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ANNUAL
MEDICAL & SANITARY
REPORT

TRENGGANU
1933.



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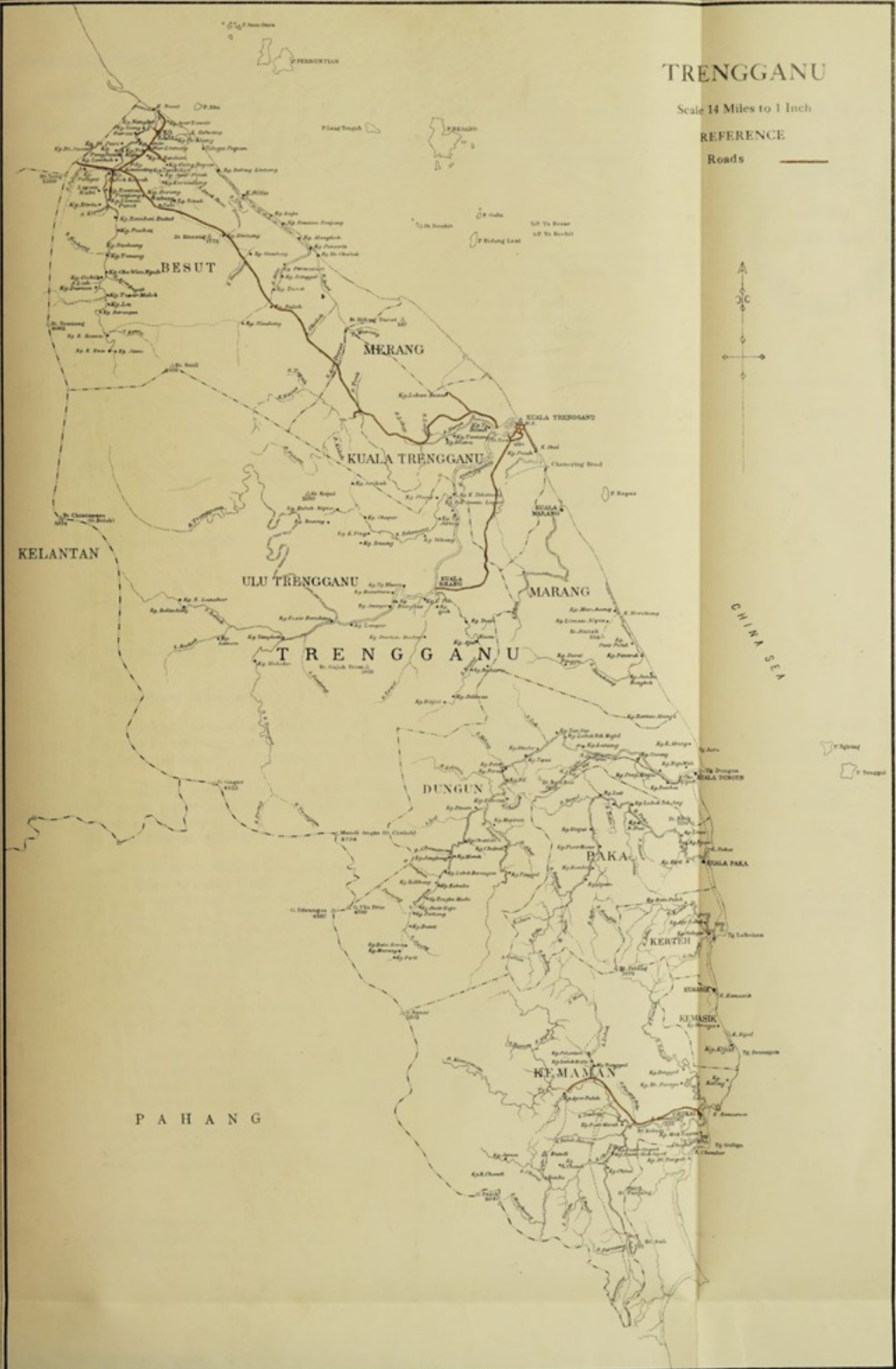
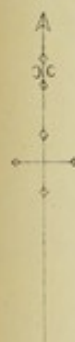


TRENGGANU

Scale 14 Miles to 1 Inch

REFERENCE

Roads





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I. ADMINISTRATION.

(A) Staff.

At the end of 1932, the appointment of Chief Medical Officer was abolished and the post is in future to be held by a junior Medical Officer.

Dr. G. I. H. Braine, who acted as Chief Medical Officer for a few months at the end of 1932, remained in charge of the department throughout the year. There are no other qualified medical practitioners in the department.

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

1. Kuala Trengganu.

(a) General Hospital:—

- 1 Dresser-in-charge Grade II (passed Grade I)
- 1 Dresser Grade II (passed Grade I)
- 4 Dressers Grade III
- 3 Probationer Dressers
- 1 Acting Maternity Nurse
- 1 Steward and Storekeeper
- 1 Assistant Storekeeper
- 1 Clerk Grade II (passed Grade I)
- 2 Clerks Grade III (One acts as Assistant Registrar, Births and Death)

(b) Town Dispensary and Welfare Centre:—

- 1 Dresser Grade I (holds certificate of the Royal Sanitary Institute)
- 1 Probationer Dresser
- 1 Acting Maternity Nurse

(The staff at the Town Dispensary also attends to the prisoners and mental patients in the gaol and to the police)

(c) Outdoor and Other Duties:—

- 1 Probationer Sanitary Inspector
- 1 Assistant Sanitary Inspector
- 1 Vaccinator

2. Kemaman Dispensary:—

- 1 Dresser Grade II
- 1 Probationer Dresser
- 1 Vaccinator

3. Besut Dispensary:—

- 1 Dresser Grade III
- 1 Vaccinator

4. Dungun Dispensary:—

- 1 Dresser Grade III
- 1 Vaccinator

5. Kuala Brang Dispensary:—

- 1 Dresser Grade III

6. Dispensaries at Setiu and Kemasik:—These are in charge of two probationer dressers who have little or no knowledge of English. The main part of their work consists of travelling in their districts and they receive a special allowance for this purpose. The grading of dressers in Trengganu is in accordance with a scheme following that adopted by the Straits Settlements Government.

Examinations for dressers are held at Kuala Trengganu but dressers prefer to go and sit the examinations held at Singapore and Kuala Lumpur as the grades conferred by Trengganu are not valid outside of the State. No dressers appeared for examination but a number are preparing to sit in 1934.

Mr. T. K. Maurice, a Grade II Dresser, was invalided from the service on 18.4.33 and this post was abolished for the rest of the year.

Tengku Ibrahim bin Tengku Lela, Probationer Sanitary Inspector, was sent to Singapore for training for six months.

(B) Legislation Affecting Public Health.

The Deleterious Drugs Enactment, No. 2 of A.H. 1351, was repealed on the 1st of May. Trengganu, in company with the other Unfederated Malay States, is awaiting an opportunity of studying the draft legislation of the Straits Settlements and Federated Malay States in this matter. The only legislation which is actually in force at the moment is a Customs Regulation under which the import of such drugs is prohibited except when consigned to the Medical Officer.

A Public Health Enactment is in the course of preparation.

New Buildings Regulations to replace the old Buildings Regulations of A.H. 1342 were passed on 16.11.1933 but have not yet been issued.

Draft additions to the Town Board Bye-laws (Undang² 5 of A.H. 1341 as amended by Undang² 5 of A.H. 1351) have been prepared but it is likely that all the legislation on this subject will be revised in 1934.

(C) Finance.

Owing to the fall in revenue of the State during the first half of the year, rigid economy in expenditure had to be enforced. A Retrenchment Committee appointed in April recommended economies to the extent of \$3,448.00 but an actual saving of \$6,804.24 on the Estimates was effected, principally with regard to the vote for hospital diets. This does not include the cost of sending the Probationer Sanitary Inspector to Singapore for training for which payment was made by the Medical Department although no provision for this was made in the Estimates.

The cost of maintenance of lunatics is not at present borne by the Medical Department which, however, is to bear a large proportion of this expense in 1934.

The Estimates totalled \$63,270.00 while the actual expenditure was \$56,465.76 and was made up as follows:—

	Estimates	Actual Expenditure
Personal Emoluments	\$35,996.00	\$35,487.00
Annually Recurrent	26,774.00	20,978.76
Special vote	500.00	Nil
	\$63,270.00	56,465.76



Expenditure in 1934 is estimated at \$62,476.00 and includes a new vote of \$1,200.00 for the maintenance of lunatics at Singapore and Tanjong Rambutan the cost of which was formerly paid by the Prisons Department.

Owing to the financial position, the subordinate staff has received no increments since May 1931.

The revenue was \$517.15 while it was \$446.35 in 1932.

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

Year.	Revenue from Medical Dept.	Revenue of State.	Expenditure Medical Dept.	Expenditure of State.	Percentage of Medical to State Expenditure
A.H. 1346	\$1,049.55	\$1,402,150.23	\$52,755.78	\$1,542,404.00	3.43%
A.H. 1347	1,468.15	1,361,026.00	61,888.61	1,520,149.00	4.07%
A.H. 1348	1,153.81	1,391,470.82	65,627.33	1,524,706.00	4.30%
A.H. 1349	1,258.95	1,235,230.00	76,956.21	1,445,709.00	5.32%
A.D. 1931	710.25	676,338.00	48,947.33	845,556.00	5.79%
May—Dec.					
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%

(D) Buildings.

Except for a few minor works, repairs and alterations, no buildings of any importance were completed.

Hospital Lighting—Owing to the arrival of spare parts from England, it was found possible to recondition the 32-volt installation which supplies the operating-theatre, laboratory, office and certain wards with electric light. The work was completed on 20.7.1933 and has given satisfaction.

2. VITAL STATISTICS.

(A) General Population.

The population at the 1921 census was 153,765 while it was 179,789 at the 1931 census 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 1933 calculated by the geometrical method is 186,227 and the birth and death rates 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 15,177 immigrants and 15,318 emigrants.

(B) Births.

During the year there were 7,078 births registered of which 3,728 males and 3,350 were females giving a sex-ratio of 89.86 females to every 100 males. 53 still-births were reported. The birth-rate was 38.01 as compared with 37.29 in 1932 when 6,836 births were recorded.

Table showing Births According to Race:—

Malays.	Chinese	Indians	Europeans	Eurasians	Others	Total
6,773	269	11	nil	nil	25	7,078

(C) Deaths.

3,619 deaths were registered during the year giving a rate of 19.43 per mille as compared with 4,809 deaths and a rate of 26.23 in the previous year; of these 1,940 were males and 1,679 were females.

The highest number of deaths in a single month occurred in December (586) and the lowest in August (175).

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

	1931	1932	1933
Fever	2,525	2,814	2,061
Convulsions	730	787	786
Bowel Diseases	203	225	154
Beri-Beri	58	76	64
Respiratory diseases	43	48	45
Puerperal fever	86	108	56
Old age	254	287	214
Accidents	79	96	70
Other causes	345	368	169
TOTAL	4,323	4,809	3,619

It must be pointed out, however, that these figures are far from accurate for in the vast majority of cases the 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. "Fever" and "old age" include a great variety of conditions and "convulsions" is merely the end symptom of a number of diseases including malaria. In the present state of development of this State, no machinery for the accurate recording of the causes of death is possible.

Previous to 1933, still-births were included under the heading "Other causes". There were 53 in 1933 but they are not now recorded in the register of deaths.

Table Showing Deaths According to Race:—

Malays	Chinese	Indians	Europeans	Eurasians	Others	Total
3,444	151	12	nil	nil	12	3,619

Noxious Animals. Nineteen deaths were caused by animals. Sixteen people were killed by tigers, twelve of which fatalities occurred in Ulu Trengganu and four in Ulu Dungun. Two people died from the effects of snake-bite and one was gored to death by a buffalo.

Infantile Mortality. The deaths under one year numbered 1,159 or 32.03% of the total of which 661 were boys and 498 were girls. The infantile mortality rate was thus 163.75 as compared with 241.83 in the previous year. The rate for Kuala Trengganu district alone was 137.64 while it was 189.07 for the rest of the State.

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

Maternal Mortality. Fifty-six mothers died as the result of child-birth giving a mortality per mille deaths of 9.21. The rate in the Kuala Trengganu district was 3.57 while it was 12.51 in the rest of the State.

(D) Registration in Trengganu.

The registration of births and deaths has been compulsory since July 1927 when the registration of Births and Deaths Enactment of 1344 was passed. The Medical Officer is the Registrar while he has a clerk who acts as Assistant Registrar.

Practically all the Deputy Registrars are policemen and every police-station keeps registers. The Commissioner of Police has taken a great interest in the question of registration and his policy of establishing a large number of small police-stations all over the State and of recruiting a more intelligent type of policeman has been of great value in securing greater accuracy.

Five new Deputies were appointed during the year, viz. the policemen in charge of the new stations at Kuala Kemaman, Seberang Takir, and Merang, the Penghulu at Jerong and the Customs clerk at Pulau Perhentian. It is proposed to appoint new Deputies in the Besut area and possibly elsewhere in 1934.

There are now Deputy Registrars in the following 35 places:—

(a) Police-stations (29) Bukit Yong, Kampong Raja (Besut), Chalok, Kuala Besut, Setiu, Merang, Batu Rakit, Kuala Trengganu, Seberang Takir, Manir, Chabang Tiga, Bukit Payong, Kuala Telemon, Kuala Brang, Chendering, Marang, Merchang, Jambu Bongkok, Kuala Dungun, Bukit Besi, Paka, Kretir, Kemasek, Kijal, Kuala Kemaman, Kemaman (Chukai), Machang Sa-tahun, Bandi and Jabor.

(b) Penghulus (4) Ulu Nerus, Jerong, Kuala Jengai and Kongs (Paka).

(c) Customs Clerks (2) Pulau Perhentian and Pulau Redang.

Registration in Trengganu is now fairly reliable as is shown by the fact that the birth-rate in 1933 was greater than those recorded in the Straits Settlements, the Federated Malay States and the Unfederated Malay States in 1932. As the registration of births is unpopular among the Asiatics in Malaya, the birth-rate may be taken as a rough indication of the completeness of registration. The figure for the birth-rate continues to rise each year but the rate of the increase is decreasing and soon a uniform figure will be attained.

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

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	35.95	4,323	23.95
1932	183,337	6,836	37.29	4,809	26.23
1933	186,227	7,078	38.01	3,619	19.43

III. HEALTH OF THE EUROPEAN POPULATION AND ASIATIC OFFICIALS.

The total number of Europeans in the State at the end of the year was 25. Their health has been good. Apart from a liability to mild attacks of diarrhoea, influenza and nasal catarrh, the climate of Trengganu is very suitable for Europeans.

Table showing the Sick, Invaliding and Death Rate of European Officials.

Total number of officials resident	16
Average number resident (new post created on 13.11.33)	10.10
Total number on sick list	4
Total number of days on sick list	39 days
Average daily number on sick list	0.11
Average number of days on sick list for each patient	9.75
Average sick time to each resident	3.86 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	3

Of the three cases in which the illness was contracted away from residence, two were due to septic legs contracted in the Trengganu jungles. The other case was one of chronic amoebic dysentery which was contracted in another State; this patient was ill for twenty-six days.

Asiatic Officials. The total number of new cases treated was 4271 of which 1748 were in the Police Force, the figures for 1932 being 4789 and 1895 respectively.

IV. HYGIENE AND SANITATION.

(A) Special Diseases.

The number of prevailing diseases treated compared with the figures for the previous four years are as follows:—

DISEASE.	1929	1930	1931	1932	1933
Malaria	3,370	5,775	5,408	6,180	10,718
Fever unspecified	1,827	2,799	862	574	1,695
Diseases of respiratory system (excluding influenza) ..	1,431	1,437	1,357	1,676	3,109
Influenza	1,425	1,621	1,820	2,070	2,278
Yaws	3,390	3,386	2,601	3,434	4,789
Beri-beri	1,297	915	1,181	433	782
Intestinal parasites	1,802	1,894	3,539	4,940	8,561

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 of malaria differs widely in different parts of Trengganu. In general, it may be said that the coast-line, where dwells the major part of the population, is fairly free but the further one goes inland the higher becomes the incidence until in the villages furthest upstream practically every child 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.

The town of Kuala Trengganu is probably free from malaria. The spleen-rate as ascertained from an examination of seven hundred and seventy-nine school-children was only 0.64% while no authenticated case of malaria contracted within the town has ever come to the notice of the Medical Officer. The following varieties of anopheline mosquitos were found:—*A. rossi*, *A. kochi*, *A. hyrcanus sinensis*, *A. barbirostris*, and *A. vagus*; but they are not very numerous and it is possible to sleep all the year round without a mosquito-net.

The place on the coast where cases of malaria are most numerous is Batu Rakit. It is difficult to obtain precise information as there is no dresser stationed there but a few surveys on a small scale were made. There is no school but all the children in the town were examined and the spleen-rate was found to be 11.3%; *Anopheles sinensis*, *albirostris* and *barbirostris* were found but not in any great number.

School-inspections afforded the department a chance of making a rough estimation of the incidence of malaria elsewhere. All the schools are within one mile of the coast except Kampong Raja, situated three miles inland, where the rate was 8.19% and Kuala Brang, situated about twenty-five miles inland, where the rate was 3.45%. This last rate is lower than would have been expected but only twenty-nine pupils were examined; in 1932 the rate was 9.52%.

The spleen-rate at the other schools are as follows:—Kuala Besut (3.88), Kuala Setiu (3.13), Kampong Panjang Setiu (4.84), Kampong Penarik Setiu (6.14), Marang (6.55), Kuala Dungun schools (4.14), Paka (3.61), Kretir (2.13), Kemasek (nil), Kijal (1.35), and the Kemaman schools (nil).

Marang, which has no dresser, was formerly considered to be highly malarious but this is not now the case. The Hospital travelling dresser paid forty visits during the course of the year and a stream which was considered to be the source of the trouble was oiled on a few occasions. The anophelines found during 1933 were *A. kochi* and *A. karwari* but no *A. maculatus* which had been reported in previous years.

The Medical Officer visited Ulu Brang, Ulu Tersat and Ulu Besut and found that malaria was prevalent there. The further upstream he went, the more frequent it became until in the most distant kampongs all the children had enlarged spleens with the exception of an infant three months old in Ulu Besut.

It can be seen therefore, that anti-malaria measures are most required where such measures are most difficult to achieve. A dresser is to be sent to Batu Rakit in 1934 and he will be required to make mosquito surveys as a preliminary to tackling the problem in an efficient manner. Elsewhere, free distribution of specific drugs is the only effective measure feasible and this was the policy adopted in 1933. In isolated places such as the islands, small quantities of quinine were 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.

During the year, 10,718 people were treated for malaria. The majority of these cases received quinine, cinchona or euquinine (for the infants) but a limited number who were under the close observation of the staff received atabrin and plasmoquine.

The number of deaths reported as being due to fever dropped from 2,814 in 1932 to 2,061 but the number due to convulsions remained practically the same (787 and 786).

Dengue. One doubtful case was reported from Besut.

Filaria. Filaria was found in the blood of a Chinese adult suffering from elephantiasis of the leg but the disease had been contracted two years previously in China. A few cases exist in the Paka district.

(2) Dangerous Infectious Diseases.

There was no case of plague, cholera, cerebro-spinal-fever or small-pox. Two out-breaks of small-pox were reported from the Besut area where the out-break in 1932 occurred but prompt investigation proved these fears to be unfounded. Four vaccinators were employed by the Department and 10,837 people were vaccinated as against 11,702 in 1932.

(3) Bowel Diseases.

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 vast areas where the water-table is very high and shallow, unprotected wells from the water-supply.

There was no out-break during the year although a number of sporadic cases occurred all over the state. Thirty-six cases were treated in the Hospital of which twenty-nine were amoebic; there were six deaths. In addition, there were three cases of liver abscess of which one died. 170 were treated as out-patients of which 58 were amoebic although doubtless this last number would have been greater if proper facilities for correct diagnosis had been available.

Enteric fever. As in the case of dysentery, it is remarkable that the incidence is so small. Sporadic cases only occur and seven were treated.

Diarrhoea and enteritis. 57 cases were treated.

Helminthic infections. These are extraordinarily prevalent. At an inspection of school-children in Trengganu, over 86% showed signs of worms. The laboratory results at Kuala Trengganu showed that over 76% of stools examined had some kind of infection.

which was usually multiple. The commonest parasites were ankylostoma (32.15%), ascaris (53.20%), and trichocephalus dispar (52.45%). Microscopical work in the out-stations showed similar results and over 90% of specimens examined were positive; here too ascaris was found to be nearly twice as common as ankylostoma except in the Besut area where ankylostoma was nearly as common as ascaris. In the inland districts, however, ankylostoma is much commoner than ascaris. Occasional cases of distoma infection such as Clonorchis sinensis are met with but no case of tape-worm occurred. Free treatment of cases is the only practicable measure at present and the number so treated rose from 4,940 in 1932 to 8,561 in 1933.

(4) Influenza.

The usual epidemic appeared at the onset of the north-east monsoon but was not so marked this year.

(5) Food Deficiency Diseases.

Beri-beri. Most of these cases occur towards the end of the north-east monsoon season. The incidence is perhaps greater among the Chinese than the Malays and is common among 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. The disease is common on the sea-board where polished rice is the staple article of diet but it is rare in the interior where the peasants use their own unpolished rice. 782 cases were treated as against 433 in 1932 but it is not considered that this was due to any increase in the incidence of the disease; only 64 deaths from this cause was reported as against 76 in 1932 and this is a fair index of the prevalence of the disease which is well-known to all the people in Trengganu.

A few cases of goitre occur in a localized area in the upper reaches of the Ulu Trengganu river.

There is no marked degree of malnutrition anywhere in Trengganu even in the furthest districts inland where a common complaint made to officials is that they do not get enough to eat.

(6) Tuberculosis.

92 cases of pulmonary and laryngeal tuberculosis were treated. 46 were treated in the Hospital with eight deaths, the majority of these occurring in the north-east monsoon season which has such a bad effect on these cases. 45 people were stated to have died of respiratory diseases as against 48 in 1932.

(7) Yaws.

This disease is extremely prevalent and every manifestation of the disease can be seen. Signs of yaws were noted in nearly 56% of the pupils in Kuala Trengganu but these were practically all cured cases and no pupil suffering from the earlier stages of the disease was seen. The same state of affairs exists in all the larger towns where practically all the early, active stages of the disease have been suppressed, but this satisfactory state of affairs does not exist elsewhere. Owing to the increased number of visits paid to the kampongs, 4,789 cases were treated as against 2,686 in 1932.

4,291 of these were treated as out-patients and of these 3,031 received at least one injection (some refused this form of medication), while in addition 1,588 second and subsequent injections were given. Of the 498 cases treated in the Hospital, each received on an average three injections (about 90% of the 1414 bismuth and arsenical injections administered in hospital were for the treatment of yaws).

The routine treatment is injection of bismuth-sodium-tartrate and 5,513 such injections were given. A number of Malays fear these injections as they are almost invariably followed by a general reaction which is in many cases severe. It is effective, however, and has the merit of cheapness. If Trengganu could afford the wholesale administration of such drugs as neosalvarsan and stovarsol, there is evidence that many more people would come forward for treatment but the use of these expensive drugs on any large scale is financially impracticable.

(8) Leprosy.

Treatment is not at present compulsory in Trengganu but every effort is made to encourage these patients to enter the Hospital or to attend the dispensaries for treatment.

(9) Exanthemata and Other Febrile Diseases.

38 cases of chicken-pox occurred including a small out-break of eighteen cases in Kuala Trengganu. There were 18 cases of measles of which 14 occurred in the course of a small epidemic in the Besut-Setiu area. There were 5 cases of mumps and 4 cases of whooping-cough. There was no case of diphtheria.

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

(10) Skin Diseases.

Tinea and scabies are the principal skin diseases. 6,803 cases of tinea and 6,534 cases of scabies were treated as against 4,986 and 4,509 respectively in 1932.

(11) Chronic Ulcer.

12,290 cases of ulcer were treated as against 10,168 in 1932.

(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 and the Medical Officer. Elsewhere, affairs are in the hands of the State Commissioners at Kemaman and Besut and the District Officers who consult the dressers in sanitary matters. There is only one sanitary inspector, a probationer, and he is stationed at Kuala Trengganu. During the year, he was sent to Singapore for a six-months course of training.

Owing to financial conditions, recommendations can only be made for such improvements as will entail no outlay but only care and attention. A great improvement took place in Batu Rakit following suggestions on these lines; it was here that a serious epidemic of bacillary dysentery occurred in 1932.

(1) Sewage.

Very little of this is done and that only in the larger towns. In Kuala Trengganu there is a "pail" system of disposal which is carried out by a private company but only 287 pails are collected in a town of nearly 14,000 inhabitants. The hospital, police-barracks, gaol and some private houses have private trenching systems of their own. This question is at present under consideration but it feared that very little can be done at present owing to the cost. In the vast majority of cases there is no system of collection, the foreshore or river, a clump of vegetation, a latrine built over an earth-drain or the space under the house being utilized.

(2) Disposal of refuse.

There is a system of dumping in the larger towns.

(3) Drainage.

Drainage is fairly efficient in Kuala Trengganu and Kemaman but not much has been done elsewhere.

(4) Water Supplies.

These are derived either from wells or from a river where one is available. Comment has already been made on the remarkable fact that intestinal diseases are not far more prevalent than they are.

(5) School Hygiene.

As in 1932, all the Government schools in the State, twenty-two in number, and a private Chinese School at Dungun, were inspected by the senior dressers.

Reports were received with regard to the structure of the school buildings, ventilation, light and general sanitation. The provision for sanitary conveniences is inadequate and most of the schools have a very poor water-supply. Provision for light, ventilation and floor-space was satisfactory but gross over-crowding still exists at the Paya Bunga school at Kuala Trengganu.

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

The spleen-rate for the whole state was 1.69%, the rate being 0.64% in Kuala Trengganu and 2.70% in the other schools; the corresponding percentages for 1932 were 5.71, 1.12 and 10.11 respectively. The highest rate was at Kampong Raja (8.20%).

Signs of yaws were noted in 54.69% of the children at Kuala Trengganu but these were mostly healed scars and no early case of yaws was seen. This was a higher figure than elsewhere, but in contra-distinction there were 52 cases of secondary yaws in the other schools.

Signs of worms were noted in 55.02% of the pupils, the highest rate being in Kuala Trengganu.

Dental caries occurred in 41.05% of the pupils. (57.38% in Kuala Trengganu). The defects were classed into three grades slight, average and marked. There were marked defects of the teeth in four cases only, in twenty-nine the defect was classed as average while in the vast majority of cases the defects were confined to one or two teeth only.

Ulcers occurred in 4.19%, scabies in 15.39%, tinea in 4.73% and other skin conditions in 6.90%; skin affections were less common in Kuala Trengganu. Other diseases such as ear and eye complaints occurred in about 3%.

(6) Labour Conditions.

Mines. There are two iron and three tin mines which employ labour on a considerable scale. The average number of coolies employed each month was 1,699. The health of the men was good and there were only seven deaths, five of which were due to accidents (four of these occurred simultaneously in a drowning fatality).

The two iron mines each employ a Japanese doctor and each has a hospital. The two largest tin mines share a dresser.

There were 256 cases of malaria but there was no death from this disease. 109 of these cases occurred at the Ishihara Sangyo Koshi mine at Kemaman; the manager of this company promised to follow the advice of the Medical Officer with regard to drainage.

A great improvement has to be recorded in the health conditions at the mine of the Nippon Mining Co., Dungun. The deaths from malaria for the last four years have been 70, 24, 7 and 0 respectively. The lines were rather over-crowded at the time of the Medical Officer's visit owing to an increase of the labour force and if this increase is to continue more cooly lines will have to be built.

Estates. There is only one estate of any size in Trengganu—a large coconut and rubber estate at Kretir which employs an average of 358 labourers. The health conditions are very good. A dresser is employed and there is a hospital. There were only five cases of malaria during the year. There were four deaths but only one could be ascribed to a preventable disease.

All these concerns are regularly visited by the Medical Officer who receives health reports from the managers every month.

(7) Housing and Town Planning.

The revised Town Board Regulations were passed in November but have not yet been issued.

Fairly wide municipal limits have been fixed in all the larger towns. Within a Town Board area, a site plan has to be furnished and the building plan has to be passed by the Town Board Committee whose members include the State Engineer and the Medical Officer. Outside the town areas there are no building regulations.

There are no building societies. Building in towns and villages is at present restricted by slump conditions.

There are very few cooly lines in 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 those occupied by 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 larger villages frequently lie close together with little provision for roads and lanes, though in the smaller villages the houses are generally well spaced apart. As a rule there are no drains or latrines. Holes in the floor serve for waste water, refuse and the needs of nature. 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) in towns of over 10,000 in Malaya.

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

(8) Food.

Inspections of the coffee-shops are regularly made in Kuala Trengganu by the sanitary inspector. The condition of these is at present unsatisfactory but an effort is being made to improve them. This official also inspects the markets in his district and conditions there greatly improved during the year although much remains to be done. More receptacles for refuse are to be installed in 1934 and an experiment on a small scale is to be made in fly-proofing the stalls of the meat-market.

Inspections elsewhere are made by the Medical Officer and the dressers.

(9) Propaganda in the Prevention of Disease.

Little work of this nature has been done in Trengganu. The dressers on their periodical visits to the kampongs endeavour to persuade the people to tidy up their houses and the surrounding land. A few posters on malaria, ankylostomiasis etc. have been circulated.

An infant welfare exhibit was organised at the Kemaman Agriculture Show held in May. The thanks of the Department are due to the State Medical and Health Officer, Selangor for material lent for this exhibit and to the Adviser, Medical and Health Services, Malay States for the loan of some health films which proved to be very popular.

(10) Druggists and Dentists.

Compulsory registration is in force, and periodical inspections of premises are made by the Medical Officer. Warnings to improve their methods were sent to one chemist and one dentist.

V. PORT HEALTH WORK.

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

VI. MATERNITY AND CHILD WELFARE.

The only place where special provision is made for this work is in Kuala Trengganu. The following figures are of interest in this connection:—

	Infantile Mortality Rate per mille	Maternal Mortality Rate per mille
Whole State	163.75	9.21
Kuala Trengganu	137.64	3.57
Rest of State	189.07	12.5

It can be seen that there is need for work of this kind outside Kuala Trengganu. In 1934, a small sum of money is to be allotted for the training of two kampong Malay midwives at Kuala Trengganu.

In Kuala Trengganu, there is a Women and Children's Welfare Clinic attached to which is a Maternity Nurse. 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.

44 confinements and 3 cases of miscarriage were conducted by the midwife in the hospital as against 34 confinements and one case of miscarriage in 1932. Of the 44 labours, 33 of the women were Chinese, 8 were Malays, 2 were Indians and 1 was a Japanese. Abnormal cases included a case of eclampsia, a case of acute hydramnios with twins and a breech case complicated by nephritis with gross oedema. There was one death—the eclamptic case. Forceps were applied on 3 occasions. The midwife in charge of the Welfare Clinic conducted 127 labours in the patients' homes as well as attending to 5 cases miscarriage. Of these 132 patients, 74 were Malays, 57 Chinese and 1 Indian. (In 1932 there were 117 labours and 13 cases of miscarriage of which 65 were Malays and 65 Chinese). She altogether paid 1798 visits to the patients' homes. Those numbers would have been greater but for the fact that the midwife was ill for some time on two occasions. There was one death about eight days after the labour due to dysentery. One mother had triplets but they were still-born. The women are encouraged to come for ante-natal examination and 47 came.

2807 new cases were treated at the Women and Children as compared with 3065 in 1932 and 2414 in 1931. The apparent fall in the number of new cases was largely due to an improved method of calculating the returns; under the old system, a change of prescription meant that a new patient was recorded which was obviously unsatisfactory. The total number of attendances increased. The following are the details:—

	1932	1933
Antenatal visits	42	47
District labours and miscarriages	130	132
Adult women-general diseases	1,154	945
Infants under 1 year	105	122
Children 1—12	1,340	1,368
Vaccinations performed on children (not included in above)	294	193
Total adults	1,326	1,124
Total children	1,739	1,683
Total new cases	3,065	2,807
Total attendances	7,401	7,854

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

	Children	Women
Chinese	991	580
Malays	659	529
Indians	22	3
Others	11	12
Total	1,683	1,124

VII. HOSPITALS AND DISPENSARIES.

(A) Hospitals.

Excluding a small ward for sick prisoners in the gaol, there is only one Government hospital in Trengganu which has nine wards with a total accommodation for 156 patients. One of the wards is for "general female" use and one is a maternity ward comprising a labour-room, an eight-bedded ward and two 2nd class single rooms. With the exception of these two rooms, there is no hospital provision for 1st and 2nd class patients. Of the remaining wards, one is reserved for male lepers and one male cases of tuberculosis.

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

	1930	1931	1932	1933
Total number of admissions	1990	1949	1640	1710
Number of Malays admitted	795	790	806	997
Number of females admitted	199	200	249	303
Number of deaths in hospital	96	77	63	43
Number of deaths per 100 admissions	4.82	3.95	3.84	2.51
Number of deaths excluding cases dying within 48 hours of admission	—	—	—	33
Number of deaths excluding cases dying within 48 hours of admission per 100 admissions	—	—	—	1.93
Number of labours performed in maternity ward (excluding miscarriage)	42	26	34	44
Number of major operations performed	23	21	24	15
Number of minor operations performed (including dental extractions)	146	130	135	176
Number of deaths after operation	nil	nil	nil	1
Highest number of patients in hospital (on 17.8.33)	—	—	—	151
Lowest number of patients in hospital (on 27.1.33)	—	—	—	87
Average daily cost of diet per patient in cents	19.82	18.99	16.74	10.36

The case that died after operation was that of a male Malay who had a large liver abscess (amoebic) which was pointing into the abdomen. Drainage was successfully established but he died eight days after the operation from pulmonary complications.

In all these operations, local and spinal anaesthesia by means of novocaine is employed on every possible occasion. Local anaesthesia is the rule in all dental extractions.

The number of cases admitted has increased. The fall in 1932 was due to the opening of a private hospital at Dungun by the Nippon Mining Co. in November 1931.

A big increase occurred in the number of Malays and females admitted; most of the female patients were Malays. The female ward is very popular and this favourable state of affairs is due to the Japanese midwife who also performs the duties of nurse in this ward.

(B) DISPENSARIES.

There is a permanent Government dispensary under the charge of an experienced dresser at each of the following centres—Besut, Kuala Trengganu town, Kuala Brang, Dungun and Kemaman; the Hospital at Kuala Trengganu has also an out-door dispensary. In addition there are two travelling dressers stationed at Setiu and Kemasek where small, wooden temporary dispensaries have been built; most of their work consists in travelling about their districts and a special travelling allowance is made to them for this purpose. In addition a travelling dresser is attached to the Hospital. All these dispensaries, with the exception of Kuala Brang, are on the coast where the main part of the population and all the important centres are situated.

The policy of the four vaccinators distributing medicines among the kampongs on their visits was continued and 12,907 cases were so treated as against 6,862 during 1931.

All Rural Police Stations, in places where there are no dispensaries, keep a small stock of simple drugs such as quinine, antiseptic ointments and lotions, vermifuges etc. for the benefit of themselves and the general public. Owing to the great increase of travelling done by the staff, only 163 patients were treated at these stations this year as against 915 in 1932. The number of police stations keeping drugs is to be curtailed in 1934.

Wherever possible, responsible people in inaccessible parts of the State are given small stocks of drugs.

The following table shows the total number of new cases and attendances for the last seven years.

	1927	1928	1929	1930	1931	1932	1933
New Cases	20,147	37,349	45,407	57,926	no account obtainable	65,066	91,698
Total attendances	28,417	54,430	70,080	78,164	70,132	87,039	111,689

N.B. The figure for the total attendances is correct but the figure for the new cases is probably rather high though instructions were issued to dressers to ensure accuracy in this respect.

STATION.	New Cases	Total Attendances	Total Attendances
	1933	1933	1932
1. Besut	8,367	10,012	8,498
2. Temporary Dispensary, Setiu	6,984	8,039	9,074
3. Kuala Trengganu Town (including Welfare Clinic)	14,096	22,790	18,598
4. Kuala Trengganu Hospital Out-Patients Department	4,443	5,720	4,186
5. Kuala Trengganu Hospital Travelling Dresser	3,545	4,123	2,010
6. Kuala Brang	12,664	13,757	11,699
7. Dungun	6,673	8,312	4,939
8. Temporary Dispensary, Kemasek	4,145	4,236	4,862
9. Kemaman	17,587	21,506	15,396
10. Vaccinators	12,907	12,907	6,862
11. Police and others	287	287	915
Total	91,698	111,689	87,039

The number of total attendances shows an increase of 24,650 or 28.33% over the number in 1932.

This increase is largely due to the increased amount of travelling done by the staff among the out-lying villages. Travelling, unfortunately, 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 where the rainfall is much higher than on the coast.

The Medical Officer attends the Kuala Trengganu Town Dispensary and the Hospital Dispensary. Most of the Welfare cases were treated by him personally. In addition, calls are made to various houses in the town. Visits were made by him to the Istana Kolam to attend H.H. The Sultan and family on 88 separate occasions. Two visits were made into the interior of the State each lasting about 5 days. Two visits were paid to the islands lying off the coast of Trengganu. Regular visits are paid to the dispensaries and the larger towns and villages. On ten occasions he accompanied the Hospital travelling dresser on his visits.

216 minor operations were performed by the out-station dressers in charge of the dispensaries.

4623 patients were visited in their homes by these dressers. Of these, 2095 were made by the dresser in charge of the Kuala Trengganu Town Dispensary and a large number of these were further visited by the Medical Officer.

377 visits to the outlying kampongs were made some of these visits lasting as long as nine days.

(C) Laboratories and Dispensaries.

(1) The following work was performed at the Hospital Laboratory where there are also examined specimens from the Town Dispensary and other sources.

Blood. Microscopical examinations 1674 (99 positive for malaria including benign tertian 23, quartan 22, subtertian rings 48 and crescents 5 while one specimen had both B.T. & S.T. Rings. Filaria I). Differential counts 13.

Total white blood cell counts 13.

A blood slide taken from a dog contained *Babesia canis*.
 Sputum. Microscopical examinations 134 (37 T.B. positive)
 Pus from urethra, Tyson's duct, prostate, cervix, conjunctiva etc. for gonococci 100 (46 positive)
 Nasal and other smears for *B. leprae* 27 (12 positive)
 Urine examinations. Chemical 540, microscopical 102, bacteriological for T.B. 2
 Faeces. For T.B. 2 (nil positive)

For ova and parasites 1891. Multiple infections were frequent and there were only 446 negative specimens.

Ankylostoma	..	..	..	..	..	..	..	..	54
Ascaris	..	..	..	..	..	..	..	..	274
Trichocephalus dispar	..	..	..	..	..	..	..	..	134
E. histolytica	..	..	..	..	..	..	..	..	12
E. coli	..	..	..	..	..	..	..	..	3
Charcot-Leyden crystals	..	..	..	..	..	..	..	..	1
Occult blood	..	..	..	..	..	..	..	..	1
Ankylostoma and Ascaris	..	..	..	..	..	..	..	..	96
Ascaris and Trichocephalus dispar	..	..	..	..	..	..	..	..	398
Ankylostoma and E. histolytica	..	..	..	..	..	..	..	..	2
Ankylostoma and Clonorchis Sinensis	..	..	..	..	..	..	..	..	1
Ankylostoma and Trichocephalus dispar	..	..	..	..	..	..	..	..	30
Ascaris and Distoma	..	..	..	..	..	..	..	..	4
Ascaris and E. coli	..	..	..	..	..	..	..	..	1
Trichocephalus dispar and E. coli	..	..	..	..	..	..	..	..	1
Ankylostoma, Ascaris and Trichocephalus dispar	..	..	..	..	..	..	..	..	415
Ankylostoma, Ascaris and Oxyuris vermicularis	..	..	..	..	..	..	..	..	3
Ankylostoma, Ascaris and E. coli	..	..	..	..	..	..	..	..	1
Ascaris, Trichocephalus dispar and E. histolytica	..	..	..	..	..	..	..	..	3
Ascaris, Trichocephalus dispar and Oxyuris vermicularis	..	..	..	..	..	..	..	..	3
Ascaris, Trichocephalus dispar Distoma	..	..	..	..	..	..	..	..	3
Ascarclonorchis, Trichocephalus dispar and Distoma	..	..	..	..	..	..	..	..	2
Ankylostoma, Ascaris, Trichocephalus dispar and Oxyuris vermicularis	..	..	..	..	..	..	..	..	5
Ankylostoma, Ascaris, Trichocephalus dispar and Distoma	..	..	..	..	..	..	..	..	1
Negative	..	..	..	..	..	..	..	..	446

Other pathological material examined included epithelial scrapings for fungi, a dog's brain examined for Negri bodies (negative), throat swabs for *B. diptheriae* and 19 medico-legal examinations.

The dimethyl-p-amino-benzaldehyde test for urobilinuria has been found to be a useful supplementary test in the diagnosis of malaria and its use is to be extended to places where absolute diagnosis by the microscope is impracticable.

(11) The following is the summary of the microscopical work done at the dispensaries at Besut, Dungun and Kemaman.

Blood.	621 examinations (subtertian 57, quartan and benign tertian 98).
Besut was the only area where subtertian malaria was commoner than benign tertian.	
Faeces.	923 specimens of which only 86 were negative.
Urine.	92 examinations
Sputum.	47 examinations (10. T.B. positive)

Pus for gonococci 29 examinations of which 15 were positive.

VIII. PRISONS AND ASYLUMS.

(A) Prisons.

The Kuala Trengganu Prison is antiquated and unsatisfactory. The health of the prisoners was quite good as they have a lot of work to perform outside the prison. A small ward is provided for the use of sick male prisoners but there is no such accommodation for the female prisoners who are, however, very few in number. There were 47 admissions to the hospital while 2 deaths occurred, one being due to dysentery and the other to pneumonia; in 1932 there were 23 admissions with one death. 306 patients were treated as outpatients as against 426 in 1932. The daily average number of prisoners in 1933 was

(B) Asylums.

There is no asylum for mental patients and lepers in Trengganu and during the present financial stringency there is no prospect of improving this deplorable state of affairs. The State Council object to the sending of Malay lunatics out of the State.

Lunatics—Mentally deranged patients are confined in cells within the prison compound. 53 cases in all including 9 females were treated as against 50 cases including 7 females in 1932. A number of them were under observation only and some were cases of mental defect not amounting to insanity.

In addition to these patients, three Chinese mental patients were maintained at the cost of the State in the Mental hospital at Singapore.

The following table refers to mental patients treated in Trengganu:—

	Males	Females	Total
Remaining at end of 1932	16	2	18
Admitted during the year	28	7	35
Total treated	44	9	53
Discharged	21	4	25
Died	2	1	3
Remaining at end of year	21	4	25

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 nearly two years of all lepers who come to the notice of the Department pending future legislation for the control of this disease.

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

	Malays.	Chinese	Total
Male ..	19	10	29
Female	15	1	16
Total ..	34	11	45

IX. VETERINARY.

There is no veterinary officer of any kind in Trengganu but the Medical Department undertakes any work of this nature. A few animals such as dogs were treated at the dispensaries and a few minor operations were performed. b

No authenticated case of rabies has ever occurred in Trengganu although the danger of such dogs is well known by the Malays. Circulars were issued to the District Officers in 1932 giving a description of the signs and symptoms of rabies and anthrax and laying down the correct procedure in dealing with suspected cases. A buffalo was found dying with haemorrhage from its bowels and nose in a kampong near Kuala Dungun and it was buried with the usual precautions taken for anthrax.

An epidemic of what was probably rinderpest occurred among buffaloes at Ulu Paka in August. There was a heavy mortality for 23 out of the 30 animals affected died. It was some time before news of the out-break reached the Department. A Dresser was sent to report on the disease and to give instructions for isolation, treatment, disinfection etc.

Two horses died at Besut of a disease which strongly suggested surra; unfortunately, no blood-films were taken.

Babesia canis was discovered in the blood of a dying dog in Kuala Trengganu. There were no signs of jaundice.

An out-break of cat-distemper occurred at Kuala Dungun in February and more than fifty animals succumbed.

Fowl cholera is extremely prevalent.

X. METEROLOGY.

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

The highest temperature was 96°F on 1st June.

The lowest temperature was 69°F on 2nd February.

The month with the highest rainfall was December (28.91 ins.)

The highest rainfall in 24 hours was 5.70 inches on 2nd December.

The total rainfall for the year was 110.65 inches as compared with 90.13 inches in 1932.

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 lasts from November till March. The total rainfall for the year at Kuala Brang was 167.12 inches, which was very much higher than the rainfall at Kampong Raja (115.08 inches) and Kuala Dungun (109.57 inches) where the conditions are much the same as those prevailing at Kuala Trengganu.

G. I. H. BRAINE, M.B., Ch.B., D.T.M. & H.

Medical Officer,

Trengganu.

A P P E N D I X

Hospital or Institution Kuala Trengganu.

Return of Diseases and Deaths (In-Patients) for the year 1933.

Diseases	Remaining in Hospital at end of 1932	Yearly Total		Total cases treated	Remaining in Hospital at end of 1933	Remarks
		Admissions	Deaths			
I.- Epidemic, Endemic and Infectious Diseases.						
1. Enteric group:- Typhoid fever		1		1		
2. Malaria:-						
(a) Tertian		4		4		
(b) Quartan		9		9		
(c) Aestivo-autumnal		25		25	1	
(d) Cachexia	2	82	1	84	4	
3. Influenza	1	65		66	2	
4. Dysentery:-						
(a) Amoebic		29	3	29		
(b) Bacillary		7	3	7		
5. Leprosy	9	5		14	7	
6. Other epidemic diseases:-						
(a) Varicella (chicken pox)		1		1		
(b) Yaws	25	473		498	23	
7. Tuberculosis, pulmonary and laryngeal	10	36	8	46	8	
8. Tuberculosis of spine		2		2		
9. Syphilis:-						
(a) Primary	1	14		15		
(b) Secondary		1		1	1	
(c) Tertiary	1	8		9		
10. A. Gonorrhoea & its Complications	4	55		59	2	
B. Gonorrhoeal epididymitis		6		6		
C. Gonorrhoeal arthritis		17		17	3	
11. Bubo		7		7	1	
II.- General Diseases Not Mentioned Above.						
12. Cancer of buccal cavity		2		2		
13. Cancer of male genital organs		1		1		
14. Cancer of skin		1		1		
Carried over	53	851	15	904	55	

A P P E N D I X

Hospital or Institution Kuala Trengganu.

Return of Diseases and Deaths (In-Patients) for the year 1933.

Diseases	Remaining in Hospital at end of 1932	Yearly Total		Total cases treated	Remaining in Hospital at end of 1933	Remarks
		Admissions	Deaths			
Brought forward	53	851	15	904	55	
15. Lymphadenoma		2		2		
16. Septicaemia		6	5	6		
17. Actinomycosis		2		2		
18. Tumours non-malignant		10		10		
19. Acute rheumatism		24		24		
20. Chronic rheumatism		14		14		
21. Beri-beri	1	52	2	53	6	
22. Anaemia: (a) Debility		8		8		
III.- Affections of the Nervous System and Organs of Senses.						
23. Paralysis:-						
(a) Facial paralysis		1		1	1	
(b) Hemiplegia		4		4	1	
(c) Paralysis agitans		3		3	1	
24. Other forms of mental alienation		6		6	1	
25. Epilepsy Neuritis		4		4	1	
26. Affections of the organs of vision						
(a) Conjunctivitis		15		15	1	
(b) Other affections of the eye		9		9		
(c) Iritis		3		3		
27. Affections of the ear or mastoid sinus						
(a) Otitis media	1	4		5		
(b) Mastoiditis		2		2		
IV.- Affections of the Circulatory System.						
28. Other diseases of the heart:- Vulvular		2	2	2		
29. Diseases of the veins:-						
Haemorrhoids		2		2		
Phlebitis	1	1		2		
Carried over	56	1025	24	1081	67	

APPENDIX

Hospital or Institution Kuala Trengganu.

Return of Diseases and Deaths (In-Patients) for the year 1933

Diseases	Remaining in Hospital at end of 19	Yearly Total		Total cases treated	Remaining in Hospital at end of 19	Remarks
		Admissions	Deaths			
Brought forward	56	1025	24	1081	67	
30. Diseases of the lymphatic system						
Lymphangitis		7		7		
V.- Affections of the Respiratory System						
31. Bronchitis:-						
(a) Acute		20		20	2	
(b) Chronic		6		6		
32. Pneumonia:-						
(a) Lobar-pneumonia		10	3	10		
(b) Broncho-pneumonia		7	2	7		
33. Pleurisy	1			1		
34. Asthma	1	23		24		
35. Polypus of nose		2		2		
VI.- Diseases of the Digestive System.						
36. Diseases of teeth or gums; caries		10		10		
37. Pyorrhoea		1		1		
38. Affections of the pharynx or tonsils		1		1		
39. Gastritis		2		2		
40. Dyspepsia	1	16		17		
41. Diarrhoea and enteritis (2 years and over)	1	22		23		
42. Diarrhoea and enteritis (under 2 years)		3	1	3		
43. Ankylostomiasis		73		73	2	
44. Ascaris		61		61		
45.- Appendicitis	1	2		3	1	
46. Hernia		9		9		
Carried over	61	1300	30	1361	72	

APPENDIX

Hospital or Institution Kuala Trengganu.

Return of Diseases and Deaths (In-Patients) for the year 1933.

Diseases	Remaining in Hospital at end of 19	Yearly Total		Total cases treated	Remaining in Hospital at end of 19	Remarks
		Admissions	Deaths			
Brought forward.....	61	1300	30	1361	72	
47. Other affections of intestine:- constipation		3		3		
48. Other affections of liver:- Jaundice		1		1		
Liver abscess		3	1	3		
49. Diabetes mellitus		3		3		
VII.- Diseases of the Genito-urinary System. (Non-Venereal)						
50. Acute nephritis	2	3	4	5	3	
51. Chronic nephritis	2	21	1	23	1	
52. Renal calculus		2		2		
53. Hydrocele	1	5		6		
54. Pyelitis		4		4		
55. Cystitis		3		3	1	
56. Diseases of the urethra:- (a) Rupture of urethra		1	1	1		
(b) Urethritis		1		1		
57. Phimosis		1		1		
58. Other affections of the female genital organs Vesico-vaginal fistula		1		1		
VIII.-Puerperal State.						
59. A. Normal labour	2	38		40	3	
60. B. Accidents of pregnancy (a) Abortion		1		1		
(b) Other accidents of pregnancy		7		7		
(c) Eclampsia		1	1	1		
IX.- Affections of the Skin and Cellular Tissues.						
61. Gangrene		1	1	1		
Carried over	68	1400	39	1468	80	

APPENDIX

Hospital or Institution Kuala Trengganu.

Return of Diseases and Deaths (In-Patients) for the year 1933.

Diseases	Remaining in Hospital at end of 19	Yearly Total		Total cases treated	Remaining in Hospital at end of 19	Remarks
		Admissions	Deaths			
Brought forward.	68	1400	39	1468	80	
62. Boils		5		5		
63. Warts		1		1	1	
64. Abscess	3	20		23	2	
65. Cellulitis		4		4		
66. Ulcers	10	169		179	12	
67. Elephantiasis		1		1		
68. A. Tinea		12		12		
B. Scabies		7		7		
C. Dermatitis		7		7	1	
D. Psoriasis		1		1		
69. Other diseases of the skin						
(a) Eczema		1		1		
(b) Herpes		2		2	1	
X. Diseases of the Bones and Organs of Locomotion. (Other than tuberculosis)						
70. Synovitis		3		3		
XI. - Diseases of Infancy						
71. Marasmus		1	1	1		
XII. - Affections of Old Age.						
72. Senility		3		3		
XIII. - Affections Produced by External Causes.						
73. Food poisoning		1		1		
74. Burns by fire		2		2		
75. Scald		1		1		
76. Wounds by cutting or stabbing instruments	6	13	1	19		
Carried over	87	1654	41	1741	97	

APPENDIX

Hospital or Institution Kuala Trengganu.

Return of Diseases and Deaths (In-Patients) for the year 1933.

Diseases	Remaining in Hospital at end of 19	Yearly Total		Total cases treated	Remaining in Hospital at end of 19	Remarks
		Admissions	Deaths			
Brought forward.	87	1654	41	1741	97	
77. Wounds by blunt instruments		67		67	3	
78. Wounds by explosives		2		2	1	
79. Wounds by fall		8	2	8		
80. Wounds lacerated		2		2		
81. Injuries inflicted by animal bites and kicks	1	5	1	6		
82. Sprain		12		12		
83. Strain		1		1		
84. Fracture	1	5	1	6		
85. Dislocation		1		1		
TOTAL	89	1757	45	1846	101	

N.B. Of the above figures 47 admissions and 2 deaths occurred at the Prison Hospital, Kuala Trengganu.

