yields.

370. The Gezira cotton scheme had another successful year. The area under cultivation remained unchanged, but the crop slightly exceeded the previous year's, which was the highest figure recorded since 1927. In spite of the fall in market prices, during the course of the year a sum of over £E. 300,000 in respect of the *pro forma* price of the 1938 crop and appreciations on this crop itself and on the two previous crops was paid out. This represented an average sum of £E. 14 per tenant, compared with £E. 19.200 in 1937, exclusive of advances distributed during the course of the year for the various agricultural operations involved in the production of the current cotton crop. In addition, a sum of £E. 157,000 was credited to the equalisation funds representing a figure of £E. 7.500 per tenant, compared with £E. 12 in 1937. Of the money paid out as advances during the year, as large a sum as £E. 334,000 was distributed in respect of picking. At least 50 per cent. of this sum must have been paid out to persons usually resident outside the Gezira, mainly to westerners and immigrants from the White Nile and the east bank of the Blue Nile.

371. Prior to this year the whole Gezira irrigated area had been opened on a fixed date after the close of the picking season to herds from the surrounding districts for grazing on the cotton stalks. A successful experiment was made of opening up individual areas to grazing as picking ceased in them, and the fact that no damage was done to standing cotton in areas adjacent to those opened was largely due to the co-operation of the local government authorities.

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372. During the course of the year it was decided, owing to the small size of Government's experimental area at Gondal, to abandon social experiments there and to confine them to the Kassala Cotton Company's area in Fawar and to the White Nile alternative livelihood scheme under government control at Abdel Magid. While there are signs at Fawar that the tenants are beginning to regard their villages as permanent homes, optimism as to the success of the social aspects of the experiment in this area must be tempered to some extent by the fact that there was an unduly high proportion of changes amongst the imported tenantry at the end of the 1937-38 season. The results of social experiments in the Abdel Magid area, where conditions are much more favourable, will be found in the White Nile Sub-Province report.

373. An experiment in the use of native agencies for agricultural operations is now in force not only in the experimental areas of Fawar and Abdel Magid, but to a very limited extent in the main area of the Gezira, and reports are encouraging from all areas.

374. Two successful live-stock and agricultural shows were held in December. Entries were confined to tenants of the two companies and totalled approximately 2,100 in twenty-four classes. Side-shows of an educational character were produced by Government departments and commercial firms and proved most popular. The judging of the various classes was watched by large crowds with great interest.

375. The exceptionally high level reached by the flood waters of the Blue Nile and the Dinder had a very stimulating effect on the growth of existing forest reserves, and greatly assisted the work of regeneration by destroying the bulk of the weeds and thus leaving large areas clear for planting. In order to secure an adequate fuel supply for Rufaa town, and at the same time to put a stop to indiscriminate cutting by local sellers of firewood, a total of 15 feddans from two forest reserves were sold to the Shukria local government, which undertook to dispose of the firewood and timber to local traders, and at the same time to prohibit the sale in Rufaa of any wood cut elsewhere than in these areas. This interesting experiment has proved successful, and is to be extended considerably in the coming year. In conjunction with the scheme instituted last year, which aimed at confining the cutting of firewood for domestic purposes in the area north of Singa to certain specified coupes, eight new forest reserves have been demarcated for this purpose in the reservoir area for expropriation during 1939. Proposals for extending the scheme in order to check denudation of forests in the area south of Singa, with all its accompanying evils of erosion and desiccation, are now being prepared.

376. A smallpox epidemic, severe but happily shortlived, broke out in the Gezira early in the year. The infection was of a virulent type, and the presence in the area of large numbers of unvaccinated

immigrants at the height of the picking season, provided a situation full of anxiety for medical and syndicate staff alike. A prompt and energetic campaign undertaken by the medical authorities with the welcome co-operation of the syndicate staff, in the course of which some 700,000 persons were vaccinated in the Gezira and Rufaa districts alone, was successful in confining the epidemic to a limited area with the minimum dislocation of labour conditions.

377. Unusually heavy rains, coupled with an exceptionally high flood, produced a sharp rise in the incidence of malaria, the figures for the Gezira and Rufaa districts rising from 20,000 in 1937 to 56,000 in 1938. In the face of these figures, it is satisfactory to be able to record that the provision of additional mosquito proofing to the officials' quarters in Singa, coupled with the appointment of a local sanitary overseer resulted in a very marked reduction in the number of cases among the staff of what has hitherto been regarded as a very malarial station.

378. How best to meet the very strong demand for boys' and girls' elementary and intermediate education in all parts of the province continues to be a pressing problem. Three new posts approved were used to strengthen the staffs of three boys' elementary schools where numbers rendered such an increase essential, but of the twenty-two elementary schools in the province only three have a full staff. Approval for the institution of a new girls' school at Sennar was given, and by the end of the year the buildings were nearing completion. Four new sub-grade schools were opened while the new boys' elementary school in Wad Medani, which has been started and supported by local donations, moved into new and permanent premises which allow for further expansion. The number of children in the elementary and sub-grade schools has increased from 3,300 to 5,000 during the course of the year.

379. The popular demand for education has taken a practical form in the opening by local effort of two elementary school boarding houses, the building of a private girls' school, which it is hoped will be opened early in the new year, and in the provision and maintenance on a private basis of all the buildings used by the fourteen sub-grade schools. Over sixty boys put themselves forward as candidates for admission to the Teachers' Training College at Dueim and forty girls applied for places in the Girls' Teachers' Training College at Omdurman. The local boards are taking an increasing and effective interest in their schools. The intermediate school at Wad Medani maintained its high standard and again took the leading places in the entrance examination for the Gordon College.

380. There were 162 outbreaks of rinderpest among the cattle in the province, compared with 118 in 1937, the disease being unusually prevalent in the Fung area. The number of cattle serumised rose from 6,585 in 1937 to 9,881, while the number of deaths recorded was only 910 out of some 27,000 cattle, which were

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involved in the outbreaks. In order to raise the standard of veterinary work among the police a series of courses for them, including lectures and practical work was arranged by the senior veterinary inspector. These courses, which have already been attended by eighty-two members of the force, will be of great assistance to those sent out to enforce quarantine regulations, and will further enable them to give their own animals adequate treatment for injuries received when out on patrol, or in a station where no veterinary dresser is in residence.

381. In conjunction with the agricultural shows held at Wad Medani and Maeliq towards the end of the year, prizes were awarded in a number of classes for stock of all kinds. The standard of the exhibits was high and will no doubt be further raised by the prospect of similar shows in the future.

382. The number of complaints regarding damage to crops, especially by hippopotamus, elephant and roan antelope, which have come in from the Southern Fung indicate that a large increase of game has been one of the effects of the vigorous arms campaign which has been conducted in that area. The operation of a police patrol in the Dinder game reserve resulted in the arrest of a number of poachers, together with the seizure of quantities of meat, skins and firearms, and a permanent police post has now been established there. The northern end of the game reserve from Ereif-ed-Dik to Ein-el-Shems has been opened for grazing to the Kinana Kowatil Arabs, and at the same time proposals have been drawn up for converting the rest of the reserve into a national game park with a motor road running through it and rest-houses for visitors. It is felt that by this means much can be done to ensure the preservation and maximum enjoyment of one of the most accessible homes of big game in Northern Africa.

383. The programme launched by the medical authorities for providing wells in villages in the Gezira area in order to reduce the consumption by the inhabitants of water from the canals has made good progress. Ten wells have been dug out or relined in the Sennar and Managil areas, and further excavations have been carried out in a hafir at Jebel Dud. Water supplies in the areas in the Northern Fung which are distant from the river have been further improved by the excavation and lining of deep wells at Mina Karkoj, Wad Ais and Abu Tija and a series of shallow wells in the Khor-el-Agaliyin, all on the east bank hinterland of the Blue Nile, and also by the cleaning and extension of hafirs in the Kinana and Fellata areas west of the large Nigerian settlement of Maiverno.

384. Among the major building works completed during the year were a second storey to the Wad Medani Club, a new prison at Hasiheisa and a mosque in the same town. The Government grant of £E. 1,000 for the last-named building left a deficit of £E. 368, which was raised by public subscription, and this well-proportioned

building now stands as a sign of successful corporate endeavour on the part of the Moslem community. A survey of the buildings in the police lines at Wad Medani, Sennar and Singa has resulted in their condemnation by the district sanitary board, and a scheme for rebuilding them in instalments over the next few years will come into operation during the new year.

385. The district sanitary board approved amendments to the building regulations for Wad Medani town, lowering the standard of construction required in the first- and second-class areas so as to bring the rebuilding of dilapidated houses within the means of their occupants. In consequence, it has been possible to start a stricter campaign for the tidying-up of these areas. The new regulations also proved a great assistance to those anxious to build new houses, and the year saw the issue of thirty-six permits for new houses and 200 permits for reconstruction of existing buildings. The appearance of the residential area of the town has further been greatly improved by the levelling of six open squares and their irrigation by means of a canal and pipe-line bringing water from the Gezira scheme. In December the American Presbyterian Mission consecrated a new church in Wad Medani, the funds for which had been supplied largely by the generosity of a local Greek building contractor.

386. During the year land sales in the irrigated area totalled 30,755 as against 36,680 in 1937. The Government share was 6,493, compared with 11,607 in 1937. The Gezira field elimination party dealt with 13,044 feddans, compared with 22,770 in 1937, and the Government purchased through these means an additional 2,376 feddans, compared with 6,278 in 1937. The two parties working in the field last year were reduced to one in 1938. It is hoped to complete the elimination work in so far as the irrigated area is concerned before the rains of 1939. Outside the irrigated area there were 20,468 sales between natives, compared with 18,227 in 1937.

387. Assisted by the large payments made to tenants in the irrigated area by the cotton companies, trade generally maintained the improved level which it reached in 1937. The consumption of sugar in the province rose from 98,209 sacks in 1937 to 110,600 sacks in 1938. Towards the end of the year, however, the low prices prevailing for local products and the lack of demand for export began to have an adverse effect, and this was felt with particular severity in the Fung area, where prices for tobacco, gum and dom-nuts sank to a very low level. Owing to the confinement by the Italian authorities of trade with Abyssinian territory to the hands of a few selected firms, local trans-frontier traffic suffered severely and the merchants at Kurmuk and Qeissan were left with large stocks of goods for which there was no sale. In order to discourage the practice of advance sales of standing crops and to assist local purchase by the larger exporting firms with their greater powers of discrimination between the various grades of produce, a number of auction markets

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were set up in the Fung area and orders were issued forbidding the sale of sesame, gum and dom-nuts except in these markets. The scheme made a promising start, but unfortunately its advantages, in the opinion of the local population, were largely offset by the low prices prevailing everywhere for these particular commodities.

388. Following on the death of Sir Henry Wellcome, his representative in the Sudan, Major Uribe, after winding-up the affairs connected with an excavation concession at Jebel Moya, finally left the country in April. In an association which began in 1912 both he and the late Sir Henry Wellcome endeared themselves to the local population by their generosity and unfailing interest in their welfare, and their memories will be cherished so long as the cyclopean masonry of the famous "House of Boulders" still stands upon its lonely hillside.

*White Nile Sub-Province.*

389. The economic condition of the people remained good, though the drop in the value of cotton and other cash crops began to have its effect before the end of the year. Rains in 1938 were generally heavy, but hopes of a bumper harvest did not survive a bad locust invasion, which did great damage to crops and to grazing and the rain crop was reduced to less than normal. The high Nile, however, saved the situation and flooded large areas of land, which had not been flooded since 1917. By the end of the year there was every prospect of a magnificent sufra crop. Sugar consumption remained fairly constant at 38,193 sacks, compared with 43,587 sacks in 1937.

390. Agriculture produced average results during the year. The 1937-38 river crop was unsuccessful, and the 1938 rain crops subnormal. Private pump schemes had a good average yield, but prices were low. The cotton yield was 38,599 kantars, valued at £E. 81,058 on the ground. Of this sum local tenants received £E. 32,423. The autumn grain crops grown on these schemes showed improvement, and a good cotton crop seemed again assured at the end of the year. Water control, weed cleaning and canalisation still remain unsatisfactory, and there is an urgent need for better trained managers. The Dueim scheme continued to be moderately successful. The 1937-38 crop produced 4.29 kantars of cotton and  $4\frac{1}{3}$  ardebs of dura per feddan. The 1938-39 yields are expected to be as good.

391. The effects of the Jebel Aulia reservoir began to be appreciated more clearly by the native population. The speedy emptying of the reservoir in February and March gave cultivators the opportunity to grow melon and other crops on the uncovered land. The results were moderately successful, but the agricultural value of this land will only be assessable after some years experience. The flood rose to 376.28 metres at Dueim on the 18th September, and



the river then dropped by the 19th October to the holding level of 375·10 metres. The land so flooded and uncovered was productive of an excellent crop of *sufra dura*.

392. The alternative livelihood schemes made great progress. At Abdel Magid a new instalment of 10,000 feddans was completed and occupied by riverain cultivators. Owing to the excellent results of the 1937–38 season when the cotton yield was over 6 kantars per feddan, there was great keenness to obtain tenancies. By the end of the year 900 tenants were farming each an area of 18 feddans, growing cotton, *dura* and *lubia*. The agricultural prospects at the close of the year were bright.

393. On the White Nile the preparation of two large pump schemes at Fatisa and Dubasi continued. The engines and pumps were ready at Fatisa by mid-August, and an excellent *dura* crop was obtained. A political officer was appointed manager of the alternative livelihood schemes, to supervise the settlement and social development of the tenants. Considerable progress has already been made towards permanent settlement and the formation of a local agricultural organisation under the ægis of the Hassania Administration.

394. A start was made at Kosti on the work of constructing the new transshipment station for the Sudan Railways. The town plan finally approved involved removal of the market and various native lodging areas. By the end of the year the new native lodging area was growing fast, and the new market beginning to take shape. The Railway Department constructed an imposing bank and quay wall. Protection banks are being built at Dueim, and work started in November. The special commissioner spent a busy year assessing riverland compensation, resettling and expropriating land for alternative livelihood schemes and valuing house property. An assistant to him was appointed in November.

395. The two local administrations, which between them administer practically the whole area, had a successful year. Taxes were collected easily in the south, and with some difficulty in the north, but the year closed with no arrears. The judicial work of the administrations continued to be good. One thousand five hundred and forty-five criminal cases were dealt with by the local courts. Two thousand one hundred and seven people were tried, and 1,654 convicted, of whom 502 were sentenced to terms of imprisonment. In civil matters and local disputes the courts continued to do valuable work. Branches of the Baggara nazirate court were opened at Fashishoya and Kerrikerra. The Nazir of the Hassania, head of the Hassania Administration, was ill for much of the year, and his administration suffered from lack of direction and energy. Public security, apart from one or two murderous affrays between tribal sections, remained satisfactory.

396. Public health was good, and no serious epidemics occurred. The rainfall throughout most of the area was abnormally high, and

during the latter months the incidence of malaria was three times as high as usual. Owing to the heavy late rains, the effect of the reservoir on health conditions was very difficult to assess and will require several years observation, though it is probable that already there has been some deterioration. During an extensive vaccination campaign early in the year, initiated to prevent infection spreading westwards from the Gezira, 84,000 persons were vaccinated. Only fourteen cases of smallpox were reported, of whom two died. One thousand eight hundred and eighty-two patients were treated in Dueim and Kosti hospitals, and 350,121 as outpatients at hospitals and at dispensaries, while 440 operations were carried out.

397. The decision to move the elementary teachers' training college from Bakht-er-Ruda and the rural intermediate school from Dueim because of the probable deterioration of health conditions was felt to be a heavy blow to local education which has benefited greatly from their presence during the last few years. Educational work proceeded normally. The elementary schools were brought into the circuit of the Blue Nile Province Education Officer, and much-needed inspection work was done. A new sub-grade school was opened at Tawila and application made for yet another at Gulli. There are now eight elementary schools for boys and four for girls, besides five sub-grade schools in the sub-province. The pupils number 1,367 boys and 420 girls.

398. Trade conditions receded slightly during the year. The drop in the price of cotton affected private pump schemes, and licensees and tenants made little profit. Grain and gum exports were very heavy, but prices were lower. Traders' licences increased from 1,408 to 1,862. Export of cattle from Kosti to Egypt and Kassala was brisk, and 7,480 head were exported by train. It is estimated that more than 90 per cent. of these are western in origin and not bred locally. Nine thousand head were exported to the Gezira from Kosti. Figures of exports for the last three years are :—

—	1936.	1937.	1938.
Dura ... .. (ardebs)	54,293	70,657	73,656
Sesame ... .. (ardebs)	23,139	21,068	13,770
Ground-nuts ... (ardebs)	34,318	14,150	10,797
Gum ... .. (kantars)	48,867	45,473	84,251

A sesame cleaning and crushing plant was erected at Dueim and started work. Auction markets for produce and for cattle worked smoothly, and retained their popularity among producers and exporters alike.

399. Rinderpest infections were comparatively light. There were 321 outbreaks involving 124,370 cattle, of whom 39,327 were serumised and 1,818 died. A slight outbreak of contagious bovine pleuro-pneumonia in the Southern District lingered on for several

months and was locally attributed to the import of cattle from the west. Veterinary retainers were maintained by both local administrations and did valuable service. A stallion was presented to the Baggara Administration. Little advance was made in the better preparation of hides and skins. The White Nile area in general is heavily stocked and has nearly reached saturation point. The rapid increase in herds, more especially in sheep, has not been compensated by any comparable increase in grazing areas, and should this state of affairs continue a gradual deterioration in size and quality of stock seems inevitable.

*Kassala Province.*

400. Frontier relations with Italian East Africa have continued to be excellent. Co-operation in the exchange of wanted persons has had satisfactory results, and visits by a number of Italian officials to Kassala and Gallabat have maintained a close liaison.

401. No difficulty was experienced in finding recruits of a good type for the police, and further efforts were made to raise the standard of literacy. The general slackening in commercial activity had its counterpart in the incidence of local crime, and informations in Kassala Town fell from the record figure of 1,807 in 1937 to 1,651 in 1938, which is forty-five less than in 1936.

402. The criminal work of the State courts taken as a whole shows practically no change. The increase in non-summary cases is partly due to an increase in charges for possession of unlicensed rifles and partly to an attempt to stamp out various classes of petty crime by the imposition of heavier sentences.

Year.	Criminal.		
	Number of cases.	Persons tried.	Persons convicted.
<b>Non-summary—</b>			
1936 ... ..	131	173	161
1937 ... ..	138	184	163
1938 ... ..	213	365	281
<b>Summary—</b>			
1936 ... ..	2,731	4,139	3,760
1937 ... ..	2,947	4,213	3,837
1938 ... ..	2,555	4,115	3,545

The foregoing table includes cases tried by the town benches of Kassala and Port Sudan. Their figures for 1938 are :—

	<i>Number of cases.</i>	<i>Persons tried.</i>	<i>Persons convicted.</i>
Non-summary ... ..	3	3	3
Summary ... ..	2,123	3,443	2,958

403. Civil suits :—		<i>Suits.</i>	<i>Executions.</i>
1936 ... ..		652	203
1937 ... ..		785	248
1938 ... ..		1,098	350

The increase is almost entirely at Port Sudan. The only reason that can be assigned for it is a tendency induced by international unsettlement to call in all outstanding debts at the earliest possible moment.

404. The following is a summary of the native courts statistics :—

		1936.	1937.	1938.
Criminal cases ... ..		1,897	1,836	2,015
Civil cases... ..		139	424	508
Sharia cases ... ..		87	73	123

The increase in criminal cases and sharia cases was confined to the sheikhs courts, whose civil work showed a reduction. Meglis courts, on the other hand, tried fewer criminal cases, but twice the number of civil cases they did in 1937.

405. Labour throughout the province was plentiful and cheap, the normal daily rate being £T. 5. Five hundred Saidi labourers were imported for the removal of the Tokar dune, and a nucleus of 200 Yemania was maintained for the busy part of the season at Port Sudan, but otherwise local supplies fulfilled all needs. Italian East Africa continued to attract the more enterprising who found the local rates too low, but so far from their departure causing any shortage, those that remained sufficed not only for the cleaning and picking of cotton in the Gash Delta, but also for the engineering programme there in connexion with which in 1937 Saidi labour had been imported.

406. The total yield of the 1937–38 Gash cotton crop was 63,593 large kantars. The 1937 flood was only 409 million cubic metres, compared with 541 million in the previous year, but the effective area was about the same. Pests, of which the most severe was pink bollworm, did considerable damage and reduced not only the yield but the quality of the cotton. Cattle trespass was greater than it should have been in view of the good grazing outside the delta, but did not materially affect the crop.

407. The 1938 Gash flood was estimated at 497 million cubic metres passing Magauda. Once again the first half of the flood was excellent, but in September the flow was so poor that several of the subsidiary canals could not be opened. The Gash broke its banks south of the Mitateib canal, and flowed across country out of control till it cut the railway line. So severe a break upset the control of the Mitateib canal, but all land unintentionally flooded was used to make up for that lost elsewhere, and no permanent damage has been done to the system of rotation. Fifty-two thousand five hundred and

forty-one feddans were watered, and 36,518 were sown with cotton. The total effective area is 33,292 feddans, the loss being entirely on heavily grassed land watered by the break in the river bank. The estimated yield is 62,552 kantars.

408. The measures taken to improve the piped water supply from the Gammam wells were wholly successful, and for the first time for several years there was no anxiety about water shortage. A normal engineering programme was carried out during the year, and the cost of earthwork was reduced owing to local labour being available.

409. Owing to the poor and irregular flow of the Baraka in 1937 the 1937-38 Tokar crop was disappointing, and produced only 28,116 large kantars. Prices were very low throughout the season. The 1938 flood was a large one and of very fair distribution. Severe winds after the flood necessitated a good deal of re-sowing, but the effective area of cotton is estimated at 40,000 feddans, and the new crop at about 80,000 large kantars.

410. The dura and dukhn crop for the 1937-38 season in the southern district was 253,488 ardebs, a total never before reached. The 1938-39 crop at first showed promise of being even greater, but damage done by locusts and still more by birds has reduced the estimate to under 100,000 ardebs. At Kassala the crop looked like being a record even after the depredations of locust hoppers in August, but during October legions of sparrows destroyed it almost completely. The dura on irrigated land in the Gash delta was less affected, and a fair crop is expected. Damage by locusts and birds in the northern areas was slighter, and the crop there is likely to be larger than usual owing to the high levels reached by the River Atbara. The Tokar crop promises well.

411. The sesame crop was undamaged by locusts and birds, and the marketing system continued to give satisfaction. Unfortunately, there was a severe drop in price, and some of the 1937-38 crop was held off the market in consequence. The following table gives the statistics for sesame since the present markets were instituted :—

Year.	Arrivals in markets.	Average price per ardeb.	Total cash received by producer.	Exports by rail.
	Ardebs.	£E. mms.	£E.	Tons.
1936 ... ..	67,735	1.057	71,658	6,633
1937 ... ..	63,337	0.916	58,043	5,103
1938 ... ..	66,475	0.665	44,261	6,600

412. The plantation of *Acacia arabica* and other trees between the training works at Kassala has been most successful. As an anti-malarial precaution it has been cleared of undergrowth. Another plantation near Jebel Mokram was a failure and has been abandoned.

413. In spite of the low prices prevailing the gum crop of 1938 was the largest since the record of 1932. The low price of sesame was doubtless the direct cause of the increased attention paid to gum. Gum sales are shown in the following table :—

Year.	Gedaref.		Qala en Nahl.		Total Kantars.
	Kantars.	Average price milliemes.	Kantars.	Average price milliemes.	
<b>Gum Hashab—</b>					
1936 ... ..	13,352	534	22,544	534	35,896
1937 ... ..	6,580	896	16,327	796	22,907
1938 ... ..	11,092	552	38,500	525	49,592
<b>Gum Talh—</b>					
1936 ... ..	7,144	276	2,170	204	9,314
1937 ... ..	16,611	630	5,453	555	22,064
1938 ... ..	10,426	276	3,436	260	13,862

414. Prices were very low for dom-nuts in all markets at the beginning of the season, and fell away still further as the year went on. The crop in the Atbara forests was lighter than usual, while elsewhere it was slightly above the average. But towards the end of the season it was not worth while bringing the nuts to market. The total tonnage of nuts sold in the last three years is :—

	<i>Tons.</i>				
1936 ... ..	...	...	...	...	7,833
1937 ... ..	...	...	...	...	6,087
1938 ... ..	...	...	...	...	5,177

415. The general health of the province was good. There was a somewhat higher incidence of malaria in the southern half of the province than in 1937, owing to heavier rains and the greater volume of the River Gash. Though fewer labourers returned from Eritrea there was a higher incidence of relapsing fever, but this seems chiefly due to the establishment of foci within the Sudan. The incidence of smallpox diminished considerably. The most notable feature of medical work in the province was the rise in the number of out-patients attending Kassala hospital, from 55,000 in 1937 to 120,000 in 1938. This was due not to any increase in disease, but to the energy of the local medical staff and to increased appreciation by the inhabitants of the facilities offered.

416. Three new sub-grade schools were opened as a beginning of the programme of educational expansion. All the schools in the province were well attended, except the Kassala girls' school, which experienced a sudden shrinkage in numbers.

417. For the fifth successive year the province has been free of contagious bovine pleuro-pneumonia. Rinderpest occurred in the

southern districts, but with fewer cases and deaths than usual, and also in the Tokar area. Government animals, on the whole, were in good condition, though, as usual, a number were found to be infected with trypanosomiasis. One thousand eight hundred and fifty-one doses of naganol were administered to native-owned camels and 446 camels owned by the Government.

418. By far the most important engineering work of the year was the removal by the Public Works Department of the south-western half of the sand dune which for many years had been threatening to overwhelm Tokar. The cost was approximately £E. 35,000, and 685,000 cubic metres of sand and debris were excavated and spread over a site 1 kilom. east of the town. The average rate of excavation was 6,000 metres a day. In spite of the severe sand-bearing winds that habitually ravage Tokar in the second half of the year, the removal seems to have been completely successful, and all the signs point to the problem being now reduced to one of annual maintenance.

419. Road work in 1938 was mainly confined to maintenance, though further extensions were made to the macadam and coralline roads at Port Sudan. At Kassala a short experimental stretch of semi-permanent roadway made by prison labour with the assistance of Government transport was so successful that the process is being extended to some of the more important of the town roads.

420. Seven new hafirs were dug in the Southern District, of which five were in the general grazing area of the Butana. The normal maintenance programme on wells and hafirs in that district was carried out, and water was found at two new well-sites. Elsewhere the programme was confined to maintenance, except in the Beja District, where an extensive exploration for new wells between Derudeib and the River Atbara was begun towards the end of the year. The Shata dam near Suakin, on which the town depends for a sweet water supply, burst for the second time in two years owing to exceptionally heavy local rains.

421. Revenue from the Port Sudan water supply rose from £E. 20,837 in 1937 to £E. 23,151, in spite of some falling off in the demand from ships. The increase is attributable to the number of new buildings in the town and its suburbs. Revenue from the Tokar supply fell from £E. 1,880 in 1937 to £E. 1,719 owing to the poor cotton crop.

422. The demand for eighty-year leases in Port Sudan was exceptionally heavy, and twelve warehouse sites and nineteen other plots were disposed of during the year. Clearance of the town for permanent buildings and the steady increase of population caused a constant demand for plots in the suburbs, especially in the new Deim-el-Shati. A considerable extension of Tokar was laid out over the area cleared of the dune, and 247 plots have already been taken up, chiefly by those whose houses or shops were threatened by the

dune or removed in the process of widening the streets. The reconstruction of Kassala market was practically completed.

423. The Gebeit Gold Mines Company and Mr. M. J. Bishop (successor of Kassala Gold Mines (Limited)) have continued to work their mines at Gebeit and Oyo respectively throughout the year. Theft of gold, which had for some time caused considerable anxiety to the former, has been satisfactorily checked by the discovery and conviction of a ring of illicit gold dealers. Tanganyika Concessions (Limited) have surrendered their lease at Qala-en-Nahl.

424. Sugar sales for the province for the last three years were :—

			<i>Bags.</i>	<i>Value.</i> £E.
1936	...	...	42,283	102,652
1937	...	...	56,517	119,522
1938	...	...	52,992	112,043

425. The year 1938 was a year of trade recession all over the province, chiefly due to the very low prices ruling for cotton, sesame, gum and dom-nuts. There was thus less money in circulation, and, although there was no want, taxes were in some cases more difficult to collect than usual. The general situation is well illustrated by the demand for sugar, which shows a definite, though not serious, drop. A heavy demand for dura at the end of the year benefited the province less than it should have done because of the partial failure of the local crop. The year has been a leaner one than those that preceded it, but the general attitude is one of cautious retrenchment and not of depression. Affairs in Europe were watched with considerable interest, but the crisis of September was taken calmly and there was no sign of panic.

#### *Kordofan Province.*

426. Rainfall was heavy everywhere except in El Obeid and, had it not been for severe damage by locusts, record crops would have been harvested. Torrential rains in the Nuba Mountains caused the Khor Abu Hahl to overflow and about 1½ kilom. of the railway embankment toppled into a newly-formed river 60 feet wide and 4 feet deep. Communications by rail were cut for six weeks. Most of the well fields were adequately replenished and many lakes are fuller than they have been within the past sixty years.

427. Rain-grown cotton in the Nuba Mountains and Dar Messeria for the 1937–38 season exceeded the estimate and resulted in the second biggest crop obtained. Except in Dar Aulad Hameid, where there was an outbreak of smallpox, very little cotton was left unpicked. The 1938–39 crop is up to average, in spite of the lower



price being paid. The following table shows the crops, prices and cash paid out in the last five seasons :—

Season.	Crop in kantars of 100 rotls seed cotton.	Fixed prices per kantar.	Total cash paid out.
		Piastres.	£ E.
1934-35 ... ..	407,000	30-35	130,000
1935-36 ... ..	289,000	30-35	97,000
1936-37 ... ..	309,000	28-37	108,000
1937-38 ... ..	365,000	28-37	128,000
1938-39 (estimated) ...	344,000	25-34	110,000

428. The quality of the 1937-38 crop showed a slight fall, 63 per cent. being Grade I, compared with 66 per cent. in the 1936-37 season. The eight ginning factories worked well with no major stoppages and the ginning percentage was 28·52. The cotton-seed oil press at Kadugli produced 195 tons of oil. All surplus seed was eaten by cattle, sheep and goats, and there is now no doubt about the nutritive value of this food. The proportion of cotton produced by Nuba rose to 19 per cent. over the whole area, compared with 7 per cent. in 1936.

429. Approximately the same area as last year was cultivated with other crops, and, had it not been for the ravages of locusts and birds, record yields would have been obtained. Sesame, though grown more extensively and practically immune to damage from locusts, yielded less and is estimated at 139,000 ardebs, compared with 234,000 ardebs in 1937. Ground-nuts increased from 40,000 ardebs to 52,000 ardebs and melon-seeds rose to over 145,000 ardebs. The latter crop for the 1938-39 season has been ruined by the late rains. Kerkedeh is no longer extensively grown owing to the drop in price.

430. A much larger gum crop was marketed, but, owing to the heavy fall in price, the resulting income to the people was less by over £E. 120,000. The following table gives the relevant figures since 1933, a year of low prices :—

Year.	Total sales in kantars.	Average local price per kantar.	Total value of local sales.
		Mms.	£ E.
1933 ... ..	304,187	·212	64,680
1934 ... ..	232,960	·314	73,122
1935 ... ..	313,004	·589	184,534
1936 ... ..	409,665	·460	188,437
1937 ... ..	298,362	·950	284,892
1938 ... ..	371,577	·375	163,153

The price fell from 515 millièmes a kantar in January to 319 millièmes in November, compared with the highest price recorded

in 1937 of 1,680 millièmes. Arrivals towards the end of the year were low and late rains and damage by locusts have affected the yield. Two thousand six hundred and sixty-one kantars of talh gum, valued at £E. 634, were exported from Kaka.

431. The province had a good financial year and taxes came in punctually. In the province budget revenue exceeded the estimate by £E. 3,519 and there was an economy on expenditure of £E. 2,852. Surpluses were realised by each of the three independent native administration budgets.

432. Roads suffered badly from the heavy rains and many bridges were damaged by the floods. Apart from a few branch roads in the Nuba Mountains, no additional stretches of motorable roads were cleared, but more attention was paid to fire-lines and new methods of clearing them were tried out.

433. Nineteen boreholes, totalling 2,482 feet, were drilled by the two well-boring machines in the Nuba Mountains at a cost of £E. 1,211, and nine of these boreholes found water. Seventeen wells were hand-dug and lined, and six more were still under construction at the end of the year. The total cost of sinking and lining these wells was £E. 2,638.

434. During the summer the El Obeid water supply gave cause for alarm owing to unforeseen demands being made upon it, and a scheme for improving it will be put in hand in 1939. Revenue rose to £E. 3,212 against an expenditure of £E. 1,969. At the pumping out-stations revenue fell slightly from last year's high total, but exceeded expenditure by £E. 1,913. A pipe-line was laid on to certain houses in Um Ruaba and a small pumping installation made at Um Sumeima. A pump, engine and storage tank were erected at Kadugli.

435. Demand for electricity in El Obeid increased during the year and revenue rose to £E. 3,248. Thirty-six new connexions were made, and as the capacity of the two generators is now fully absorbed it is proposed to double the plant. An up-to-date open-air cinema has added to the amenities of the town.

436. Normal maintenance was carried out on the twenty-one landing grounds of the province, and Dilling and Kadugli aerodromes were extended and improved. The alternative wet-weather aerodrome at El Obeid was tested and proved satisfactory, and it will now be extended and levelled. Imperial Airways (Limited) maintained a regular weekly service to and from Nigeria, calling at El Obeid.

437. New buildings cost £E. 15,700 and normal maintenance £E. 4,500. The principal new buildings were a house for the senior medical inspector, retail and wholesale grain markets, and improvements to the civil court and Merkaz. All these were in El Obeid. In outstations two wards of the improved type were added to Dilling

Hospital, prisons at Kadugli, Talodi and Muglad were repaired and the assistant district commissioner's house at Rashad was completely reconditioned. The well-known cantonment hafir at El Obeid was excavated by a mechanical scraper and hand labour, and its capacity increased by 8,200 cubic metres.

438. Despite the general recession in trade the main exports from Kordofan railway stations, as detailed in the following table, make a creditable showing:—

Item.	Average, 1932-36.	1937.	1938.
	Tons.	Tons.	Tons.
Gum ... ..	13,427	12,967	14,644
Grain ... ..	18,214	20,629	17,599
Ground-nuts ... ..	2,155	3,017	3,588
Sesame ... ..	4,209	8,752	7,855
Melon seed ... ..	5,463	5,264	6,215
	Head.	Head.	Head.
Cattle ... ..	5,155	11,431	10,628
Sheep ... ..	1,053	330	328

439. Other exports include 5,000 camels sent on the hoof to Egypt for meat, several thousand sheep sold in Omdurman market by nomads, 465 tons of hides and 116 tons of kerkedeh. In nearly all cases prices fell heavily and the resulting income which accrued to inhabitants of Kordofan, though largely conjectural, is estimated at about £E. 615,000, compared with £E. 750,000 in 1937, made up as follows:—

	£E.		£E.
Camels ... ..	18,000	Melon seed ...	16,000
Cattle and sheep ...	30,000	Miscellaneous ...	4,000
Cotton ... ..	128,000	Semn ... ..	40,000
Grain ... ..	65,000	Sesame ... ..	76,000
Ground-nuts ... ..	12,000	Sesame oil ...	48,000
Gum ... ..	163,000		
Hides and skins ...	15,000	Total ... ..	615,000

Sugar sales, the touchstone of family wealth, were 106,000 sacks, compared with 111,000 sacks in 1937. This represents an expenditure of £E. 260,000. Estimates show that the population of the province has risen to over 1,241,300; some of this increase should be attributed to the immigration of westerners from French Equatorial Africa and Nigeria.

440. The fifth annual economic conference on agricultural development in the Nuba Mountains was held in February at Delami. Detailed statistics of crops, population and yields were submitted and arrangements made for extensive improvements to the Dilling-Kadugli road under the supervision of the Public Works Department. An investigational area was approved near Talodi for research into

improved methods of farming for propaganda purposes among the Nuba people. The finding of adequate supplies of water remains the key to the economic development of this area.

441. Two more independent native administration budgets were started at the beginning of the year, one for the Hamar of Western Kordofan and one for the Gawamaa of Eastern Kordofan. Successful tribal gatherings were held at four centres and tribal drums were presented to the Bederia tribe. A new branch of the Kababish court was opened at Safia, and Bara Merkaz was reorganised under one native administration, which will soon be ready for an independent budget. Native courts continue to improve and the following figures give an indication of their judicial work:—

			1937.	1938.
Criminal cases seen	...	...	7,640	8,235
Persons sentenced	...	...	8,234	8,618
Persons acquitted	...	...	1,616	2,167
Persons imprisoned	...	...	2,592	2,960
Persons fined	...	...	4,837	5,658
Total fines imposed	...	£E.	4,770	4,893
Total fines collected	...	£E.	3,601	3,431
Civil cases seen	...	...	4,086	4,548
Sharia cases seen	...	...	1,547	1,620

442. The smaller village and meglis courts, with powers of fining only, heard 1,560 cases and collected fines amounting to £E. 910 from 1,853 convicted persons. These courts have never been entirely satisfactory, and with the development and expansion of the larger courts they are tending to disappear. A Government official resigned his appointment to take over a native administration, and two useful tours of instruction were made by schoolboys of Gordon College in tribal areas.

443. Public security remains good and the improvement in El Obeid town was maintained. Cases heard by Government courts in El Obeid numbered 1,610, including 1,430 seen by the town bench of native magistrates, compared with 1,560 in 1937. The small increase is due to motoring offences. There were fifty-seven major court trials compared with eighty-one in 1937, a welcome drop, and most of these were for charges of homicide arising from jealousy, adultery or drunken brawls. Trials resulting from motor accidents, dangerous driving and overloading of vehicles continue to increase. The superior administration of justice in the province is now in the hands of a judge of the high court, who took up his appointment at the end of the year.

444. Education continues to expand and one new elementary school and four new sub-grade schools were opened in rural centres. A training course for sub-grade schoolmasters was held in El Obeid under the direction of a professional educationalist. The intermediate school at El Obeid has 122 boys, including four boys from

Darfur, and a permanent boarding house has been recommended. Elementary schools number seventeen, compared with nine in 1933, and have a total attendance of 2,072 boys. There are ten sub-grade schools, some of which have boarding houses, and the Sudan United Mission and Church Missionary Society have between them three schools for boys and one for girls in the Nuba Mountains. In addition, 258 girls are being educated in Government schools.

445. The province remained free from major epidemics, but the autumnal incidence of malaria was high and small local outbreaks of cerebro-spinal meningitis, smallpox and relapsing fever occurred. A further decline in the incidence of syphilis was noted, but it is still prevalent in the Nuba Mountains, where it accounts for 27 per cent. of the admissions to hospital. Progressive improvement was noticed in the sanitation of El Obeid and the conservancy service has been mechanised. Outside, though there is some improvement, much remains to be done. An ante-natal clinic was opened in El Obeid, and trained midwives are carrying out valuable work throughout the province, the province hospitals and dispensaries have 1,062 beds equipped, including a new unit opened at Taiyara in Eastern Kordofan. In-patients numbered 17,206, compared with 17,543 in 1937, and out-patients 925,511, compared with 985,181 in 1937. One thousand five hundred and twenty-five operations were performed.

446. Rinderpest continues to be the chief concern of the veterinary staff and there were 236 outbreaks. Over 35,000 animals were vaccinated and nearly 8,000 serumised. There were twenty-one small sporadic outbreaks of contagious bovine pleuro-pneumonia and 4,630 animals were vaccinated. Five thousand eight hundred and eighty-eight doses of naganol were sold, compared with 3,604 in 1937, for treatment of trypanosomiasis. The usual horse fairs were held and fifty-one remounts were purchased. Experiments for improving the quality of semen continue, but have not been an unqualified success.

447. Province police carried out their duties very efficiently, and small reserves were established at El Obeid and Dilling to compensate for the reduction of military personnel in the Camel Corps. Steps have been taken to improve the literacy of non-commissioned officers, and courses have been arranged for the instruction of native administration police.

448. Dr. S. F. Nadel, a specialist in anthropology, was appointed in April to make a survey of the native peoples in the Nuba Mountains during the next two years. A study of their agricultural customs and methods will form part of his researches, and it is hoped that his advice will insure that local government and economic development progress along the right lines in that area.

449. The deaths of two Kordofan notables are recorded with regret. Sheikh Sir Ali-el-Tom, K.B.E., M.V.O., the Nazir of the

Kababish and one of the most respected leaders in the Northern Sudan, died at Hamra-el-Sheikh on the 26th February at the age of 64. Sir Ali visited England in 1919. Sheikh Ishag Mohammed Sheddad, the Omda Umum of Bara, died on the 27th February at the age of 68.

450. Mr. D. Newbold, C.B.E., left Kordofan on transfer to Khartum, and Mr. E. Campbell, M.B.E., M.C., was appointed Governor in his stead.

*Darfur Province.*

451. Relations with the French authorities on the western border continued to be close and friendly. Numerous visits were exchanged, including a visit by the Governor to Adre in April, and by Resident Dar Masalit to Abeche in December on the occasion of an agricultural show. Contact was also made by District Commissioner, Southern Darfur, with the Chef de Subdivision of Birao at Um Dafog in April. The only frontier incident worthy of record occurred in March at Hamila, when a party of Zaghawa, from both sides of the border, resisted Darfur police sent to arrest Mahmud Harun, a notorious lawbreaker from Biltine, who was making mischief in the Kabga area of Dar Gimr. During October the Department of Wadai was transferred from a military to a civil administration and the garrisons were withdrawn from the frontier posts of Adre and Goz Beida. A French patrol of three native soldiers and a guide disappeared in the uninhabited area south of Um Dafog in April. In spite of extensive search on both sides of the frontier, the mystery of their disappearance so far remains unsolved.

452. The material prosperity of the people again improved, though a locust invasion affecting crops and grazing caused distress in some areas. The demand for local products weakened at the end of the year, and prices showed a downward tendency. Consumption of sugar, the best index of the spending power of the people, increased to 1,142 tons, compared with 872 tons in 1937 and 545 in 1935. Bronze currency to the value of £E. 676 was put into circulation and supplies are now adequate, except perhaps among the Southern Baggara. The discovery of an area of white rock-salt near Bir Natrun by the Zaghawa scouts when patrolling the northern desert has produced a new source of income for the Northern Dars. Some 35 tons, transported by camel, were sold in the markets of Northern Darfur and Dar Masalit.

453. Inter-tribal relations were satisfactory. A long-standing breach between Nazir Ibrahim Musa of the Rizeigat and Shartai Daw El Beit Abdel Daim, president of the Eastern Darfur court, was healed at a border meeting in September, when differences between the Maalia subjects of the former and the Berti of Eastern Darfur were settled to the mutual satisfaction of the two chiefs. Disputes between the Fur and Masalit were settled by *ad hoc* border courts. Friendly relations with Kordofan border tribes were further

cemented by meetings at Um Kedada in February and at Jebel Meidob and Um Gozein in October. In Northern Darfur, the establishment of a court with powers of imprisonment for the Zaghawa Dars of Tuar, Gall and Artag under the presidency of Melik Mohammedain Adam Sebe brings the Zaghawa within the orbit of the central Magdumate, and will enable the chiefs to deal adequately with animal theft. The regeneration of the Beni Hussein as a tribe was marked by the presentation of tribal drums. The contingents sent by the chiefs of the north to the Fataburno Gathering in February totalled over 7,500 horsemen and camelmen. Their strength and spirit gave sufficient indication of tribal prosperity and loyalty to their chiefs. In Southern Darfur nine meglis courts were instituted under the presidency of tribal heads, who had previously exercised their traditional powers of fine. Under the new arrangement all fines are paid in to Government while the tribal heads are paid regular salaries. The powers of imprisonment of the Nyala and Rizeigat courts were increased to three years in the case of animal theft. The normal Dinka-Rizeigat meeting could not be held owing to cerebro-spinal meningitis among the former, and contact between the tribes on the river was restricted as far as possible for fear of infection. In Western Darfur the regional courts functioned with success: the local Shartais elected one of their number, Dimangawi Sese Mohamed Atim, to be president of the central appeal court. The District Commissioner retained responsibility for the native administration funds, and the post of Emir is still vacant. In Dar Masalit, the Sultan continued to administer his people with wisdom, justice and enlightenment.

454. Public security in town and country was good. Three cases of highway robbery occurred, in two of which convictions were obtained, and the alleged offenders in the third case are under arrest. Twenty-three persons were sentenced in homicide cases, compared with thirty-seven in 1937 and twenty-nine in 1936. Four men were executed, compared with three in 1937 and four in 1936. Convictions for possession of unlicensed firearms or materials for making ammunition increased. The average number of prisoners in the province prison was 375, compared with 400 in 1937. The standard of the police force remained high. Recruits, who are centrally trained, but obtained from the districts in which they will serve, were on the whole younger and of better type. The standard of literacy in the force still remains low—at about 16 per cent. Comparative statistics of the work of the native courts, which are functioning very satisfactorily, were as follows:—

			1937.	1938.
Criminal cases seen	...	...	6,376	8,053
Civil cases seen	...	...	1,013	1,519
Sharia cases seen	...	...	1,308	1,256
			8,697	10,828
Total cases seen	...	...		

455. The pilgrim traffic to and from Nigeria and French Equatorial Africa increased and lower fares enabled more pilgrims to travel by commercial lorries. The number of permits to enter the Sudan issued at Geneina was 4,447, compared with 3,823 in 1937. The normal movement of local population to work in the eastern cotton fields took place and was accentuated at the end of the year in certain areas where the crops had been destroyed by locusts. Local rates for labour showed an upward tendency, but the demand was adequate. The new runway on the Geneina aerodrome provided work for 800 men for several months. The wages offered ( $1\frac{1}{2}$  P.T. per diem), though higher than usual, proved unattractive locally and most of the labourers came from French territory, where rates are cheaper.

456. The rains everywhere were excellent, but a major invasion of locusts reduced what promised to be a bumper crop to one of only moderate proportions. The people, led by their chiefs and assisted by police and troops, successfully destroyed by poison bran or trenching the myriads of hopping locusts which bred out in every area. The main damage to crops was caused by flying locusts which had hatched out in the uninhabited areas in the north of and to the east of Darfur. The swarms in their westward flight destroyed crops and grazing and cut a swathe about 20 miles wide through the centre of the province running roughly north of the Fasher-Geneina road. In addition, Dar Gimr and Dar Kobbe in the extreme north-west were devastated and considerable areas of Southern Darfur seriously affected. Fortunately, the residue of the crop will be adequate for the needs of the people until next rains, but many families have been forced temporarily to migrate from the affected areas in search of grain and grazing. The irrigated wheat crop in the Jebel Marra range was up to the average, and the people have been persuaded by the destruction of baboons and the provision of rustless wheat seed to attempt to grow wheat again as a rain crop in the hills where their ancestors grew it. Chillies, sesame and ground-nuts, where not affected by locusts, were satisfactory. The 150 citrus trees planted at Sunni in the Jebel Marra range all survived. Peaches, olives and apples planted there two years ago also promised well, and the apples have already fruited. The relation between trees and rainfall is now appreciated by the native authorities, and their attempts to prevent forest fires and protect valuable trees have become progressively more effective, notably in Zalingei. The policy of establishing plantations at selected court centres was extended. Twenty such plantations are now in existence. The Government gambil plantation at Nyala now contains 4,340 trees, of which 1,045 were planted this year. All doors and windows and most furniture in Darfur is made from this tree, for which the Government demand alone is 100 to 200 trees per year.

457. The general health of the province remained satisfactory and considerable progress was made in improving sanitation in the Fur villages of Western Darfur District. The incidence of malaria, however, was more severe than usual and a large percentage of



British and native officials in El Fasher contracted the disease. Minor epidemics of relapsing fever (ninety-nine cases) and smallpox (sixty-seven cases) occurred at various places, the former mainly in areas bordering on the northern route from French Equatorial Africa. Both diseases were introduced from outside, relapsing fever coming from the east and smallpox from the west. Vaccinations were carried out on a large scale in Dar Masalit and a plan to vaccinate the whole of the province was set afoot at the end of the year. Relapsing fever was prevented from spreading by the establishment of delousing stations at various points on the main route to the east in Kordofan and at Jebel El Hilla, Um Kedada, Khereit and Mellit in Darfur. Only four cases of cerebro-spinal meningitis were detected with three deaths, and no cases of rabies, though sixty people were treated for bites from rabid dogs. Nyala hospital was modernised and extended by the erection of a new administrative block, an operating theatre and additional wards. Three new dispensaries were opened, at Kulbus in Dar Gimr, at Dereisa in Western Darfur and at Mellit in Northern Darfur. The dispensary at Gorgor in Western Darfur was transferred to a more central position at Guldo, the headquarters of the local regional court, where a flourishing market exists. An ante-natal clinic was established in El Fasher hospital. Statistics of patients treated in hospitals and dispensaries for the last three years were as follows:—

	1936.	1937.	1938.
Out-patients ...	257,164	282,696	401,058
In-patients ...	10,182	12,004	10,514
Operations ...	737	769	599

458. The education of chiefs' sons is proceeding apace and it is now safe to say that every major and most minor chiefs have literate sons or heirs. Leading chiefs' sons complete their education in El Fasher, as in the days of Ali Dinar, and thus have the opportunity of making friendships in boyhood which will stand them in good stead when they come to control their tribes. Um Kedada school, where private arrangements for boarding the sons of distant chiefs are available, was converted from a sub-grade into an elementary vernacular school and a second sub-grade master provided. Education in Southern Darfur suffered a heavy loss by the death from black-water fever of Sheikh Yusef Koko, the first headmaster of Nyala School. The present success of the school is mainly due to the confidence which he inspired in the chiefs from the first and to his energy and enthusiasm. All sub-grade teachers attended a refresher course in Kordofan. New sub-grade schools were opened in the south at Buram for the Habbania, and Id El Ghanam for the Beni Helba and in the west at the regional court centres of Kas, Guldo and Garsilla. In both elementary and sub-grade schools particular attention was paid to cleanliness and physical culture and boys were encouraged to play their local games. The boys in Kutum elementary school, which is run on original lines and confined to chiefs' sons,

were adjudged to have attained the highest standard of learning. New buildings were erected at Zalingei native administration school. The Sultan of Dar Masalit continued to give his personal attention to his school at Geneina, where the sons of his local chiefs are fed and clothed at his expense. He built new class-rooms this year.

459. To increase the resistance of the young stock to local conditions, a modification was introduced in the horse-breeding scheme in Southern Darfur whereby Government stallions will be of a better type and used solely to breed half-bred horses from selected and subsidised mares. Their progeny will be distributed as stallions to the tribes, and will be the sires of future Government remounts. Ninety-five out of an ultimate total of 200 mares have already been selected and thirty tribal stallions distributed. At the four southern tribal gatherings held in January and December 8,326 horses, 2,473 mares and 238 foals aged under a year and sired by Government stallions were inspected. Rinderpest, though much less virulent than in 1937, again took a toll of the cattle, particularly in the south. Rinderpest serum was enough to treat 5,600 cattle only, but 31,200 were treated with vaccine for the same disease. Five thousand eight hundred and fifty cattle were vaccinated against contagious bovine pleuro-pneumonia. Eight hundred and thirty-one native-owned camels were treated with naganol on payment.

460. Owing to heavy rains elephant and buffalo came further north than usual, two of the latter being seen within 30 miles of Nyala. Oryx and addax were observed in large numbers both east and west of Taiga. A young giant eland was captured and sent to Khartum zoological gardens.

461. Traffic on the main route El Obeid-El Fasher-French Equatorial Africa increased. Comparative figures for commercial lorries were as follows:—

				<i>Between El Obeid and El Fasher.</i>	<i>Between El Fasher and French territory.</i>
1936	...	...	...	1,439	282
1937	...	...	...	2,196	485
1938	...	...	...	2,200	615

Receipts from the road-house at Um Kedada were higher and new road-houses have been established at Kurma and at Kabkabia where abandoned army buildings were converted for the purpose. The normal clearing of roads was delayed by anti-locust work but was completed before the end of the year. In Northern Darfur a new trace was found for the road to Dar Zaghawa which though 20 miles longer touches more villages and well centres. In the far south a loop road was made, with the help of Equatoria Province, across the Bahr El Arab west of Safaha.

462. The levels in El Fasher wells which are at present dependent on the town lake were lower in November than at the

same period in the worst year on record since 1916. Boring operations with a view to finding a more permanent supply at a lower level will begin in March 1939. Digging began on wells in the central district at Goz Beina, 20 miles from El Fasher, and at El La'it some 210 miles away in the extreme south-east. In Southern Darfur work was continued on ten native wells. In Northern Darfur an old tank disused since the days of Sultan Ali Dinar was re-opened before the rains and has already benefited a waterless area. Wells are also being sunk by tribal labour at sites selected by the Government Geologist at Adrur in the Meidob Hills. A phenomenal supply of water was found at 80 feet at Takorari, an old well centre disused since the days of Sultan Hussein (1839-74). The area is being developed by tribal enterprise. Owing to the failure of the water supplies in the northern half of Dar Gimr, villages were evacuated for the first half of the year but the inhabitants were enabled by excellent rains to return in July without fear of water shortage in the coming year.

463. The Imperial Airways West African service functioned without mishap and with commendable regularity. A permanent stone runway with a bitumen surface was constructed on Geneina aerodrome and proved a great asset in the rainy season.

464. Buildings erected at Nyala included houses for the District Commissioner, Mamur and two Sudanese officials, and new buildings for the school and hospital. At El Fasher the butcher's market was extended and improved and a wall built round the native court. In Dar Masalit the Sultan built new account's offices and school class rooms, and the Resident eight houses for police and customs guards. At Fataburno, the headquarters of the northern Magdumate, a new court house was erected.

465. An excellent mosaic air photograph of El Fasher was produced by the Royal Air Force as a basis for the mapping of the town. Four shops were built in Nyala market. A lease for a petrol store at Buram was granted.

466. The export trade with the east was maintained, the demand for sheep in particular being brisker. The Baggara in the south disposed of 14,530 head of cattle compared with 14,635 in 1937. 3,387 beasts passed through El Fasher quarantine and 3,024 from French Equatorial Africa through the quarantine at Geneina, compared with 3,068 and 3,969 respectively in 1937. The average market price of a bull in El Fasher was £E. 2·008 mms. compared with £E. 2·025 mms. in 1937 and £E. 1·752 mms. in 1936. 8,327 Meidob sheep at an average price of 620 mms. were marketed in Omdurman compared with 3,321 at an average price of 520 mms. in 1937. Other tribes in the north disposed of 5,387 sheep in the markets of El Obeid or Omdurman. The trade in hides increased from 275 to 70 tons owing to a slump in prices. 45,850 kantars of Darfur gum were sold in the markets of Kordofan and 13,229 kantars passed through the El Fasher and Nyala auction markets.

Last year figures were 30,698 and 4,814 respectively. The tobacco trade with the east declined owing to light rains and over production in the previous year. 24,043 kantars were sold in the auction market at El Fasher compared with 34,796 kantars in 1937 and 15,000 in 1936. Royalty from this commodity dropped from £E. 12,471 in 1937 to £E. 5,273 and the average price was 444 mms. compared with 752 mms.

667. The rates for tribute and combined tax were maintained at the same level but the latter produced an additional £E. 1,028 in the Southern District owing to relisting. Arrears in direct taxation were negligible. Revenue exceeded the budget estimate by £E. 1,675 and £E. 3,967 was saved on the expenditure side. The three native administrations with separate budgets paid their Government contributions in full and had the following surpluses:—

	£E.
Zalingei native administration ... ..	811
Dar Rizeigat ... ..	803
Dar Masalit ... ..	121

Taxes were collected readily and there were no arrears except in Dar Masalit, where migrations to the east in search of work and across the frontier inevitably produce arrears each year.

#### *Upper Nile Province.*

468. The frontiers were quiet on the whole although minor border tribal affrays caused some anxiety towards the end of the year. For the first time it was possible to visit the Boma Plateau and Ilemi by car from Malakal. Some 17 captives taken by the Murle in raids of earlier years were recovered and repatriated via Boma.

469. Certain pagan nilotic tribes were transferred from the Blue Nile Province to the Upper Nile early in the year. The Maaban and Uduk were brought under the administration of Renk Sub-District and the Khoma under that of Eastern Nuer. Subsequently in order to reduce the enormous length of Pibor District, from the Boma to near Malakal, the Ngork Dinka were put under District Commissioner, Northern District, and the Loich Dinka were attached to the Zeraf District. This large increase in responsibilities of the Northern District necessitated an additional District Commissioner, a corresponding saving being made by the Blue Nile Province.

470. In the words of last year's report, "inter-district and inter-tribal meetings continue to be the greatest force for the maintenance of peaceable relations." Meetings with the neighbouring District Commissioners of other provinces are now annual affairs and fruitful opportunities are provided for the appreciation of mutual difficulties. Unfortunately meetings between District Commissioner, Western Nuer, and the District Commissioners of the Lakes and Tonj

Districts of Equatoria could not be arranged and some important problems still await solution. The work of the Lau Nuer courts in Pibor District was reorganised. Better results have been obtained from those of Eastern Nuer and the Shilluk. The success of the courts depends largely on the ability and energy of the chiefs. The task of Government is to find leaders who are recognised by the people and will still be accepted by them as such when these chiefs endeavour to carry out a policy of administration which is in fact foreign to the chiefs and the people themselves. For instance, assessment and collection of tribute, elementary hygiene and maintenance of communications are not tribal customs but they are very necessary if tribal life is to reach a higher standard. It has been found that the older head-men are fixed in their ideas and are difficult to mould to modern requirements; the remedy lies in getting the more aged to retire in favour of younger men but the new appointments must come from the people themselves while being a type suitable for the purposes of Government. Cautious progress is being made on these lines. The court returns are as follows:—

		1936.	1937.	1938.
Cases heard	... ..	8,638	5,518	7,630
Persons imprisoned	... ..	556	320	823
Fines imposed	... ..	1,017	391	503

471. Public security was relatively satisfactory. Towards the end of 1937 a cult of dog eating had started in Western Nuer. Amongst other activities, undoubtedly subversive in intention, the devotees of this cult foretold the death of Chief Galuak Nyiergh of Nuong, a man remembered principally as head of the area in which Captain Ferguson was killed in 1927. Fortunately, the leaders had been arrested and the cult suppressed before this chief's death actually took place in June, as otherwise there would almost certainly have been repercussions in the form of trouble with the Dinka of Rumbek. There was a marked improvement in the Shilluk native administration in the arrest of criminals. Twenty men of the mounted police were disbanded, their place being taken by a similar number of southern foot police with lorry transport. As an experimental measure the proportion of local tribesmen in the province police is being increased.

472. The year began with an adequate supply of food in the hands of the people, but ended with stocks much below normal due to a combination of locusts, excessive flooding from standing rain water and an unusually high river which delayed the drainage of the rain water. The eastern part of the province suffered most from locusts, but it was only in a few places that they caused losses to both the early and the late crops. The prospects of the cotton crop are good, but a smaller area has been sown; those who take the trouble to pick regularly obtain a reasonable return, but many delay picking until it is too late.

473. What is apparently an unknown disease is reported from the Zeraf. Known to the Nuer as "Weel," it is rarely fatal. The incidence is not high, and as communications are poor the medical authorities have not yet been able to collect much data. There was an increase in the number of typhoid cases in Malakal, but now that a purified water supply is being installed this disease is likely to diminish. No cases of rabies, such as occurred in 1937, have been reported. At one period anti-amaryl precautions had to be urgently adopted for Malakal aerodrome. It was a relief when the order was rescinded.

474. On the education side an important change has been made, the Verona Fathers having been replaced by those of Mill Hill. Though it was with great regret that we had to say farewell to many friends among the Verona Fathers who had given a lifetime in the service of the Shilluk, there is a very great advantage in being able to discuss our mutual problems in English. The Sudan Interior Mission has taken over the Melut-Paloc area from the Sudan United Mission, and have also opened new stations in the Maaban country. The province has suffered another loss in the promotion of Mr. Reed of the American Mission at Doleib Hill to be general secretary for the board in America. This mission has opened a new station at Akobo. Noticeable progress has been achieved by the Sudan United Mission at Rom in stimulating a desire for education among the Dunjol Dinka. At Juac Bor the Church Missionary Society are extending their work among the Nuer.

475. Over 100,000 doses of anti-rinderpest serum were produced, but unfortunately a large quantity had to be destroyed owing to it being rendered poisonous by a bacillus which was immune to the antiseptic which had been successfully used for many years. The mortality due to this cause has shaken the faith of the native, and it will take time and propaganda to restore it. There is still great difficulty in procuring cattle for the serum station, and a scheme is being tried out by which the native can purchase with cattle a certain number of doses of serum or vaccine, but there are many practical difficulties in its application. The condition of the police animals is good; out of 38 losses, 14 were cast for old age and 24 were lost from disease, the latter figure including only 7 which might be said to have been preventable.

476. Considerable progress was made in the programme of the all-weather runway at Malakal aerodrome, the labour employed being almost wholly Saidi. Stone was supplied from Jebel Zeraf quarry for this work and also for Malakal Town roads. The Public Works Department completed a large building programme, including the Royal Air Force rest-houses at Malakal and Nasir. The installation of an electric light and purified water supply for Malakal was begun in September. Works to protect the foreshore were undertaken at Bor, Nasir and Malakal. The heavy grading machinery completed the Malakal-Nasir road, also the road northwards as far as Paloc.

Steel bridges were erected across Khors Geni and Adar. The main road south from Malakal was surveyed, and work will begin on it in 1939. Motorable tracks were cleared from Pibor as far as Katenich, connecting with the road made from Equatoria and opening up communication with the Boma, from Paloc to the Yabus to give access to the Maaban country, from Lake No to Lake Abiad, and from Awoi to Fathai via Ayod. The Egyptian Irrigation Department made a study of ground, mud and water levels on both sides of the main Nile from Lake No to Kanisa. Less new work than usual was undertaken, and their staff in Malakal was considerably reduced.

477. Trade, except at Gambeila, was rather better than might have been expected in consequence of the heavy fall in prices. Training and encouragement of the native to flay his hides in a proper manner and also of the merchant to pay better prices for the better article are slowly yielding results. The policy of an improved road system enabling reliable merchants to use lorries to develop trade in tribal areas, again showed its value. For instance, by means of the extension southwards of the Pibor road, several hundred sacks of grain were obtained from the Murle, who had not previously had any opportunity of trading. The fall in prices has not helped in building up a trade in Kakamut and talh gum, which in some districts is not yet fully recognised as a potential source of revenue to the native. Competition introduced into the Zeraf charcoal trade had a beneficial result. The tribal wood stations ran smoothly and were able to cope with the large extra supply required for the Zeraf quarry steamer.

478. Tribute was paid promptly; a higher assessment in Bor, Pibor and Shilluk Districts, payment in cash by the Gatjok and Gatwang of Eastern Nuer, instead of in cattle and collection of tribute for the first time from the Murle of Pibor District accounted for a 20 per cent. increase in the budget.

*Equatoria Province.*

479. Frontier relations between the Tapoṭha and Didinga of the Sudan and the Turkana of Kenya remained good, a fact which is the more satisfactory in that a few years ago there existed only deadly enmity. Nevertheless, the credit must go rather to the regular contact maintained between the administrative officers of the two countries than to any mutual regard between the tribes. Further west the trans-frontier relations of the natives of Torit, Yei, Meridi and Yambio districts with those of Uganda and the Belgian Congo are friendly, for the international frontiers bisect or trisect tribes with great accuracy. Control of movement across the frontier in the sleeping sickness areas is the only real problem. With Uganda a possible solution has been found in the pass-system.

480. The improvement of the roads into Uganda via Kajo-Kaji and Moyo, and Nimule and Atiak, has drawn attention to the need

for better customs control of goods and cars entering both from the Congo and Uganda. A simple system of car manifests has been evolved for the Congo, and certain minor and one major prosecution for non-payment of duties have produced a healthy respect for the Customs Ordinance.

481. Progress in native affairs is necessarily slow. The time of the province staff has been spent chiefly in an examination of the systems of education, taxation, the powers and numbers of courts, the correct administrative units, &c., with the object of building up a genuine native administration that will not only be acceptable to the people but will also be a means of government. Until 1938 a system of poll tax was in force throughout the province, which experience now shows was detrimental to the sense of clan or family responsibility on which local societies are founded. There has therefore been substituted a system of tribute assessed on the largest available coherent group in the different tribes which will achieve a fairer distribution of taxation. In places where the structure of society was so destroyed between 1840 and 1900 that the family or clan group has virtually ceased to exist, it is hoped that a purely territorial unit, comparable to a small English village, will come to be accepted in native eyes as a coherent group. Efforts have continued in the education of the chiefs in an increased sense of responsibility towards their people, and the courts are coming more and more to be used as channels for the spread of advice with the minimum of interference by direct order. In a short time, for example, chiefs or courts will be able to accept responsibility for the maintenance of minor roads, a matter which has hitherto always been held by the people to be a purely Government affair.

482. In February there was held the first meeting of district commissioners and chiefs of Dinka Districts representing some 600,000 people. The resultant co-ordination of information about the evolution and organisation of the various branches of the Dinka tribe was of considerable value. Certain tendencies among chiefs are becoming apparent, all of them good. Firstly, realisation of the need to get about their area; many now own bicycles and some cars. Secondly, a willingness to retire when past their work shows an appreciation of the duties and not only of the fruits of office. Thirdly, there is a most welcome tendency among sub-chiefs and headmen to choose as a chief a member of the ruling family who has been educated and who may be in Government service.

483. The amalgamation of Rumbek and Yirrol Districts and the appointment of the full staff of three District Commissioners has enabled the affairs of the 80,000 Agar Dinka to be fully investigated. The structure of Dinka society had been disregarded both in the major and minor chiefships, and the organisation of courts. Exhaustive and laborious research into the true structure, and its reinstatement as the basis of taxation, court organisation and administration has been received with acclamation. The alleged



truculent Agar were found during the Governor's walking tour through their country to be the friendliest of people and the most considerate of hosts. The Aliab Dinka of Yirrol were also visited. There have been no serious affrays or killings among them, and the feud which destroyed public security in 1936 and 1937 appears to have been settled on reasonable and, it is hoped, stable lines.

484. Public security varies enormously, so far as can be seen without apparent cause. Trials for homicide before Government courts were thirty-three in 1938 and thirty-eight in 1937. Cases of homicide not amounting to murder heard by native courts, excluding Aweil District, were sixty-nine. Violence does not seem to be associated with any particular tribe, though Dinka, Zande and Latuka Districts have much higher figures than others. Torit District had eleven homicide trials, and only eleven others involving deaths; Western District eight and two. It seems that the Nilotics are not prone to murder, and that those tribes which have a tendency to murder do not indulge in the manly sport of fighting. There has been no recrudescence of the poisoning scare which caused trouble in Opari District last year. This does not mean that fear of poison has been removed, but that the women concerned are at present too frightened publicly to vaunt their powers, and that the real causes, hookworm, influenza and pneumonia, have been less active than usual.

485. Records of native courts show a welcome drop in the number of cases heard, and in most districts in the number of persons put into prison. The position of the B Court as a court of appeal from the many A Courts is becoming better understood. Records of the number of these appeals and their result are now being tabulated; they give a good picture of the competence of the subordinate courts.

486. Some of the decreases in cases heard are spectacular and must be attributed partly to fewer offences against sleeping sickness regulations, the working off of arrears of cases in 1937, and the realisation that simple cases need not necessarily be heard in court but can be dealt with as from time immemorial by the grey-beards under a tree. Illustrative of these points is a drop in the Zande District from 5,400 to 3,500, in Aweil from 6,200 to 4,200, and in civil cases in Tonj and the Agar Dinka Districts from 2,000 to 600 and 1,400 to 700 respectively. Not the least remarkable episode of the year is that the naked young warriors of Tonj were heard singing songs of praise in honour of the native courts and not of their bulls, which have been the sole subjects of these songs for centuries.

487. The most serious individual case has been the murder of ten men of Lafit in Torit District by three villages of Lafon, and the looting of all the cattle which the former had bought on the Boma plateau. The murder took place in December 1937 and at first nothing was heard of it. Then rumour began. Long and

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patient investigation finally revealed the exact site of the murder, 15 miles away in the bush, the bones and fires of the dead, some of their belongings, and the broken bushes where the vultures had sat and gorged. The evidence against the three villages, numbering 800 taxpayers, was conclusively summed up by the three leading chiefs of Torit District, who recommended most reasonable and appropriate penalties. The prestige of the chiefs and courts as the custodians of public security has been greatly enhanced by their skilful and wise handling of this case.

488. There is evidence that more persons are emigrating from Yei and Torit to Uganda than are returning. The numbers are perhaps 500 a year, and if the present rate continues the problem will become serious. The drift is partly economic and partly a wish for adventure. The sight of an African community with better clothes, better houses, more bicycles, more education and better farms than they have themselves fascinates the visitors, who do not stop to think that in many cases they can really earn just as good money at home and employ their spare time more profitably.

489. The rainfall has been generally prodigious, but in places curiously capricious. In Juba there was the highest total on record, while 80 miles away at Torit there was drought up to the end of May and only an average total fall. Meanwhile, some 500 miles to the north-west, Aweil had 396 millimetres in August alone, the highest total ever recorded in one month in the province, but Meridi and Yirrol were definitely short. The correct spacing of the rains is of much more importance than the actual quantity. Much of the best cotton and grain land in Torit was so waterlogged that it produced a negligible crop.

490. Grain has, on the whole, been satisfactory, and in most districts merchants have been able to buy all requirements for Government, missions and army. In Torit 500 tons have been bought and in Kapoeta 160 tons, whereas a few years ago 50 tons would have been a good figure. The value the native sets upon his grain is believed to have very little relation to the cost of its production, but to be based on his liking for turning it into beer. The difficulty for those who want grain and not beer is obvious.

491. The 1937-38 cotton crop was not a success. The quantity produced was less and the quality no better than usual. In Torit only 1.5 per cent. was grade I, and in Meridi 83 per cent. grade III. In Zande district the yield per feddan fell from 5.2 kantars to 1.58. The Dinkas take an ever greater interest in agriculture, one family often cultivating 4 acres. Sesame has been grown both by the Dinkas and elsewhere in much larger quantities. The fall in price at Khartum, which has been passed on to the cultivator, may undo the propaganda of the last two years. Yields of 600 lb. per feddan have been obtained (experimentally) at Amadi and Meridi, and by native cultivation in the east of Juba district. The chillies trade has

latterly flourished and production is only limited by the demand. Coffee, which seemed to promise an excellent cash crop in Yei, Meridi, Zande and some other places, has received a severe set-back by a fall in world prices. The somewhat suspicious native, not yet accustomed to the strange crop, is likely to give it up when his profit is suddenly and, in his eyes, arbitrarily and unjustly reduced.

492. In Kajo-Kaji, Yei, and Yambio much good work has been done in forestry. Citrus, oil palms, chlorophora, and especially teak have been grown and distributed in large numbers. A campaign has been launched to instruct public opinion in the ultimate disaster which must follow from regular and indiscriminate annual burning of forest and savanna land. The co-operation of all missions, schools, and bush schools has been asked. The task is gigantic and is only equalled by its importance.

493. Locusts have been general throughout the province, and during the latter part of the year very numerous. Crops have been badly damaged in the Zande and Western districts, and Aweil reports a 20 per cent. loss. Poison bran has little or no effect on hoppers in the thick vegetation. Cultivation of cassava has received an added impetus, for locusts do not harm it.

494. Public health has on the whole been good, and cerebro-spinal meningitis was only sporadic except for one more serious outbreak in Aweil, resulting in 100 deaths. New cases of sleeping sickness in the Tembura area were 105, compared with 63 and 142 in the two preceding years. Fly catching and block clearings are being tried as a means of preventing infection. The control of regular inspection has been taken over by the native administration. The system of one or two leper camps per district has not worked well, and a new policy of having a purely native isolation camp in each chief's or village area is to be tried. It has the support of Dr. Muir, who visited the province in April. A grant has been allotted for two years for digging and covering anti-guinea-worm wells. Chiefs in Juba district report a noticeable drop in infection, and some courts have already of their own motion taken action against persons who do not make use of the wells. This is an excellent illustration of how native law develops to conform with a more enlightened public opinion. The danger of the spread of venereal disease from Wau town into the surrounding populous uninfected districts continues to engage attention.

495. A very important scheme for the reorganisation of education in the Church Missionary Society area has been approved. The foundation of the scheme is the raising of the standard and scope of "village" education in the out-schools. Similar reorganisation is contemplated in other areas where the standard of the out-schools is even lower. His Grace Mgr. Riberi, Archbishop of Sardis, visited Wau, Juba and the Roman Catholic schools in March and April. His appreciation of the basic necessity of good out-schools, of the needs

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of the administration, and of the importance of an agricultural bias in education should do much to influence the schools themselves, and to promote co-operation with the district and other officers. In three areas, Juba, Yei and Lui there is an undoubted enthusiasm for education, which appears to have little connexion with a wish for Government employment.

496. The first revivalist movement known in this province began during the summer. Though it had certain undesirable features, particularly in the Zande country, yet it contained much that is potentially good and socially useful. Some witch doctors have even given up their trade and more have been discredited. The smoking of hashish, excessive drinking of beer, and adultery have all been roundly and openly condemned. To educate the Dinkas has always been found peculiarly difficult. They do not appreciate the benefits, and too often the educated boy is removed from his family group, yet when educated they generally take precedence of all other tribes. It is intended to start an elementary vernacular school under a Government headmaster to find out whether education can be organised to conform more nearly with Dinka ideas.

497. Rinderpest has taken heavy toll of cattle in the north-east of Aweil and Tonj districts. The cattle population of the four northern Dinka districts is large, but subject to violent fluctuation from this disease. After an epidemic herds may be reduced by 50 or 60 per cent. The extreme importance of cattle to the Dinka in agriculture, to provide milk and meat, as capital, and as the foundation of his social life made it, therefore, appear desirable to control and suppress these epidemics by the use of serum. That policy has been, however, reversed, and nature is to be allowed to control the size of the herds. The decision has been a severe blow to the Dinkas who had begun to realise the power of serum, but it has been forced upon the administrative authorities by the advance of fly from the south and the presence of Nuer and Arab herds in the north, two factors which restrict the grazing available for the Dinka. Evidence as to the extent and rate of movement of the fly is being collected. East of the river, the cattle-owning tribes of Torit and Kapoeta are being invaded by fly from Uganda up the Koss and Kideppo valleys, and round the Didinga foothills. It remains to be seen whether this movement is temporary or permanent, and whether it has reached its limits. The veterinary officer stationed in Wau has been withdrawn and is being replaced by an agricultural officer.

498. A game reserve has been declared all round Juba; the town is only eight years old, and game pays little attention to it. Lions are met in the streets, leopard tracks are found in the gardens, buffalo canter over the aerodrome, and seventy elephants walked through a corner of the Governor's garden. Man-eating lions have at times become a menace in Juba district, while Kajo-Kaji hospital records show 19 persons killed by wild animals and 34 injured, apart

from the cases which never reached hospital. Plans are on foot to make a national park in the uninhabited area between Wau, Tonj, Amadi and Yambio.

499. In October, after over a year without air communication the marine alighting area at Juba was taken into permanent use by Imperial Airways flying boats. The bridge over the Unyama River taking the road from Nimule into Uganda has been completed. The Government of Uganda have completed a road from Atiak to this river, and have also improved the road from Moyo to Kajo-Kaji which has now almost reached all-season standard. The 1,100 metre stone runways on Juba aerodrome have been finished. A new district road has been made from Meridi to Yei to give alternative routes to the river at Juba or at Terrakekka. The all-weather road for Thorneycrofts from Juba to Torit has been completed at a cost of over £E. 8,000 for the 70 miles and work on a similar road from Loka via Meridi, Mvolo and Tonj to Wau is in progress. The distance is about 370 miles. The heavy rains have shown that much more work than had been expected is necessary on the section north-west of Mvolo. The inability of steamers to reach Meshra er Rek again caused much inconvenience and considerable expense because personnel and stores had to be brought to Shambe or Juba and then be taken by road to Wau. Shambe port was not so frequently closed by sudd as in 1937. The heavy rains and floods caused much damage to district and other roads.

500. On the credit side of trade one can put greater willingness to sell grain to merchants, a general increased cultivation of sesame, better prices for hides and chillies at the end of the year, uninterrupted use of the ports of Juba and Terrakekka, and the success of Messrs. Cayley and Forbes in their alluvial gold workings which employ 300 men in great contentment. On the debit side are decreases in traffic from the Congo, the fall in the prices of sesame, ground-nuts and coffee, the failure of the advertised steamer services at Wau, Meshra er Rek and Shambe, the absence of millièmes with holes and the refusal of traders to fix prices and deal in millièmes. Aweil District reports a steady advance in trade up to the end of 1935, and then continual retrogression. The record crops of sesame in many areas are almost unsaleable but in the more favoured Acholi country the export price is 18 p.t. per kantar. Both trade and progress for cash crops are hampered by our ignorance of the number of men-days work necessary to produce the different crops. The question "what price gives the producer a fair return?" cannot be answered. Steps are now being taken to find out the answer. It seems certain that primitive and rather suspicious folk who have no knowledge of the vagaries of European or African markets and who have no very strong desire for money will not exert themselves to grow cash crops without a guaranteed minimum price. Occasional inflated prices for crops or cattle do

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more harm than good. The ideal is a steady return at a reasonable rate; given this, education and propaganda may well bear much fruit.

#### CHAPTER XVIII.—LONDON OFFICE.

501. The records for the year show that the volume of work passing through the office was approximately the same as in the previous year.

502. The number of orders dealt with for the past three years is shown below:—

	1936.	1937.	1938.
Number of orders received and issued ... ..	9,098	9,818	9,562
Incomplete orders carried forward from previous year ... ..	920	1,298	1,439
	10,018	11,056	11,001

The expenditure on orders amounted to £989,096, compared with £967,150 in 1937 and £593,692 in 1936.

The more important contracts dealt with during the year included Beyer-Garratt locomotives, wagons, barges, Diesel engines, excavators and pumping machinery.

503. The following table gives particulars of the work of the shipping, insurance and invoice Section for the last three years:—

	1936.	1937.	1938.
Consignments dealt with ... ..	11,086	12,585	12,237
Total number of invoices, freight and insurance accounts passed for payment ... ..	11,986	13,412	12,921
Number of bills of lading ... ..	424	452	411
Freight paid ... ..	£32,645	£45,583	£43,750
Insurance premiums paid ... ..	£889	£1,772	£1,655
Insured value ... ..	£473,933	£728,860	£706,160

The annual marine insurance contract was renewed for twelve months from the 1st July, 1938, on the same terms and conditions as previously.

504. During the year 62 appointments were made through the office, consisting of 37 departmental, 12 Political Service and 13 Sudan Defence Force personnel; the total in 1937 was 74.

505. The number of passages to the Sudan booked during the year totalled 1,073 compared with 1,184 in 1937. The commission

earned was £1,252 as against £1,317 in 1937. The arrangement of overland rail journeys this year was undertaken by this office and approximately 380 bookings were made.

506. The total amount debited to the various accounts was £1,437,697, compared with £1,478,394 in 1937.

507. The requirements of the Companies' Acts in connection with the Kassala Railway Company, the Sudan Construction and Equipment Company and the Gedaref Railway and Development Company (Sudan) Ltd., were carried out as usual. The necessary arrangements were made with the Trustees in connection with the payment of the Sinking Fund instalments provided under the Trust Deeds. The drawings of stock, both for the companies and also for the  $4\frac{1}{2}$  per cent. and 5 per cent. Guaranteed Loans, were arranged with the Bank of England and were attended by the Company Secretary. The usual transactions in connection with the Sudan Light and Power Company (Limited) were duly carried out.

# APPENDICES.

## APPENDIX I.

TABLE 1.—GENERAL SURVEY OF FINANCIAL POSITION.

—	1931.	1932.	1933.	1934.	1935.	1936.	1937.	1938.
<i>Revenue.</i>	£E.	£E.	£E.	£E.	£E.	£E.	£E.	£E.
I.—Provinces ... ..	677,804	645,492	618,005	540,326 <sup>(1)</sup>	575,942	599,306	616,087	622,702
II.—Departments ... ..	931,378	760,189	696,437	928,735	1,144,487	1,236,249	1,491,089	1,319,305
Total ... ..	1,609,192	1,405,681	1,314,442	1,469,061	1,720,429	1,835,555	2,107,176	1,942,007
III.—General Central Services ... ..	899,762	760,514	750,549	918,427	1,067,965	1,200,285	1,239,875	1,306,470
Total ... ..	2,508,954	2,166,195	2,064,991	2,387,488	2,788,394	3,035,840	3,347,051	3,248,477
IV.—Sudan Railway net profits ... ..	361,000	511,613	447,255	605,706	541,500	498,000	450,000	497,500
V.—Contribution from Egypt ... ..	750,000	750,000	750,000	750,000	750,000	750,000	750,000	562,500
VI.—Irrigation Department ... ..	611,843	225,586	369,306	20,362	9,304	169,281	194,137	815,370
VII.—Sudan Defence Force ... ..	...	...	...	11,355	9,215	9,188	7,313	7,788
Total revenue ... ..	4,231,797	3,653,394	3,631,552	3,774,911	4,098,413	4,462,309	4,748,501	5,131,635
VIII.—Draft on General Reserve Account ... ..	166,821	200,404						
	4,398,618	3,853,798						

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<i>Expenditure.</i>												
IX.—Provinces	...	...	...	...	824,295	770,746	720,823	737,825	767,524	771,397	805,993	821,425
X.—Departments	...	...	...	...	1,513,704	1,272,558	1,236,250	1,269,657	1,422,383	1,537,504	1,776,474	1,800,714
Total	...	...	...	...	2,337,999	2,043,304	1,957,073	2,007,482	2,189,907	2,308,901	2,582,467	2,622,139
XI.—General Central Services	...	...	...	...	417,704	371,538	378,309	427,328	441,196	506,342	495,023	776,348
Total	...	...	...	...	2,755,703	2,414,842	2,335,382	2,434,810	2,631,103	2,815,243	3,077,490	3,398,487
XII.—Irrigation Department	...	...	...	...	1,023,103	992,539	896,219	892,907	952,483	930,526	956,217	1,027,844
XIII.—Sudan Defence Force	...	...	...	...	619,812	446,417	390,356	421,771	409,527	459,148	423,932	431,453
Total expenditure	...	...	...	...	4,398,618	3,853,798	3,621,957	3,749,488	3,993,113	4,204,917	4,457,639	4,857,784
XIV.—Surplus of revenue over expenditure passed to General Reserve Account	...	...	...	...	...	...	9,595	25,423	105,300	257,392	290,862	273,851

(<sup>1</sup>) As from 1935 rents from Gash and Tokar lands have been taken to Agriculture Department revenue instead of to province revenue. The 1934 figures have been adjusted on the basis of 1935.

## APPENDIX I.—TABLE 2.

*Comparative Statement of Finances for 1937 and 1938.*

(a) Revenue.	1937.		1938.	
	£E.	£E.	£E.	£E.
(A) Provinces—				
Date tax ... ..	21,051		18,803	
Taxed land ... ..	19,662		14,804	
Ushur ... ..	34,647		40,199	
Poll tax ... ..	43,266		43,222	
Animal tax ... ..	74,269		71,840	
Tribute ... ..	69,694		57,744	
Traders' licences and business profits tax ... ..	41,120		41,533	
House tax ... ..	25,520		26,279	
Rent from Government lands and properties ... ..	55,043		57,422	
Contributions from local administrations ... ..	48,307		65,823	
Miscellaneous ... ..	183,508		185,033	
		616,087		622,702
(B) Departments—				
Agriculture and Forests ... ..	324,690		220,840	
Customs ... ..	847,188		774,936	
Legal ... ..	28,551		32,533	
Posts and Telegraphs ... ..	152,907		150,483	
Public Works ... ..	39,108		41,011	
Veterinary Service ... ..	9,030		8,378	
Other departments and services ... ..	89,615		91,124	
		1,491,089		1,319,305
(C) General Central Services—				
Sugar ... ..	671,872		612,016	
Interest ... ..	245,987		293,656	
Business profits tax ... ..	38,020		72,315	
Profit on bank-notes and currency	10,868		14,707	
Payment by Sudan Light and Power Company (Limited) ... ..	46,312		47,775	
Contribution from Egyptian Government ... ..	750,000		562,500	
Railways contribution to general revenues ... ..	450,000		497,500	
Royalties—				
Gum ... ..	173,557		218,888	
Other articles ... ..	33,587		26,086	
Other items ... ..	19,672		21,027	
		2,439,875		2,366,470
(D) Irrigation Department (Gezira Scheme)—				
	1937.	1938.		
	£E.	£E.		
Gross revenue	1,479,111	815,370		
Deduct transfer to Cotton Equalisation Account ...	1,284,974	...		
	194,137			
			194,137	815,370
(E) Sudan Defence Force ... ..			7,313	7,788
Total revenue ... ..			4,748,501	5,131,635

	1937.		1938.	
	£E.	£E.	£E.	£E.
(b) <i>Expenditure.</i>				
A) Provinces ... ..		805,993		821,425
(B) Departments—				
Agriculture and Forests ... ..	266,844		264,459	
Audit ... ..	12,260		12,388	
Civil Secretary—				
Civil Secretary's Office ... ..	31,139		32,745	
Game Preservation ... ..	7,046		4,490	
Public Security (Intelligence) ... ..	15,991		16,721	
Customs... ..	39,034		38,687	
Economics and Trade ... ..	7,673		7,641	
Education <sup>(13)</sup> ... ..	91,443		102,998	
Finance ... ..	39,749		41,770	
Governor-General's Office ... ..	14,290		14,433	
Legal ... ..	80,834		81,617	
Medical ... ..	272,050		283,630	
Posts and Telegraphs ... ..	240,070		224,243	
Public Works ... ..	392,281		463,655	
Stores ... ..	180,014		123,702	
Sudan Agent ... ..	5,962		5,936	
Surveys ... ..	42,061		43,791	
Veterinary ... ..	37,733		37,808	
		1,776,474		1,800,714
Total expenditure of provinces and departments ... ..		2,582,467		2,622,139
(C) General Central Services ... ..		495,023		776,348
(D) Irrigation ... ..	956,217		1,027,844	
(E) Sudan Defence Force ... ..	423,932		431,453	
		1,380,149		1,459,297
Total expenditure ... ..		4,457,639		4,857,784

<sup>(13)</sup> Excluding provision in province budgets which are estimated to be £E. 61,000 in 1937 and £E. 71,000 in 1938.

## APPENDIX II.

### *General Reserve Account, 1938.*

Balance as at January 1, 1938 ... ..	£E.	£E.
	...	1,046,038
<i>Add—</i>		
Transfer from Revolving Credits Reserve of amount in excess of 1938 requirements... ..	126,500	
Balance of Maria Theresa Dollars Reserve Account transferred ... ..	888	
Miscellaneous receipts ... ..	127,614	
Budget surplus ... ..	273,851	
		528,853
		1,574,891
<i>Deduct—</i>		
Land purchases ... ..		34,598
Balance as at December 31, 1938 ... ..		1,540,293

APPENDIX III.

SUDAN LOANS—Summary of Position.

Description.	Extent of Guarantee by His Majesty's Government.	Date of Issue.	Issue Price.	Nominal Amount.	Net Proceeds.	Cash paid in redemption including cash at Bank or in hands of Trustees for redemption.	Outstanding liability at December 31, 1933.	Dividends Due.
(A) Sudan Guaranteed Loans—				£(sterling).	£(sterling).	£ (sterling).	£ (sterling).	
1. (a) 5½ per Cent. Guaranteed Bonds, 1929-59; with option for redemption as a whole at 105 per cent. on or after 1st November, 1939, on three months' notice.	Interest ...	October 1919...	95½	3,500,000	3,342,500	1,217,133	5,481,867	May 1. November 1.
(b) Ditto ...	Interest ...	February 1921	92	2,880,000	2,649,600			
2. (a) 4½ per Cent. Guaranteed Stock, 1939-73	Principal & Interest	January 1923	93	3,250,000	3,022,500	23,171	3,740,229	February 1. August 1.
(b) Ditto ...	Ditto ...	May 1924 ...	95¼	513,400	489,012			
3. 4 per Cent. Guaranteed Stock, 1950-74	Ditto ...	November 1924	88	1,500,000	1,290,000	...	1,500,000	May 10 and November 10.
(B) Loans of Construction Companies in which the Sudan Government is the sole shareholder and for the service of which the Sudan Government is responsible—								
1. Kassala Railway Company (Ltd.):								
(a) 4½ per Cent. Guaranteed Debenture Stock, 1934-53	Principal & Interest (Trade Facilities Act, 1921)	January 1923	93	1,290,000	1,199,700	308,305	1,131,695	February 1. August 1.
(b) Ditto ...	Ditto ...	January 1927	91	150,000	136,500			

2. Sudan Construction and Equipment Company (Ltd.): 4½ per Cent. Guaranteed Debenture Stock, 1931-45	Principal & Interest (Trade Facilities Acts, 1921-24)	February 1925	96½	540,000	521,100	288,857	251,143	February 1. August 1.
3. Gedaref Railway and Development Company (Ltd.): 5 per Cent. Guaranteed Debenture Stock, 1932-62	Principal & Interest (Trade Facilities Acts, 1921-26)	February 1927	100½	2,160,000	2,170,800	291,620	1,868,380	March 1. September 1.

NOTE.—1. In addition to the loan liabilities shown, the Sudan Government is indebted to the Egyptian Government in respect of advances, amounting to £E. 5,414,525, made for development purposes in the Sudan.

2. There is a contingent liability of £400,000 in respect of the 5 per cent. guaranteed debenture stock of the Sudan Light and Power Company (Ltd.). This issue is guaranteed as to principal and interest by His Majesty's Government under the Trade Facilities Acts 1921-25 and also by the Sudan Government. On 31st December, 1938, the Redemption Fund in the hands of the Trustees amounted to £92,142.

APPENDIX IV.

JEBEL AULIA COMPENSATION FUND AS AT DECEMBER 31, 1938.

Receipts.	£E.	£E.	Expenditure.	£E.	£E.
Egyptian Government ... ..	750,000		Protection of Towns and Basins—		
Interest and Dividends, &c. ... ..	157,063		Dueim Town ... ..	4,172	
		907,063	Sufi-Turaa and Shabasha Salati Basins	3,203	7,375
			Compensation for individual damage—		
			Town Property—		
			Kosti ... ..	3,876	
			Dueim ... ..	2,958	
			Water supplies in areas of Government		
			registered land ... ..	1,486	
			Assessment costs ... ..	9,569	17,889
			Alternative Livelihood Schemes—		
			Abdel Magid ... .. £E. 103,088		
			Less: First two instal-		
			ments assumed by		
			Government ... .. £E. 77,314	25,774	
			Fatisa and Dubasi pump schemes ...	88,288	114,062
			Other Items ... ..		7,845
			Total Expenditure to December 31,		
			1938 ... ..		147,171
			Depreciation on Investments on the		
			basis of market prices on December 31,		
			1938 ... ..		57,605
			Balance as at December 31, 1938—		
			Investments ... ..	702,097	
			Cash with National Bank of Egypt,		
			Cairo ... ..	190	702,287
Total ... ..		907,063	Total ... ..		907,063

## APPENDIX V.

*A Note on Local Government Policy in the Anglo-Egyptian Sudan.*

THE problem of whether it is better to entrust the rendering of public services and execution of beneficial reforms primarily to local agencies, or to pursue more direct and bureaucratic methods of administration, is one that confronts the Governments of many African dependencies.

The problem has presented itself in the Sudan ever since the military reoccupation and subsequent establishment, in 1899, of a local and autonomous Government of the territory. Some account of the purposes and achievements of this Government was given in Appendix IV to the annual report for 1937. Its initial task was one of pacification and reparation of the ravages suffered by local populations under previous régimes. Public needs were so many and manifest that administration had often to be conducted on the lines of a salvage operation, time was a vital consideration and indiscriminate methods were often employed with notable success. By the year 1914 this initial task was completed, order established and the confidence of the people acquired. The country was ready for a further stage of development by the construction of a dam at Sennar and irrigational works in the Gezira Plain. The inception of these costly works was prevented by the onset of the World War, which, nevertheless, opened temporary and profitable markets in Egypt and elsewhere for Sudanese produce; but during the subsequent years administrative and other reforms which were regarded as being of secondary importance fell inevitably into abeyance. This lag in development may have contributed (but in a minor degree only, for the general aftermath of the world upheaval was a primary factor) to the troubled years of 1924-25, as a result of which a number of Egyptian officers and subordinate officials left the country. The departure of these officials, many of whom had much greater technical knowledge and administrative experience than their Sudanese contemporaries, aggravated the need for a thorough review of policy and overhaul of administrative machinery. Guiding principles in the administration, "decentralisation and the employment of native agencies," were reaffirmed. The question was put, to what extent, mindful of the public welfare, could these principles be re-enforced and applied more vigorously. It was clear at the outset that the maintenance of a strong Central Government was essential to preserve intact the unitary state of the territory and organise its technical and other services. It was held that the liberal delegations of authority already granted to provincial executives in view of the length and difficulties of intercommunication could not appropriately be extended. It was found that in many parts of the country native agencies, tribal and others, were in being and actually performing useful functions, and it was considered that such agencies, if encouraged, systematised and protected from undue bureaucratic restraints, were capable of being developed into more responsible organs of local government. It was also recognised that the principles of what is called indirect rule would be helpful and applicable to the constitution of many of these organs. These were the ideas which prompted the impetus given from 1926 onwards to the development of Native Administrations in the Sudan. The strength of their foundations was tested and proved during the economic stress of 1931-33, which reacted adversely on the prospects of the recently extended cotton-growing industry and depressed the material state of the population at large. Reference was made in the appendix to last year's report, already quoted, to the great variety of types of native organs comprised in this successful system, and to the multiplicity of functions, judicial, administrative and social, which they

perform. Some of the Native Administrations now have independent budgets and undertake services previously rendered by provincial executives. Some continue to exercise very comprehensive powers on traditional lines in tribal or circumscribed territorial areas. Others, operating in regions under more intensive agricultural development or amongst a heterogeneous population, exercise more restricted authority. Generally speaking, it is true that these Administrations are still in an initial stage of their evolution. In matters of finance and accountancy, on technical questions and in many other respects, they need supervision and sympathetic guidance. But of the majority of them it can be said that they have safely passed an experimental state and by their achievements in the regular conduct of local affairs and maintenance of public security have given striking testimony of native genius for self-government on practical and economical lines.

Nevertheless, there is a section of Sudanese opinion, numerically small perhaps, but comprising men of intelligence and public spirit, which is inclined to decry the benefits of this important development. The fear has been expressed that these indigenous organs, however indispensable in backward regions, will prove to be reactionary in ideas and method and, particularly in more progressive parts of the country, will be unable to satisfy modern requirements. There would be substance in this fear only if, on the one hand, official incentive and aid to necessary reforms were lacking, and, on the other hand, the more enlightened elements in the country chose to withhold their personal interest and co-operation. In this latter connexion the suggestion that the institution of these bodies was calculated to deter the educated class from active participation in the conduct of local affairs is a travesty of Government hopes and expectations. Connected with this misapprehension, a more subtle suggestion has been put forward that Government policy in thus restricting the field of bureaucratic enterprise concealed an intention deliberately to exclude educated Sudanese from superior public offices, and even to disparage their title to a prominent place in the ultimate constitutional framework of the country. This argument is specious but untrue, for present native disabilities in these respects are clearly due not to any occult political design, but to plain facts and circumstances. It must be remarked that the constitution of the territory is a peculiar one. The complexities of government in a country many parts of which, in the brief span of forty years, have been transformed by modern inventions and scientific knowledge are very considerable. On the other hand, Native Administrations, apart from their immediate utility, are expected to supply increasingly practical training in the conduct of public affairs and, eventually, to provide the foundations on which a more comprehensive and ambitious structure of local self-government can be erected. This structure, if it is to serve the needs of the country and retain popular support, will have to be maintained on indigenous lines; it must be made attractive to progressive elements in the population, and its financial resources must be adequate to provide for the employment of competent technical and other personnel. To insist that time and experience are required by individuals and communities alike before they can be expected to deal successfully with major problems of government implies no disparagement of either Sudanese natural talents or goodwill. Indeed, the allegation that official policy has been secretly directed to depress the more educated native classes is demonstrably false. Its origin may be traced partly perhaps to official reticence on the subject, but it is due largely to inherent difficulties in the Sudan of disseminating accurate information about public affairs and official policies. Serious efforts are now being made to overcome these difficulties. In any case, no impartial critic can fail to have observed the rapid increase in the numbers of Sudanese entrants to the technical and other official cadres, whilst recent educational extensions and largely increased votes for educational purposes supply unmistakable evidence of the liberal policy in this respect which is being adopted by the Sudan Government.



The following list contains the names of the principal Native Administrations, grouped by provinces. Those Native Administrations which have been given independent budgets are shown with asterisks:—

*Northern Province.*

1. Berber District Native Administration.
2. Shendi District Native Administration.
3. Dongola District Native Administration.

*Kassala Province.*

- \*1. The Shukria Administration.
2. The Hadendown Nazirate Tribal Native Administration.
3. The Bisharin Nazirate Tribal Native Administration.
4. The Amarar Nazirate Tribal Native Administration.
5. The Tokar Local Council.

*Khartum Province.*

1. The Khartum Rural District Native Administration.

*Blue Nile Province and White Nile Sub-Province.*

- \*1. Rufaa branch of Shukria Native Administration.
2. The Kawahla Nazirate Native Administration.
3. The Fung Native Administration.
- \*4. The Dar Hassania Native Administration.
- \*5. The Dar Baggara Native Administration.

*Kordofan Province.*

1. The Dar Hamid Nazirate Native Administration.
2. The Kababish Nazirate Native Administration.
- \*3. The Gawaama Nazirate Native Administration.
- \*4. The Hamar Native Administration.
5. The Homr Native Administration.
- \*6. The Tegale Native Administration.

*Darfur Province.*

1. The Nyala Native Administration.
- \*2. The Rizeigat Nazirate Native Administration.
3. The Northern Magdumate Administration.
- \*4. The Dar Masalit Sultanate Native Administration.
5. The Fasher Administration.
- \*6. The Zalingei Emirate Native Administration.

*The Southern Sudan.*

In the two southern, and mainly pagan, provinces Native Administrations of the northern type are not yet found. The country is covered by a network of main and branch courts exercising judicial and, in some cases, minor administrative functions and based primarily on the clan or sept.

G. S. S.

May 1939.

