

## **Annual medical and sanitary report / Trengganu.**

### **Contributors**

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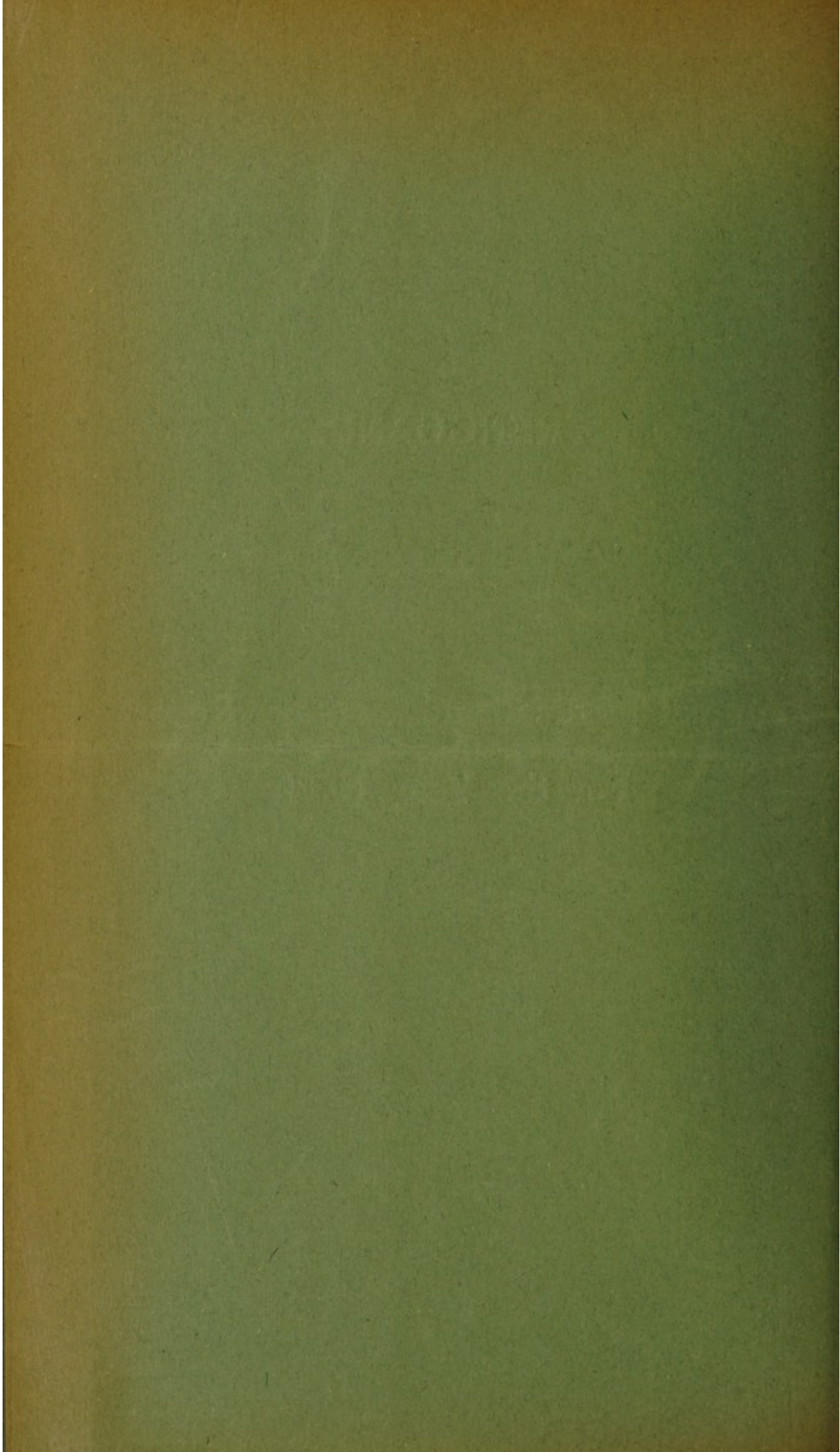
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**TRENGGANU.**

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**Annual Medical and Sanitary Report**  
**For the Year 1934.**



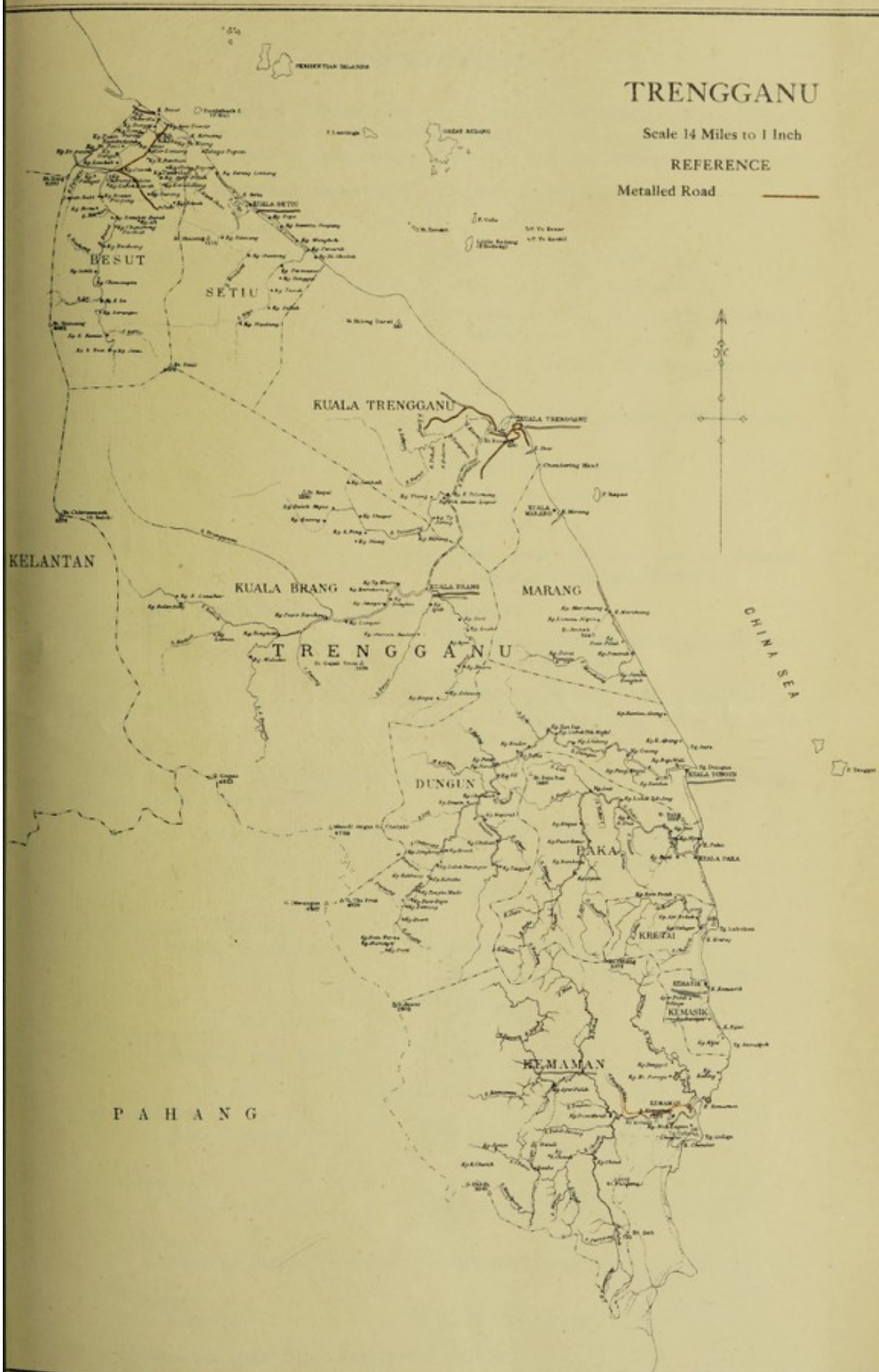


# TRENGGANU

Scale 14 Miles to 1 Inch

REFERENCE

Metalled Road



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OF THE

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## I. ADMINISTRATION.

### (a) STAFF.

Dr. G. I. H. Braine, the Medical Officer in charge of the department, went on leave on the 26th of April and returned on the 26th of December, and during that period Dr. T. F. Strang was in charge. Both of these officers are seconded from the Malayan Medical Service.

The principal subordinate appointments at the end of the year were:—

#### I. Kuala Trengganu.

##### (a) General Hospital:—

- 1 Dresser in charge, grade I.
- 1 Dresser grade II (passed grade I).
- 4 Dressers grade III (of whom 3 have passed grade II).
- 3 Probationer Dressers (of whom 2 have passed grade III).
- 1 Midwife (holds a Japanese midwifery certificate).
- 1 Steward and Storekeeper.
- 1 Assistant Storekeeper.
- 1 Clerk grade I.
- 2 Clerks grade III (one acts as Assistant Registrar, Births and Deaths).

##### (b) Town Dispensary and Welfare Centre:—

- 1 Dresser grade I (holds certificate of the Royal Sanitary Institute).
- 1 Probationer Dresser (passed grade III).
- 1 Midwife (holds certificate "B" of the Straits Settlements).

(The staff of the Town Dispensary also attends to the prisoners, to the mental patients in the State Prison and to the Police).

##### (c) Outdoor and Other Duties:—

- 1 Probationer Sanitary Inspector.
- 1 Assistant Sanitary Inspector.
- 1 Vaccinator.
- 2. Kemaman Dispensary  
at Chukai, Kemaman:—
  - 1 Dresser grade II (passed grade I).
  - 1 Probationer Dresser (passed grade III).
  - 1 Vaccinator.
- 3. Dispensary  
at Kampong Raja, Besut:—
  - 1 Dresser grade III.
  - 1 Vaccinator.
- 4. Dispensary  
at Kuala Dungun:—
  - 1 Dresser grade III (passed grade II).
  - 1 Vaccinator.
- 5. Dispensary  
at Kuala Brang:—
  - 1 Probationer Dresser (passed grade III).
- 6. Dispensary  
at Kampong Panjang, Setiyu:—
  - 1 Probationer Dresser (passed grade III).
- 7. Dispensary  
at Kemasek:—
  - 1 Probationer Dresser.

In addition, one grade III Dresser (passed grade II) was on long leave.



The grading of dressers in Trengganu is in accordance with a scheme following that adopted by the Government of the Straits Settlements.

Examinations for dressers are held at Kuala Trengganu but some dressers prefer to sit the examinations held at Singapore by the Government of the Straits Settlements as the grades conferred by Trengganu are not valid outside the State.

Messrs. J. G. Gomes and M. K. Gopal passed the examination for grade II dressers at Singapore on the 27th of January while Mr. D. B. Ciong passed the same examination on the 26th of July.

Examinations were also held at Kuala Trengganu and the following dressers were successful:—

Name.	Examination.	Date.
Messrs. K. M. Pillai	Grade II to grade I	3rd. December
" H. M. Liew	Grade III to grade II	3rd. "
" D. L. Gomez	Grade III to grade II	3rd. "
" Haji Arshad bin Mohamed	Probationer to grade III	5th. August
" Yazib bin Haji Mohamed	" "	" 5th. November
" Siop bin Mintol	" "	" 5th. "
" Awang Chik	" "	" 5th. "
" Syed Shith	" "	" 5th. "
" T. A. Krishnan Kutty	" "	" 3rd. December

Musa bin Alias and Syed Shith were appointed Probationer Dressers on 1/2/34.

Syed Ibrahim bin Daud, a Probationer Dresser who had passed his grade III examination, was invalided out of the service on 1/11/34.

#### (b) LEGISLATION AFFECTING PUBLIC HEALTH.

A Labour Enactment, No. 8 of A. H. 1353, came into force on 15/2/34. Employers of labour must now provide suitable medical attendance for their employees and they are made responsible for the expenses of their employees in hospital.

A Public Health Enactment, No. 10 of A. H. 1353, came into force on 15/2/34. It concerns the prevention of introduction and spread of disease in the State.

By Notice (Pemberitahu) No. 1 of A. H. 1353, published on 22/4/34, registers of chandu smokers were closed on 31/12/34: after which date no new smokers will be registered unless they obtain a certificate from a registered medical practitioner that for health reasons they should be allowed to smoke.

A new Town Board Enactment is in the course of preparation.

#### (c) FINANCE.

The Estimates for 1934 provided for an expenditure of \$62,476.00\* while the actual expenditure was \$59,380.93 and was made up as follows:—

	Estimates	Actual Expenditure
Personal emoluments .. .. .	\$36,886.00	\$36,611.69
Annually recurrent .. .. .	25,090.00	22,428.74
Special vote .. .. .	500.00	340.50
	<hr/>	<hr/>
	\$62,476.00	\$59,380.93

Owing to the improved condition of the finances of the State the Estimates for 1935 provide for an expenditure of \$75,652.00. The subordinate staff is to receive its first annual increment since May 1931.

\*\$1.00=Two shillings and four pence.



The revenue was \$764.05 while it was \$517.15 in 1933.

The following table compares the financial position with that of previous years:—

Year.	Revenue from Medical Dept.	Revenue of State.	Expenditure of Medical Dept.	Expenditure of State.	Percentage of Medical to State Expenditure.
A.H. 1349	\$1,258.95	\$1,235,230.00	\$76,956.21	\$1,445,709.00	5.32%
A.D. 1931 May—Dec.	710.25	676,338.00	48,947.33	845,556.00	5.79%
A.D. 1932	446.35	986,901.00	61,623.89	1,095,584.00	5.63%
A.D. 1933	517.15	1,165,578.00	56,465.76	1,060,306.00	5.25%
A.D. 1934	764.05	1,699,319.12	59,380.93	1,405,157.17	4.23%

(d) BUILDINGS.

Only a few minor works and repairs were carried out.

## II. VITAL STATISTICS.

(a) GENERAL POPULATION.

The population at the 1921 census was 153,765 while at the 1931 census it was 179,789 of which 92,534 were males and 87,435 were females. It comprised:—

Malaysians	164,564
Chinese	13,254
Indians	1,371
Europeans	35
Eurasians	15
Others	550

The mid-year population for 1934 calculated by the geometrical method is 189,161 and the rates for births and deaths are calculated on this basis. This method of calculation is suitable for Trengganu as there is little change in the population from immigration and emigration. During the year there were 16,818 immigrants and 17,114 emigrants.

(b) BIRTHS.

During the year there were 6,330 (7,078)\* births registered of which 3,212 (3,728) were males and 3,118 (3,350) were females giving a sex-ratio of 971 (897) females to every 1,000 males. The live birth-rate was 33.46 (38.01) per mille. The number of still births recorded was 170 giving a rate of 26 still births per 1,000 total births.

The following table shows the births according to race:—

Malays.	Chinese.	Indians.	Europeans.	Eurasians.	Others.	Total.
6,037	264	7	nil	nil	22	6,330

(c) DEATHS.

4,590 (3,619) deaths were registered during the year giving a rate of 24.27 (19.43) per mille; of these, 2,463 (1,940) were males and 2,127 (1,679) were females. The highest number of deaths in any one month was 446 (in August) and the smallest 328 (in June).

\*The second number, in brackets, refers throughout the report to the figures for the preceding year, which are given for comparison.



The main causes of deaths, as reported, for the last four years have been:—

	1931	1932	1933	1934
Fever .. .. .	2,525	2,814	2,061	2,529
Convulsions .. .. .	730	778	786	1,031
Bowel diseases .. .. .	203	225	154	273
Beri-beri .. .. .	58	76	64	68
Respiratory diseases .. .. .	43	48	45	134
Maternal mortality .. .. .	86	108	56	51
Old age .. .. .	254	287	214	308
Accidents .. .. .	79	96	70	63
Other causes .. .. .	345	368	169	133
<b>TOTAL ..</b>	<b>4,323</b>	<b>4,800</b>	<b>3,619</b>	<b>4,590</b>

It must be pointed out, however, that these figures are far from accurate for the deputy registrars are persons possessed of little or no medical knowledge and in only just over 1% of the deaths was the certificate signed by a qualified medical practitioner.

An effort was made at the beginning of last year to secure greater accuracy by revising and enlarging the list of diseases in the Malay language which is issued to the deputy registrars. An improvement was noted and it was possible to differentiate the causes of death to a greater extent than previously. This is probably the cause of the great increase in deaths due to respiratory and bowel diseases as no epidemic was reported. Particular attention was paid to the fevers and instructions were issued that "fever" *per se* was not to be accepted as a cause of death and that the nature of the fever was to be recorded. It was hoped that more accurate information about the number of deaths due to malaria would be obtained. 92 deaths were reported to be due to malaria as against 19 in the previous year: this figure is obviously far too low and it is feared that it will be a long time yet before Trengganu can furnish accurate information in this respect.

Greater success has been achieved in separating the still-births from live births. There were 170 still-births recorded as compared with 53 in 1933, while before that time both a birth and a death were usually recorded in these cases.

The following table shows the deaths according to race:—

Malays.	Chinese.	Indians.	Europeans.	Eurasians.	Others.	Total.
4,281	273	17	nil	nil	19	4,590

Noxious Animals.—Eight people were killed by tigers, all in the Ulu Dungun district.

Infantile Mortality.—The number of deaths occurring in children under one year of age was 1,401 (1,159) or 30.52% (32.03) of the total of which 790 (661) were males and 611 (498) were females. The infantile mortality rate was 221.33 (163.75). The increase in the number of deaths of infants was part of a general increase in the mortality for all ages.

Deaths of children under five years of age comprised 46.30% (42.11) of the total deaths.

Maternal Mortality.—Fifty one (56) women died as the result of childbirth giving a rate of 8.05 (9.21) per thousand live births.



## (d) REGISTRATION IN TRENGGANU.

The registration of births and deaths has been compulsory since July 1927.

The Medical Officer is the Registrar while he has a clerk who acts as Assistant Registrar. There are Deputy Registrars in thirty five places of which twenty-nine are police-stations, two are customs offices and four are the offices of penghulus.

The following table shows the numbers of births and deaths with their rates since the inception of registration in Trengganu. The mid-year population has been calculated from the census figures of 1921 and 1931 by the geometrical method.

Year	Mid-year Population	No. of Births	Birth Rate	No. of Deaths	Death Rate
1927	169,550	3,940	23.24	4,980	29.96
1928	172,222	4,555	26.45	4,847	28.14
1929	174,936	4,841	27.67	4,763	27.23
1930	177,693	6,189	34.83	4,591	25.84
1931	180,493	6,489	35.05	4,323	23.05
1932	183,338	6,836	37.29	4,809	26.24
1933	186,227	7,078	38.01	3,619	19.43
1934	189,161	6,330	33.46	4,590	24.27

## III. HEALTH OF THE EUROPEAN POPULATION AND ASIATIC OFFICIALS.

## (a) EUROPEANS.

The total number of Europeans resident in the State at the end of the year was 30. There were no deaths during the year.

The following table shows the sick, invaliding and death rate of the European Officials:—

Total number of officials resident	16
Average number resident	11.22
Total number on sick list	7
Total number of days on sick list	73
Average daily number on sick list	0.20
Average number of days on sick list for each patient	10.43
Average sick time to each resident	6.51 days
Total number invalided	nil
Percentage of invalidings to total residents	nil
Total deaths	nil
Percentage of deaths to total residents	nil
Percentage number of deaths to total average number resident	nil
Number of cases of sickness contracted away from residence	nil

Of the seven sick officials, two went to Singapore for treatment. One had an intra-nasal operation performed on him and was nineteen days on the sick list; the other had dental treatment and was twenty-one days on the sick list.

## (b) ASIATIC OFFICIALS.

The total number of new cases treated was 4,469 (4,271) of which 1,554 (1,748) were in the Police Force.



## IV. HYGIENE AND SANITATION.

## (a) SPECIAL DISEASES.

The number of prevailing diseases treated during the last five years have been:—

Diseases	1930	1931	1932	1933	1934	
Malaria .. .. .	5,775	5,408	6,180	10,718	12,965 ✓	+
Fever unspecified .. .. .	2,799	862	574	1,695	1,019	-
Diseases of respiratory system (excluding influenza) .. .. .	1,437	1,357	1,676	3,109	4,608 ✓	+
Influenza .. .. .	1,621	1,820	2,070	2,278	2,986	+
Yaws .. .. .	3,386	2,601	3,434	4,789	4,400 ✓	-
Beri-beri .. .. .	915	1,181	433	782	968	+
Intestinal parasites .. .. .	1,894	3,539	4,940	8,561	11,080 ✓	+

These figures represent the total number of patients treated, both in-patients and out-patients. They are a better guide to the incidence of diseases in Trengganu than the alleged causes of death which are so unreliable.

## (1) MOSQUITO-BORNE DISEASES.

Malaria.—The incidence varies widely in different parts of Trengganu. The coast-line, which is the most densely populated part of the State, is fairly free from malaria. The further one goes inland, however, the higher becomes the incidence of the disease until in the villages furthest up-river almost all the children and most of the adults have enlarged spleens. The larger islands are highly malarious for the spleen-rate on Pulau Perhentian and Pulau Redang were found to be 80% and 42% respectively.

Kuala Trengganu, which is the capital and the largest town in the State, is probably free from malaria. The incidence of enlarged spleen among seven hundred and eighty-three school-children was only 0.26% (0.64). The following varieties of anopheline mosquitoes are to be found:—*A. barbirostris*, *A. hyrcanus*, *A. kochi*, *A. rossi*, *A. sinensis* and *A. vagus*. They are not very numerous, however, and in many parts of the town, it is possible to sleep all the year round without a mosquito-net.

The towns on the coast where cases of malaria are most prevalent are Batu Rakit and Marang. A certain amount of oiling is carried out at both of these places. There are no Government Dispensaries but regular visits are paid by the Travelling Dresser from the Hospital. The spleen-rate at Batu Rakit was 11.3%. Malaria seems to be greatly on the increase at Marang, and *A. maculatus* has been found in the town.

The incidence of enlarged spleen among the school-pupils at the other towns on the coast is as follows:—Kuala Besut—1.30%, Kuala Setiyu—0%, Kampong Panjang, Setiyu—0%, Kampong Penarek, Setiyu—5%, Kuala Dungun—2.17%, Paka—6.35%, Kretay—18.0%, Kemasek—5.77%, Kijal—16.67%, Kuala Kemaman—2.0% and Chukai, Kemaman—2.56%.

The incidence at the school at Kampong Raja, Besut which is about three miles inland, was 1.33% while at Kuala Brang, which is about twenty-five miles inland, it was found to be 30.77%.

The Medical Officer found on his visits to Ulu Besut, Ulu Trengganu, Ulu Tersat and Ulu Brang that malaria was extremely prevalent. The further up-stream he went, the more frequent it became until in the most distant kampong all the children with the exception of some very young babies had enlarged spleens.



It can be seen therefore that anti-malaria measures are most required where such measures are most difficult to achieve. Free distribution of drugs is the only effective measure feasible. During the year, 12,965 patients were treated for this disease. The majority of these cases received quinine, cinchona febrifuge or euquinine (for the infants) but an increasing number, especially those in hospital or otherwise under the close observation of the staff, are receiving atabrin and plasmoquine. In isolated places such as the islands, small quantities of quinine are left with responsible people. This is not possible in the most distant villages in the interior where the people are not used to Europeans and their ways but every effort is being made to secure their confidence.

The number of deaths reported as being due to fever increased from 2,061 in 1933 to 2,529 in 1934 and that due to convulsions from 786 to 1,031. The deaths reported as due to malaria increased from 19 to 92; the explanation for the lowness of these latter figures has been given above and there is no doubt that many of the cases recorded as being due to fever were caused by malaria. As has been stated already, the causes of death as reported are not a reliable guide to the incidence of disease in Trengganu and we should look to the cases treated by the Department for a more reliable indication of the prevalence of malaria. It seemed that there was an increase in the incidence of malaria in Trengganu for the percentage of patients admitted into hospital suffering from malaria to the total number admitted rose from 6.83 in 1933 to 9.2 in 1934 while the corresponding percentages for out-patients were 11.56 and 13.57. The spleen-rate of school-children was 1.69% in 1933 but rose to 3.12% in 1934 although the rate for Kuala Trengganu showed a fall: the rate in 1932 was 5.71.

Dengue.—No case of this disease was reported.

Filaria.—No cases were treated. A few cases of elephantiasis due to filaria exist in the Paka district.

## (2) BOWEL DISEASES.

274 (225) deaths were reported to have been due to bowel diseases.

Dysentery.—It is remarkable that dysentery is not more prevalent than it is considering the extremely unhygienic state of affairs with regard to conservancy in areas where the water-table is very high and shallow and unprotected wells form the water-supply. There was no out-break during the year although a number of sporadic cases occurred throughout the state. Twenty-nine cases (36) were treated in the hospital of which twenty-five (29) were amoebic and there were six (6) deaths; in addition, a patient was admitted suffering from liver abscess who died. 167 (170) were treated as out-patients of which 84 (58) were amoebic although this last number would have been greater if greater facilities for correct diagnosis had been available.

Enteric fever.—As in the case of dysentery, it is remarkable that the incidence is so small. Only sporadic cases occur and seven were treated as was the case last year.

Diarrhoea and enteritis.—627 cases were treated.

Helminthic infections.—These are extraordinarily prevalent. School inspections at Kuala Trengganu showed that over 90% (86) of the children had signs of worms while over 84% (76) of all specimens of stool examined at the laboratory had some kind of helminthic infection which was usually multiple. The commonest parasites were ankylostoma (29.11%), ascaris lumbricoides (70.13%) and trichocephalus dispar (58.05%). Microscopical work in the out-stations showed that over 77% (90) of the specimens examined were positive; here too, ascaris was found to be about twice as common as ankylostoma except in the Besut area where the incidence is about equal. In the inland districts, ankylostoma is much more prevalent than ascaris. Occasional cases of distoma infection such as Clonorchis sinensis occur but no case was encountered in 1934. The Medical Department has not yet found a case of tape-worm. Free treatment of cases is the only practicable measure at present and the number so treated rose from 8,561 in 1933 to 11,080 in 1934.

## (3) DANGEROUS INFECTIOUS DISEASES.

No case was reported. 9,146 (10,857) vaccinations were performed.

## (4) INFLUENZA.

The incidence of influenza is greatest at the onset of the north-east monsoon.



## (5) FOOD DEFICIENCY DISEASES.

Beri-beri.—Most of these cases occur towards the end of the north-east monsoon. The incidence is perhaps greater among the Chinese than the Malays and is often noted in women after confinement. It is difficult to persuade these patients to vary their diet of polished rice and dried fish with vegetables which is not a popular article of diet in Trengganu. This disease is common on the coast where the population depends on fishing for a livelihood and buys the polished rice which it eats: but it is rare in the interior where the home grown, unpolished rice is the staple diet.

968 (782) cases were treated while 68 (64) deaths were reported.

Scurvy.—Two cases occurred and one died.

Goitre.—A number of cases occur in a localized area in the upper reaches of the Trengganu river which was visited by the Medical Officer last year. About 5% of the population have marked enlargements while minor degrees of enlargement are common. The disease is commoner in women and seems to appear about the age of puberty.

## (6) TUBERCULOSIS.

101 (92) cases of pulmonary and laryngeal tuberculosis were treated. 48 (46) were treated in the hospital with 15 (8) deaths. 132 people were reported to have died of respiratory diseases and of these 45 were due to tuberculosis.

## (7) YAWS.

This disease is extremely prevalent and every manifestation can be seen. Signs of yaws were noted in nearly 40% of the pupils at Kuala Trengganu (as against 56% in 1933) but in the majority of these cases the disease was inactive. The disease is commonest on the coast. Owing to the campaigns against this disease, the early, active stages of the disease are not common in the larger towns.

4,400 (4,789) cases were treated and of these, 405 (498) were in-patients. The routine treatment is injection of bismuth-sodium-tartrate which is effective and has the merit of cheapness but a number of Malays fear these injections as they are almost invariably followed by a general reaction which is in many cases severe. This drug is gradually being replaced by metallic bismuth, stovarsol, neoarsphenamine and sulpharsphenamine and it is not now given to cases in the hospital. If the State can afford the expense, the use of these expensive drugs will be extended.

## (8) LEPROSY.

Every effort is made to encourage these patients to come for treatment. Three deaths from this cause were reported during the year.

## (9) EXANTHEMATA AND OTHER FEBRILE DISEASES.

There were 30 (38) cases of chicken-pox reported while there were 8 (5) cases of mumps and 6 (4) cases of whooping-cough. The number of cases of measles increased from 18 to 93 and there were 4 deaths from this cause. There was no case of diphtheria.

No case of tropical typhus, tsutsugamushi fever or leptospirosis has yet been diagnosed in Trengganu.

## (10) SKIN DISEASES.

Tinea and scabies are the principal skin diseases. 6,883 (6,803) cases of tinea and 8,064 (6,534) cases of scabies were treated.

## (11) CHRONIC ULCER.

9,880 cases of ulcer were treated as against 12,290 in 1933.



## (b) GENERAL MEASURES OF SANITATION.

Sanitation is not highly organized in Trengganu.

In Kuala Trengganu, control is exercised by a Town Board which has official and unofficial members including the State Engineer, the State Surveyor and the Medical Officer. There are also small Town Boards at Kemaman and Besut. Elsewhere, sanitation is in the hands of the District Officers who are supposed to consult the Dressers in their districts with regard to these matters. There is only one Sanitary Inspector in the State who is stationed at Kuala Trengganu.

Sanitary coolies are employed by all the larger towns and use is made of the prisoners in the State Prison and in the local lock-ups.

## (1) SEWAGE.

Very little of this is done and that only in the larger towns.

In Kuala Trengganu, a "double-pail" system is carried out by a private company but only 189 latrines are served in a town of nearly 14,000 inhabitants; ultimate disposal is by trenching. There was a certain amount of trouble with market-gardeners who contracted to remove the night-soil at a lower rate but successful measures were taken against them.

In addition, the hospital, gaol and some private houses have private trenching systems of their own and the gaol also removes the pails from the police-barracks, some of the Government offices, the Government rest-house and two of the schools. There are no public latrines, but this matter is to receive attention in 1935. New urinals and movable pail latrines are being installed in the schools in place of the former old, insanitary structures.

A pail and trenching system for Kemaman is under consideration. There are already public latrines here.

Elsewhere, there are a few pit-latrines and latrines over rivers but in general, there is no proper method of disposal, the foreshore or river, a clump of vegetation or the space under the house being utilized.

## (2) DISPOSAL OF REFUSE.

There is a system of dumping in the larger towns.

In Kuala Trengganu, a new dumping-site was started and a ravine is being filled up. Conditions have been much improved here by the provision of rubbish-bins for the markets and extra ones for the roads.

## (3) DRAINAGE.

With the exception of a few concrete drains at Kuala Trengganu and Kemaman, there are only earth drains.

## (4) WATER SUPPLY.

Reference has already been made to the water supply which in all the towns and larger villages consists of shallow, and for the most part unprotected, wells; in the up-country villages, water is usually obtained from the rivers.

Preliminary enquiries have been made with regard to a piped water supply for Kuala Trengganu. The only suitable river for a supply by gravity is about 40 miles distant and the installation would cost about \$1,500,000.00: an alternative pumping scheme would cost over \$800,000.00. In the meantime, the advantages of such a scheme are not considered commensurate with its cost.

## (5) FOOD.

Inspections are regularly carried out by the Sanitary Inspector in Kuala Trengganu and the Dressers elsewhere. Coffee-shops, eating-houses, lodging houses and bakeries have to be licensed.



Coffee-shops.—The condition of most of these is at present unsatisfactory but an effort is being made to improve them. Five owners were fined in Kuala Trengganu for not paying proper attention to their premises.

Markets.—There are markets in most of the towns. In Kuala Trengganu, conditions greatly improved during the year: rubbish bins and incandescent lamps were installed but an experiment in fly-proofing the meat-safes proved to be unsuccessful. Extension of the existing accommodation is very necessary in Kuala Trengganu.

Small slaughter-houses for cattle are being erected at Kuala Trengganu and Kemaman while a slaughter-house for pigs at Kemaman is under consideration.

#### (6) HOUSING AND TOWN PLANNING.

Fairly wide municipal limits have been fixed in all the larger towns. Within these areas, a site plan has to be furnished and the building plan has to be passed by the Town Board. Additions to building and renovations have also to obtain the sanction of the Town Board. Outside the town areas there are no building regulations.

There are no building societies.

There are very few cooly lines within the State as local labour is generally employed. There are a few P.W.D. lines and there are lines on the larger mines and estates.

There are very few Government quarters with the exception of these occupied by the European officials.

With the exception of the main streets in the larger towns, the common type of house is raised 6-8 feet on wooden posts. The floors are of wood or split bamboo, the walls are generally of split bamboo and the roofs of palm leaf. The houses in the case of the towns and the larger villages frequently lie close together with little provision for roads and lanes, though in the smaller villages the houses are generally spaced well apart. As a rule, there are no drains or latrines. Holes in the floor serve for waste water and refuse. Overcrowding is not the rule, probably on account of the small proportion of Chinese in the population. The 1931 census showed that Trengganu shared with Kedah the distinction of having the lowest house-density (4.3) of any State or Colony in Malaya and that Kuala Trengganu has the second lowest house-density (4.7) of towns in Malaya with a population of over 10,000 inhabitants.

In the State of Trengganu, the town with the highest house density is Paka (5.9).

#### (7) SCHOOL HYGIENE.

As in 1933, all the Government schools in the State, twenty-two in number, and three private schools were inspected by the senior dressers.

Reports were received with regard to the structure, ventilation, and lighting of the school buildings and the general sanitation. The provision for sanitary conveniences was found to be inadequate but this matter is now receiving attention in Kuala Trengganu. Most of the schools had a poor water supply or none at all. Provision for light, ventilation and floor-space was found to be satisfactory with the exception of the Paya Bunga School, Kuala Trengganu where there was overcrowding and the two schools at Kuala Kemaman and Chukai where the seating accommodation was inadequate.

All the children were medically examined and later given the opportunity of treatment. The number examined was 1,572 (1,754) which was 74.01% (78.38) of the number on the roll. 789 (779) of the pupils were in the schools at Kuala Trengganu.

The proportion of the pupils with enlarged spleen was 3.12% (1.69) the rate being 0.26% (0.64) in Kuala Trengganu and 5.96% (2.70) in the other schools. The highest rate, 30.77%, was at Kuala Brang which is the only school some distance away from the coast.

Signs of yaws were noted in 39.97% (54.69) of the children at Kuala Trengganu but in the majority of these cases the disease was inactive. This figure was higher than elsewhere.

Most of the pupils, especially at Kuala Trengganu, showed signs of worms.



Dental caries occurred in 41.29% (41.05). The rate for Kuala Trengganu was 41.51% (57.38); here the defects were classified into three grades, slight, average and marked. In 1.54% the defects were marked, in 12.61% average while in the others the defects were confined to one or two teeth only.

Ulcers occurred in 3.87% (4.19), scabies in 13.42% (15.39), tinea in 8.78% and other skin conditions in 1.72% (6.90); skin affections were more prevalent in Kuala Trengganu. Other diseases, mainly ear and eye affections, occurred in just over 6%.

#### (8) PROPAGANDA IN THE PREVENTION OF DISEASE.

Little work of this nature has been done in Trengganu. The Sanitary Inspector, Dressers and other officials endeavour, on their periodical visits, to impress upon the people the necessity of keeping their houses and surrounding land in a clean condition. In general, the Malay is meticulous about the cleanliness of his person but is rather indifferent to his surroundings.

One of the chief difficulties is the illiteracy of the population: it was estimated in 1933 that probably not more than 17% of boys of school age went to school. Hygiene is a subject in the curriculum of the schools.

A few posters on malaria, ankylostomiasis, etc. have been circulated but it is considered that they are of little value.

#### (9) DENTISTS AND DRUGGISTS.

Compulsory registration is in force and periodical inspections are made by the Medical Officer.

#### (10) LABOUR CONDITIONS.

Mines.—There are two iron and three tin mines which employ labour on a considerable scale, the average number of coolies employed being 2,100 (1,699). Periodical health inspections are made by the Medical Officer.

The following details are abstracted from the health reports sent every month by these concerns to the Medical Department.

Name of Mine.	Average Monthly Labour Force	Average Monthly Number of Dependent	Average Total Persons per month	Deaths		Number of cases of Malaria
				Total	Injury	
1. Nippon Mining Co. Dungun ..	1,206	398	1,604	12	3	31
2. Ishihara Sangyo Koshi, Kemaman ..	250	56	306	5	0	134
3. Freda and Bundi Mines, Kemaman ..	415	278	693	11	0	375
4. Sungei Ayam Mine, Kemaman ..	131	26	157	0	0	88
5. Kajang Mine, Kemaman ..	98	19	117	1	0	157
TOTAL ..	2,100	777	2,877	29	3	785

There were only one death from malaria reported.

The first two of these concerns are iron mines which are worked by Japanese. They both have a qualified doctor with a hospital attached. The Nippon Mining Co. has also a dentist, a nurse and a dresser.

The Freda and Bundi Mining Co. has a dispensary with a doctor and a dresser attached. A small hospital is to be opened in 1935.

The Sungei Ayam Mine has a dispensary and a dresser.



The Kajang Mine has no medical staff. This mine started working again last year after a period of comparative inactivity and the question of adequate medical treatment for the employees will have to be considered.

Estates.—There is only one estate of any size in Trengganu, a large coconut and rubber estate at Kretay, which employed a monthly average of 403 (358) labourers. There is a hospital with a dresser attached. Health conditions were not so good as in 1933 for the number of malaria cases increased and there were three deaths from this cause. The total number of deaths was 7 (5).

## V. PORT HEALTH WORK.

No activity of this branch of preventive work was called for during this year.

## VI. MATERNITY AND CHILD WELFARE WORK.

The only place where special provision is made for this work is at Kuala Trengganu. Here there is a Women and Children's Welfare Clinic attached to which is a midwife. This clinic is run in conjunction with the Town Dispensary and is a very popular institution. There is also a midwife attached to the hospital. The two midwives of the Medical Department are the only qualified midwives who are in practice in the State. In 1934, an experiment was made in training two local Malay midwives. The attempt was not very successful. Local tradition and custom is still very strong and it is feared that it will be a long time before suitable young women are available for this type of work.

44 (44) confinements and 2 (3) cases of miscarriage were conducted by the midwife in the hospital. Of the 44 labours, 35 of the women were Chinese, 7 were Malays and 1 was an Indian. There was one case of twins, two cases of breech presentation and one case of retained placenta; forceps had to be applied on two occasions. There was one death, the case of retained placenta, who died from septicaemia.

The Midwife in charge of the Welfare Clinic conducted 112 (127) confinements in the patients' homes as well as attending to 2 (5) cases of miscarriage. Of these 112 patients, 60 were Malays and 52 were Chinese. Altogether, she paid 2,398 visits to the patients' home. This midwife was greatly handicapped by illness during the year. The women are encouraged to come for ante-natal treatment.

The following are the figures for the past three years in connection with the Maternity and Child Welfare Clinic:

	1932	1933	1934
Antenatal visits .. .. .	42	47	29
District labours and miscarriages .. .. .	130	132	114
Adult women—general diseases .. .. .	1,154	945	954
Infants under one year of age .. .. .	105	122	189
Children between the ages of one and twelve .. .. .	1,340	1,368	1,438
Vaccinations performed on children, (not included in above) .. .. .	294	193	224
Total number of adults treated .. .. .	1,326	1,124	1,097
Total number of children treated .. .. .	1,739	1,683	1,851
Total number of new cases .. .. .	3,065	2,807	2,948
Total attendances .. .. .	7,401	7,854	7,130



The total number of new cases by race was as follows:—

	Children	Women	Total
Chinese .. .. .	1,011	541	1,552
Malays .. .. .	832	549	1,381
Indians .. .. .	8	4	12
Others .. .. .	0	3	3
Total .. .. .	1,851	1,097	2,948

## VII. HOSPITALS AND DISPENSARIES.

Excluding a small ward for sick prisoners in the gaol, there is only one Government hospital in Trengganu which has nine wards with accommodation for one hundred and fifty-six patients. Two of the wards are for females, one of which is a maternity ward comprising a labour theatre, an eight-bedded ward and two single rooms for paying patients (apart from these two rooms, there is no separate accommodation for paying patients).

The remaining wards are for the use of male patients, one of which is reserved for lepers and one for tuberculosis.

The following is a summary of work performed at the hospital during the last five years:—

	1930	1931	1932	1933	1934
Total number of admissions ..	1990	1949	1640	1710	1775
Total number of Malays admitted ..	39.9 795	40.5 790	49.1 806	58.3 997	59.2 1051
Total number of females admitted ..	199	200	249	303	304
Total number of deaths in hospital ..	96	77	63	43	62
Number of deaths per 100 admissions	4.82	3.95	3.84	2.51	3.49
Number of deaths excluding cases dying within 24 hours of admission	—	—	—	33	56
Number of deaths per 100 admissions excluding cases dying within 48 hours of admission ..	—	—	—	1.94	3.19
Number of labours performed in the maternity ward (excluding miscarriage) ..	42	26	34	44	44
Number of major operations performed ..	23	21	24	15	17
Number of minor operations performed ..	146 {	64	76	86	83
Number of dental extractions ..		66	59	90	164
Number of deaths after operation ..	nil	nil	nil	1	3

The highest number of patients in hospital on any one day was 133 while the lowest was 69.



The number of cases admitted has again increased. The fall in the number admitted in 1932 was due to the institution in November 1931 of proper medical treatment for their employees by the Nippon Mining Co., a large Japanese mining concern. An indication of the growth of popularity of the hospital is to be found in the gradual increase in the number of Malays treated. The majority of the others form part of a floating population which varies in number according to the prevailing labour conditions.

Local and spinal anaesthesia is employed in operations on every possible occasion and this applies also to dental extractions. Sodium evipan has also been successfully employed.

(b) DISPENSARIES.

There is a chain of Government dispensaries along the coast, where dwells the main part of the population, at the following centres:—Besut, Setiyu, Kuala Trengganu town, Kuala Trengganu hospital, Kuala Dungun, Kemasek and Kemaman. In addition, there is a dispensary at Kuala Brang which is situated about 25 miles up the Trengganu river. A travelling dresser is also attached to the hospital.

In connection with the Kuala Trengganu—Besut road improvement scheme, a dispensary was opened by the Public Works Department at Kampong Buloh at the beginning of October under the charge of a Hospital Assistant who had retired from the service of the Federated Malay States Government. This dresser is not employed by the Medical Department but he receives all his stores from it. In addition to his duties as dresser in charge of the Public Works Department, he treats all the sick in the villages along the road.

In addition to performing vaccinations, the four vaccinators distribute medicine among the kampongs on their visits.

Eleven rural police-stations and four customs stations, which are situated in places where there are no dispensaries, are supplied with small stocks of simple drugs such as quinine, antiseptic ointments and lotions, vermifuges etc. for the benefit of themselves and the general public.

The following table shows the number of patients treated by the dispensaries etc. during 1934. The total number of attendances during 1933 is also given for the purposes of comparison:—

Station.	New Patients			Total Attendances. 1934.	Total Attendances. 1933.
	Male	Female	Total		
1. Besut .....	6,815	1,892	8,707	9,595	10,012
2. Setiyu .....	5,001	2,326	7,327	8,338	8,039
3. K. Trengganu Town and Welfare Clinic .....	15,914	2,022	17,936	29,035	22,790
4. K. Trengganu Hospital ..	4,087	1,497	5,584	7,810	5,720
5. Hospital Travelling Dresser ..	2,824	1,373	4,197	5,187	4,797
6. Kuala Brang .....	6,736	3,234	9,970	10,528	13,757
7. Kuala Dungun .....	6,372	1,433	7,805	11,159	8,312
8. Kemasek .....	2,888	730	3,618	3,723	4,236
9. Kemaman .....	10,104	2,452	12,556	15,432	21,506
10. Kampong Buloh (P.W.D.) ..	571	175	746	819	—
11. Vaccinators .....	9,947	4,999	14,946	14,946	12,907
12. Police etc. ....	674	160	834	834	287
TOTAL .....	71,933	22,293	94,226	117,406	112,363



The number of total attendances shows an increase of 5,717 or 5.12% over the number in 1933.

The out-lying villages are regularly visited by the dressers in charge of the dispensaries. 28,218 cases were treated on these visits. Unfortunately, travelling is greatly restricted by the north-east monsoon which starts at the beginning of November and lasts until the middle of March. This is especially the case in the interior of the State where the rain-fall is much higher than on the coast.

5,972 (4,623) patients were visited in their homes by the dressers in charge of dispensaries when they were at headquarters. Of these 3,598 (2,095) were made by the Hospital Assistant in charge of the Kuala Trengganu Town Dispensary and a number of these were further visited by the Medical Officer. The Medical Officer also attends the Kuala Trengganu Town Dispensary and the Hospital Dispensary. Visits were made by him to the Istana Kolam to attend H. H. the Sultan and family on 146 (88) separate occasions. Regular visits are paid by him to the dispensaries and the larger town and villages. On one occasion, he paid a visit, lasting ten days, up the Trengganu river and reached its source whence he crossed into the neighbouring State of Kelantan.

534 (216) minor operations were performed by the dressers in charge of the dispensaries.

### (c) LABORATORY WORK.

(1) The following examinations were performed at the hospital where there are also examined specimens from the Town Dispensary and other sources:—

Blood.—Microscopical examinations 1,880. 85 were positive for malaria comprising benign tertian 42, subtertian 33, quartan 9 and a mixed infection of benign tertian and subtertian 1. A specimen was examined for filaria but was negative.

Differential counts of white blood cells—13.

Total white blood counts—30.

Sputum.—Microscopical examinations 145. 30 were positive for the tubercle bacillus.

Pus from the urethra, prostate, cervix, conjunctiva etc. for gonococci.—82 slides were examined and 35 were positive.

Nasal and other smears for the lepra bacillus.—13 slides were examined of which 3 were positive.

Urine.—Chemical examinations 250; microscopical examinations.—276.

Faeces.—For ova and parasites 1,714. Multiple infections were frequent and there were only 276 negative specimens. The findings were as follows:—

Ankylostoma	50
Ascaris	261
Trichocephalus dispar	100
Entamoeba histolytica	9
Entamoeba coli	14
Ankylostoma and ascaris	77
Ankylostoma, ascaris and trichocephalus dispar	323
Ascaris and trichocephalus dispar	534
Ankylostoma and trichocephalus dispar	36
Ankylostoma and Entamoeba histolytica	4
Ankylostoma and entamoeba coli	7
Ankylostoma, ascaris, entamoeba coli and trichocephalus dispar	1
Ankylostoma, entamoeba coli and trichocephalus dispar	1
Ascaris and entamoeba histolytica	2
Pus cells and blood cells	13
Medico-legal examinations:—	
For blood and seminal stains, etc.	7



(2) The following is a summary of the work done at the dispensaries of Besut, Dungun and Kemaman:—

Blood.—950 examinations of the blood of which 291 were positive comprising		
Subtertian malaria	120	41.2
Benign tertian	152	52.2
Quartan	13	4.5
Subtertian and benign tertian	5	
Benign tertian and quartan	1	

Sputum.—Out of 43 specimens examined for the tubercle bacillus, 12 were found to be positive.

Nasal and other smears for the lepra bacillus.—Out of three slides examined, one was positive.

Urine.—Chemical examinations 155; microscopical examinations 12.

Faeces for ova and parasites.—Out of 825 examinations, 642 were positive and the findings were:—

Ankylostoma	29
Ascaris	239
Trichocephalus dispar	20
Entamoeba histolytica	32
Ankylostoma and ascaris	28
Ankylostoma, ascaris and trichocephalus dispar	167 ✓
Ankylostoma and trichocephalus dispar	8
Ascaris and trichocephalus dispar	119 ✓

## VIII. PRISONS AND ASYLUMS

### (a) PRISONS.

The only prison, in the true sense of the term, in the state is that at Kuala Trengganu where there is an eight-bedded ward for male prisoners. There is no hospital accommodation for women and if any of the few female prisoners fall seriously ill, they are sent to the Kuala Trengganu hospital for treatment.

In-patients.—There were 41 (47) admissions with 2 (2) deaths one of which was due to amoebic dysentery and the other to sarcoma of the neck.

Out-patients.—The number of prisoners treated as out-patients was 458 (306).

N. B. The daily average number of prisoners in 1934 was 109.09. This number includes lunatics (v.i.).

### (b) ASYLUMS.

Lunatics.—There is no separate asylum for mentally deranged patients in Trengganu and they are confined in cells within the prison compound. The total number of cases treated was 74 (53) including 14 (9) females. A number of them were under observation only and others were cases of mental defect not amounting to insanity.

At the end of the year, five Chinese males and one Siamese female were being maintained at the expense of the State in the Mental Hospital at Singapore. A male Sikh patient who was being maintained in the Tanjong Rambutan Mental Hospital, Perak was discharged on 28/8/1934. The prejudice against sending Malay lunatics out of the State is decreasing and it is proposed to send more Malays for treatment to the Singapore Mental Hospital in 1935 if they can be admitted.



The following are particulars of the mental patients treated in the prison:—

	Males	Females	Total
Remaining at the end of 1933 .. .. .	25	4	29
Admitted during the year .. .. .	35	10	45
Total treated .. .. .	60	14	74
Discharged .. .. .	21	6	27
Transferred .. .. .	5	1	6
Died .. .. .	6	1	7
Remaining at the end of 1934 .. .. .	28	6	34

Lepers.—There is no leper asylum in Trengganu but there is a small ward of eight beds in the hospital for male lepers. A register has been kept for over two years of all lepers who come to the notice of the Department pending future action for the control of the disease.

The following table shows the number, sex and race of the patients on the register:—

	Malays	Chinese	Total
Male .. .. .	23	13	36
Female .. .. .	17	1	18
Total .. .. .	40	14	54

#### IX. VETERINARY.

There is no veterinary department in Trengganu and work of this nature falls on the Medical Department.

A few animals were treated during the year.

No epidemics of any importance were reported.

#### X. METEOROLOGY.

Readings recorded by the instruments kept at the Kuala Trengganu Hospital show:—

The highest temperature was 93°F on 11.6.1934.

The lowest temperature was 68°F on 8.12.1934.

The month with the highest rainfall was October with 13.56 inches.

The highest rainfall in 24 hours was 3.71 inches on 4.11.1934.

The total rainfall for the year was 84.83 (110.65) inches—a very dry year.

Rain gauges are also kept at the dispensaries at Kuala Dungun and Kampong Raja on the coast and at Kuala Brang in the interior. The rainfall in the interior is always much higher than on the coast and greatly interferes with the travelling work during the north-east monsoon which falls between October and March. The total rainfall for the year at Kuala Brang was 143.99 (167.12) inches which was very much higher than the rainfall at Kampong Raja, Besut which was 117.19 (115.08) inches and at Kuala Dungun which was 97.24 (109.57) inches where the conditions are much the same as those prevailing at Kuala Trengganu.

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## APPENDIX.

## HOSPITAL, KUALA TRENGGANU.

## Return of Diseases and Deaths (In-Patients) for the year 1934.

DISEASES.	Remaining in Hospital at end of 1933.	Yearly Total		Total Cases Treated	Remaining in Hospital at end of 1934.
		Admission	Deaths		
<b>1.—Epidemic, Endemic and Infectious Diseases.</b>					
1. Enteric Group:—					
(a) Typhoid fever .. ..		6		6	
(b) Paratyphoid .. ..		1		1	
2. Typhus, tropical .. ..		—		—	
3. Tsutsugamushi fever (Japanese river fever) .. ..		—		—	
4. Relapsing fever .. ..		—		—	
5. Undulant fever .. ..		—		—	
6. Malaria:—					
(a) tertian .. ..		22		22	5
(b) quartan .. ..		3		3	1
(c) aestivo-autumnal .. ..	1	7	2	8	2
(d) cachexia .. ..	4	2	1	6	
(e) black-water fever .. ..		—		—	
(f) unclassified .. ..		133	1	133	
(g) mixed infection .. ..		167		—	
7. Small-pox .. ..		—		—	
8. Measles .. ..		3		3	
9. Scarlet fever .. ..		—		—	
10. Whooping cough .. ..		—		—	
11. Diphtheria .. ..		—		—	
12. Influenza .. ..	2	124		126	1
13. Miliary fever .. ..		—		—	
14. Mumps .. ..		1		1	
15. Cholera .. ..		—		—	
16. Epidemic diarrhoea .. ..		—		—	
17. Dysentery:—					
(a) amoebic .. ..		25	3	25	1
(b) bacillary .. ..		4	3	4	
(c) undefined or due to other causes .. ..		—		—	
18. Plague .. ..		—		—	
19. Yellow fever .. ..		—		—	
20. Spirochaetosis icterohaemorr- hagica .. ..		—		—	
21. Leprosy .. ..	7	7	2	14	6
22. Erysipelas .. ..		2		2	1
23. Acute poliomyelitis .. ..		—		—	
24. Encephalitis lethargica .. ..		—		—	
25. Epidemic cerebrospinal fever .. ..		—		—	
26. Varicella (Chicken-pox) .. ..		1		1	
27. Yaws .. ..	23	422	2	445	11
28. Glanders .. ..		—		—	
29. Anthrax .. ..		—		—	
30. Rabies .. ..		—		—	
<i>Carried forward</i> ..	37	763	14	800	28

## APPENDIX.—(Continued).

DISEASES.	Remaining in Hospital at end of 1933.	Yearly Total		Total Cases Treated	Remaining in Hospital at end of 1934.
		Admission	Deaths		
<i>Brought forward</i> ..	37	763	14	800	28
31. Tetanus ..		—		—	
32. Tuberculosis, pulmonary and laryngeal ..	8	40	15	48	5
33. Tuberculosis of the vertebral column ..		1		1	1
34. Tuberculosis of bones and joints ..		2		2	1
35. Syphilis:—					
(a) primary ..	3	16		19	1
(b) secondary ..	1	3		4	
(c) tertiary ..		4		4	
(d) hereditary ..		1	1	1	
36. Soft chancre ..		—		—	
37. A. Gonorrhoea and its com- plications ..	2	69		71	2
B. Gonorrhoeal ophthalmia ..		9		9	
C. Gonorrhoeal arthritis ..	3	20	1	23	5
38. Septicaemia ..		1	1	1	
<b>II.—Cancer and Other Tumours.</b>					
39. Cancer or other malignant tumours of the stomach or liver ..		1	1	1	
40. Cancer or other malignant tumours of the female genital organs ..		1		1	
41. Cancer or other malignant tumours of the breast ..		1		1	
42. Cancer or other malignant tumours of the skin ..		1		1	
43. Cancer or other malignant tumours of organs not specified ..		5	3	5	
44. Tumours not malignant ..		12		12	
<b>III.—Rheumatism, Diseases of Nutri- tion and of Endocrine Glands and Other General Diseases.</b>					
45. Rheumatic Fever ..		—		—	
46. Chronic rheumatism ..		22		22	1
47. Scurvy ..		2	1	2	
48. Pellagra ..		—		—	
49. Beri-beri ..	6	96	7	102	4
50. Rickets ..		—		—	
51. Diabetes (not including in- sipidus) ..		6		6	1
52. Diseases of the thyroid gland:— Exophthalmic goitre ..		2		2	
<i>Carried forward</i> ..	60	1,078	44	1,138	49



## APPENDIX.—(Continued.)

DISEASES.	Remaining in Hospital at end of 1933.	Yearly Total		Total Cases Treated	Remaining in Hospital at end of 1934.
		Admission	Deaths		
<i>Brought forward</i> ..	60	1,078	44	1,138	49
<b>IV.—Diseases of the Blood and Blood Forming Organs.</b>					
53. Anaemia ..		7		7	
<b>V.—Chronic Poisoning.</b>					
54. Chronic poisoning by organic substances (morphia, co- caine, etc.) ..		1		1	
<b>VI.—Affections of the Nervous System and Organs of Senses.</b>					
55. Affections of the spinal cord ..		—		—	
56. Apoplexy ..		—		—	
57. Haemorrhage ..		2	1	2	
58. Paralysis:—					
(a) hemiplegia ..	1	3		4	1
(b) other paralysis ..	2	2		4	
59. General paralysis of the insane ..		—		—	
60. Other forms of mental aliena- tion ..	1	7	1	8	1
61. Epilepsy ..		2		2	
62. Infantile convulsions ..		1	1	1	
63. Neuritis ..	1	4		5	
64. Neurasthenia ..		3		3	
65. Conjunctivitis ..	1	14		15	
66. Other affections of the eye ..		3		3	
67. Affections of the ear or mastoid sinus ..		6		6	1
<b>VII.—Affections of the Circulatory System.</b>					
68. Valvular disease of the heart ..		3	2	3	
69. Myocarditis ..		1	1	1	
70. Diseases of the arteries ..		—		—	
71. Diseases of the veins:— Haemorrhoids ..		4		4	
72. Diseases of the lymphatic system:— lymphadenitis (Bubo, non- specific) ..	1	14		15	
<b>VIII.—Diseases of the Respiratory System.</b>					
73. Bronchitis:—					
(a) acute ..	2	9		11	
(b) chronic ..		23		23	3
<i>Carried forward</i> ..	69	1,187	50	1,256	55



## APPENDIX.—(Continued).

DISEASES.	Remaining in Hospital at end of 1933.	Yearly Total		Total Cases Treated	Remaining in Hospital at end of 1934.
		Admission	Deaths		
<i>Brought forward</i> ..	69	1,187	50	1,256	55
74. Broncho-pneumonia ..		5	2	5	2
Pneumonia:—					
lobar ..		7	1	7	
75. Pleurisy, Empyema ..		1		1	
76. Asthma ..		22		22	
<b>IX.—Diseases of the Digestive System.</b>					
77. Diseases of teeth or gums, caries, pyorrhoea etc. ..		14		14	
78. Affections of the pharynx or tonsils:—					
tonsillitis ..		2		2	
79. Ulcer of the stomach ..		2		2	
80. Other affections of the stomach:—					
gastritis ..		4		4	1
dyspepsia etc. ..		9		9	1
81. Diarrhoea and enteritis under two years ..		1		1	
82. Diarrhoea and enteritis two years and over ..		8		8	
83. Diseases due to intestinal parasites:—					
(a) ankylostoma ..	2	41		43	
(b) ascaris ..		51		51	
(c) other parasites ..		—		—	
84. Appendicitis ..	1	1		2	
85. Hernia ..		11		11	
86. Affections of the anus, fistula, etc. ..		3		3	
87. Other affections of the intestines:—					
Constipation ..		2		2	
88. Biliary calculus ..		1		1	
89. Other affections of the liver:—					
abscess ..		1	1	1	
cholecystitis, cholangitis ..		1		1	
jaundice ..		3		3	
90. Peritonitis (of unknown origin) ..		1	1	1	
<b>X.—Diseases of the Genitourinary System (Non Venereal).</b>					
91. Acute nephritis ..	3	7	3	10	
92. Chronic nephritis ..	1	15	3	16	1
93. Diseases of the bladder:—					
cystitis, etc. ..	1	5		6	
<i>Carried forward</i> ..	77	1,405	61	1,482	60



## APPENDIX.—(Continued.)

DISEASES.	Remaining in Hospital at end of 1933.	Yearly Total		Total Cases Treated	Remaining in Hospital at end of 1934.
		Admission	Deaths		
<i>Brought forward</i> ..	77	1,405	61	1,482	60
94. Diseases of the urethra:—					
(a) stricture ..		—		—	
(b) other ..		1		1	
95. Diseases (non venereal) of the genital organs of man:—					
hydrocele ..		8		8	
96. Cysts or other non-malignant tumours of the ovaries ..		1		1	
97. Salpingitis ..		1		1	
98. Metritis ..		2		2	
99. Dysmenorrhoea ..		1		1	
<b>XI.—Puerperal State.</b>					
100. Ante-natal ..		11		11	
101. Normal labour ..	3	44		47	2
102. Accidents of pregnancy:—					
abortion ..		2		2	
103. Puerperal septicaemia ..		1		1	1
<b>XII.—Affections of the Skin and Cellular Tissues.</b>					
104. Gangrene ..		1		1	
105. Boil ..		7		7	1
106. Abscess ..	2	29		31	
107. Cellulitis ..		4		4	
108. Tinea ..	1	18		19	1
109. Scabies ..		14		14	2
110. Urticaria ..		3		3	
111. Eczema ..		12		12	
112. Herpes ..	1	2		3	
113. Psoriasis ..	1	—		1	
114. Elephantiasis ..		1		1	
115. Ulcers ..	12	98		110	5
<b>XIII.—Diseases of Bones and Organs of Locomotion (Other than Tuberculosis).</b>					
116. Diseases of joints:—					
arthritis ..		3		3	
<b>XIV.—Malformations.</b>					
117. Hare Lip ..		1		1	
<b>XV.—Diseases of Early Infancy.</b>					
<b>XVI.—Affections of Old Age.</b>					
118. Senility ..		3	1	3	
<i>Carried forward</i> ..	97	1,673	62	1,780	72



## APPENDIX.—(Continued).

DISEASES.	Remaining in Hospital at end of 1933.	Yearly Total		Total Cases Treated	Remaining in Hospital at end of 1934.
		Admission	Deaths		
<i>Brought forward</i> ..	97	1,673	62	1,780	72
<b>XVII.—Affections Produced by External Causes.</b>					
119. Food poisoning .. ..		7		7	
120. Attacks of poisonous animals:— snake bite .. ..		1		1	
121. Burns (by fire) .. ..		2		2	
122. Burns (other than by fire) ..		1		1	
123. Wounds (by cutting or stab- bing instruments) .. ..	3	65	1	68	3
124. Wounds (by fall) .. ..	1	12		12	
125. Wounds (by machinery) ..		5		6	4
126. Injuries (inflicted by animals, bites, kicks etc.) .. ..		2		2	
127. Sprain .. ..		6		6	
128. Fracture .. ..		8		8	5
129. Other external injuries ..		27		27	
<b>XVIII.—Ill Defined Diseases.</b>					
130. Malingering .. ..		7		7	
<b>Total</b> ..	101	1,816	63	1,917	83

N.B.—Of the above figures 41 admissions and 2 deaths occurred at the Prison Hospital, Kuala Trengganu.









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