

**Annual medical and sanitary report of the Director of Medical Services /
Trinidad and Tobago.**

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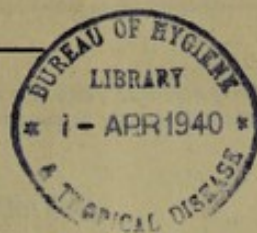
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TRINIDAD AND TOBAGO.

Trinidad 1939
Council Paper No. 95 of 1939.



HEALTH.

Medical and Sanitary Report of the Director of Medical Services
for the year 1938.

*Laid before the Legislative Council on the
17th of November, 1939.*

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HEALTH

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HEALTH.

Medical and Sanitary Report of the Director of Medical Services for the year 1938.

Council Paper No. 55 of 1939.

M.P. No. 49602.

HONOURABLE COLONIAL SECRETARY.

I have the honour to submit, for the information of His Excellency the Governor and Legislative Council, the following report and returns showing the operations of the Health Department for the year ended 31st December, 1938.

SECTION I.—ADMINISTRATION.

(a) Staff :

The establishment of the Department was increased by the inclusion of the following posts:—

- One Medical Officer for hospital services ;
- One Superintendent Sister—venereal diseases ;
- One Superintendent Sister—Tutor ;
- Twenty-seven nurses for Colonial and District Hospitals ;
- Two District Nurses ;
- One 3rd Class Clerk ;
- One Sanitary Inspector.

Vacancies in the Department's establishment were filled by the appointment of:—

- Dr. E. M. McLean—Government Medical Officer, Grade II, as from 1st April, 1938.
- Dr. L. F. Chan—Government Medical Officer, Grade II, as from 29th April, 1938.
- Dr. A. A. Reece—Government Medical Officer, Grade II, as from 1st January, 1938.
- Dr. W. F. Samuels—Medical Superintendent, Mental Hospital, St. Ann's, as from 17th June, 1938.
- Dr. V. M. Metivier—Ophthalmic Surgeon, Colonial Hospitals, as from 1st August, 1938.
- Miss V. E. A. Branczick—Superintendent Sister—Tutor as from 23rd October, 1938.
- Miss E. A. Claydon—Superintendent Sister—venereal diseases as from 4th July, 1938.

Re-appointment :

- Mrs. R. Stewart Mackay, Matron, Colonial Hospital, Tobago, as from 14th February, 1938 (three years).

(b) Legislation :

The following legislation affecting the public health was promulgated during the course of the year:—

- (1) Additions to and amendments of the 4th Schedule of the Public Health Ordinance, Cap. 98, as amended by the Public Health (Amendment) Ordinance, No. 15 of 1934, of areas in the St. Ann's-Tacarigua, Arima, Chaguanas and Nariva/Mayaro Sanitary Districts.
- (2) Addition to Specifications and Conditions for the Establishment and Construction of a Barrack Yard in a rural district under Section 144 (1) of the Public Health Ordinance, Cap. 98.
- (3) Amendment of Bye-laws Nos. 24 (c) and 46 (c) of the Public Health (Streets and Buildings) Bye-laws, 1935.
- (4) Proclamation of an area in the St. Ann's-Tacarigua Rural Sanitary District under Section 3 of the Malaria Abatement Ordinance, No. 6 of 1932.
- (5) Restriction of building activities in the Diego Martin district to safeguard the water supply of the City of Port-of-Spain.
- (6) Application of the House Refuse Bye-laws to areas in the Naparima Sanitary District.
- (7) Transfer of the Ward of San Rafael to the Arima Sanitary District.
- (8) Bye-laws made by the Borough Council of San Fernando as Local Authority for the Urban District of San Fernando with respect to the Sale of Foodstuffs.
- (9) Bye-laws with respect to the Management of the Port-of-Spain Abattoir.
- (10) Tariff of fees for Bacteriological Analyses under Section 15 of the Medical Service Ordinance, Cap. 96.
- (11) Resolution in Legislative Council under Section 14 of Customs Duties Ordinance exempting from customs duty all drugs approved by the Director of Medical Services for the treatment of venereal diseases.
- (12) Regulations under Section 5 of the Dangerous Drugs Ordinance.
- (13) Amendment to Dangerous Drugs Ordinance giving greater measure of control over the illicit use of dangerous drugs.
- (14) Slum Clearance and Housing Ordinance.
- (15) Town and Regional Planning Ordinance.

(c) Financial :

\$8,290,338 was provided for the Colony's ordinary expenditure during the year under review and of this \$959,691 was the allotment for the Health Department under Head 14. The provisions for its medical and sanitary requirements was therefore 11.69 per cent. of the Colony's estimated expenditure.

Actually the expenditure of the Health Department was \$1,001,446.31. Supplementary votes amounting to \$107,096.32 were requested and approved during the year. Of this sum, however, only \$50,059.25 was required for maintenance of existing institutions and of the total amount, \$1,066,787.32, made available under Head 14—Health, a nett saving of \$65,341.01 resulted.

For Personal Emoluments—General Administration—the amount originally provided was \$218,641. Under this head a supplementary vote of \$700.00 was taken and of the nett amount available, \$219,341, expenditure was \$213,654.68.

For Other Charges—General Administration—\$27,080 was provided originally. An addition of \$740.00 was provided and of the available \$27,820 under this head \$27,285.74 was expended.

	<i>Original Provision.</i>	<i>Actual Provision.</i>	<i>Expenditure.</i>
Travelling	\$14,400	\$14,400	\$14,007.73
Contingencies, &c. ...	2,000	2,130	2,117.26
Fees, Leper Ordinance ...	144	144	67.88
Allowances—Study Leave	1,600	1,960	1,958.62
Vaccination Fees, &c. ...	8,136	8,136	8,134.94
Library and Museum ...	800	1,050	999.31
	<u>\$27,080</u>	<u>\$27,820</u>	<u>\$27,285.74</u>

For the requirements of the hospitals of the Colony (three colonial hospitals, six district hospitals and two emergency hospitals) provision was originally made for \$325,133. For these institutions supplementary votes amounting to \$18,499 were taken and of the nett amount available, \$343,632, expenditure was \$335,071.44. (See Table "A".)

For the Mental Hospital \$112,666 was originally provided. This provision was increased to \$118,146 of which \$116,136.65 was expended. (See Table "A".)

Provision was made for the Leper Settlement, Chacachacare, for \$70,020. For this institution supplementary votes amounting to \$40,700 were taken during the year. Of this sum \$22,000 was provided for the purchase of a new launch for the settlement service and \$5,590 for the establishment of a vegetable and dairy farm at Cocorite. For the maintenance of this institution there was available for expenditure \$82,980 and on this there resulted a saving of \$154.08. (See Table "A".)

For the need of the bacteriological laboratory (salaries and equipment) the original provision was \$7,944. The expenditure of this institution was \$7,726.94.

Provision was made for the venereal diseases department under a separate sub-head \$9,192 being provided for salaries and maintenance.

Provision for bat investigation and rabies control was removed under "Public Health" and placed under a new sub-head "Bat Investigation and Paralytic Rabies Control". The amount provided for this branch was \$10,232 and of this \$8,367.74 was spent.

Under head "District Service" the amount provided was \$9,184. The expenditure of this department was \$8,046.42 a saving of \$1,137.58 resulting.

For the dispensaries and health office service which has been expanding over the last few years the original provision was \$31,360. Owing to increasing demand for treatment at these smaller institutions supplementary votes amounting to \$3,916 were taken. Of the nett amount available for this service the expenditure was \$33,538.50.

Provision for the House of Refuge, Trinidad, and for the House of Refuge, Tobago, were for the year under review placed under a new head "Social Services". The management of these institutions continue, however, to be in the charge of the Health Department. Provision and expenditure as regards these institutions are as hereunder shown:—

	<i>Original Provision.</i>	<i>Actual Provision.</i>	<i>Expenditure.</i>
House of Refuge, Trinidad ...	\$76,169	\$79,529	\$78,125.47
House of Refuge, Tobago ...	3,568	4,138	3,743.35

For the public health services \$96,644 was provided and expenditure under this head was \$92,891.54.

		<i>Original Provision.</i>	<i>Actual Provision.</i>	<i>Expenditure.</i>
Personal Emoluments	...	\$37,024	\$37,024	\$36,262.34
Travelling	...	16,500	16,500	14,289.32
General Sanitation	...	41,500	42,140	41,966.01
Miscellaneous and Equipment	...	900	900	640.02
Health Education	...	480	480	417.60
Medicines	...	240	240	216.25
		<u>\$96,644</u>	<u>\$97,284</u>	<u>\$93,791.54</u>

Payment through the Crown Agents during the year under review amounted to \$78,787.26 as compared with \$75,562.07 in 1937. These payments were made up as follows:—

Salaries to Officers on leave	...	...	...	\$7,341.66
Allowances to Officers on study leave	...	...	...	1,763.02
Subscriptions to institutions in England	...	...	...	2,208.00
Other Disbursements:—				
Purchases abroad Medical Stores	...	\$58,601.88		
Purchases abroad Other Institutions	...	8,872.70		\$67,474.58
				<u>\$78,787.26</u>

Revenue under head Health was \$46,135.04 as compared with \$42,917.65 and \$40,178.14 in 1937 and 1936 respectively.

Table "B" shows the cost per bed at the ten principal Government institutions for 1937. Table "C" shows the cost per bed at the House of Refuge, Trinidad, and the House of Refuge, Tobago.

The stock at the Medical Stores was at 1st January, 1938, \$24,804.45. Receipts during the year amounted to \$67,584.42 and of this amount \$58,601.58 represents purchases through the Crown Agents. Issues for 1938 was \$58,978.76.

The actual ordinary expenditure of the Colony was \$10,139,590.39 of which \$1,001,446.31 was expenditure of the Health Department representing 9.8 per cent. of the whole.

TABLE A.
Statement showing adjustments effected in Votes of Institutions.

Institution.	Personal Emoluments.			Miscellaneous Labour			Dental Service.			Equip. and Miscellaneous.		
	Ori- ginal.	In- crease.	De- crease.	Nett Pro- vision.	Ori- ginal.	In- crease.	De- crease.	Nett Pro- vision.	Ori- ginal.	In- crease.	De- crease.	Nett Pro- vision.
1 Colonial Hospital, Port-of-Spain	\$ 66,648	\$ 2,904	\$ 400	\$ 1,750	\$ 1,750	\$ 12,000	\$ 930	\$...	\$ 12,930*
2 Do. San Fernando	32,352	1,176	...	...	...	25,748	7,536	...	33,284
3 Do. Tobago	8,014	...	...	...	...	810	17,376	1,772	19,148
4 Hospital, Arima	2,376	...	...	...	...	600	3,108	...	3,608
5 Do. St. Joseph	3,054	...	...	...	...	...	1,440	300	1,740
6 Do. Tacarigua	2,907	...	...	...	...	...	1,440	...	1,440
7 Do. Couva	4,239	...	...	...	...	...	1,536	...	1,536
8 Do. Princes Town	3,537	...	...	...	...	...	2,240	...	2,240
9 Do. Cedros	1,216	...	...	...	...	...	2,040	...	2,040
10 Do. Mayaro	984	...	...	...	...	...	516	120	636
11 Do. Sangre Grande	744	...	...	...	...	...	168	...	168
12 Mental Hospital	44,770	960	...	...	...	...	144	...	144
13 Leper Asylum, Chacachacare	23,630	2,710	250	...	...	120	13,056	2,400	15,456
14 House of Refuge, Trinidad	22,033	816	60	...	...	...	14,440	6,000	20,440
15 Do. Tobago	892	...	...	...	...	...	13,440	3,000	16,440
14 Bacteriological Laboratory	4,584	...	...	...	...	...	396	150	546
15 V. D. Clinics	3,360	500	3,860
16 Health Offices and Dispensaries	9,156	316	...	...	...	...	2,400	...	2,400
	9,472	180	...	...	...	...	4,984	600	5,584

* Special Equipment.

TABLE A.—Continued.

Statement showing adjustments effected in Votes of Institutions.

Institution.	Food.			Medicines.			Travelling.			Total Original Provision.	Total amounts available	Expenditure.	Un-expended Balance.
	Original.	Increase.	Nett Provision.	Original.	Increase.	Nett Provision.	Original.	Increase.	Nett Provision.				
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
1 Colonial Hospital, Port-of-Spain	53,200	5,000	58,200	14,838	4,000	18,838	...	...	...	163,340	173,670	171,809	1,860 75
2 Do. San Fernando	26,860	1,680	28,540	9,480	720	10,200	...	...	...	87,994	92,838	80,322	88 3,515 12
3 Do. Tobago	6,048	...	6,048	2,400	300	2,700	...	...	...	20,170	20,970	20,685	55 284 45
4 Hospital, Arima	2,820	640	3,460	960	...	960	...	...	...	7,596	8,536	8,326	74 209 26
5 Do. St. Joseph	3,480	320	3,800	1,200	300	1,500	...	...	...	9,174	9,794	9,485	10 308 90
6 Do. Tacarigua	3,060	...	3,060	1,200	25	1,225	...	...	...	8,703	8,728	8,343	69 384 31
7 Do. Couva	3,600	...	3,600	1,320	...	1,320	...	...	...	11,399	11,399	10,989	50 409 50
8 Do. Princes Town	3,440	200	3,640	1,200	...	1,200	...	...	...	10,217	10,417	10,206	23 210 77
9 Do. Cedros	790	140	934	430	100	530	...	...	...	2,952	3,312	3,184	18 127 82
10 Do. Mayaro	324	...	324	396	...	396	...	...	...	1,872	1,872	1,197	11 674 89
11 Do. Sangre Grande	324	...	324	504	...	504	...	...	...	1,716	1,716	1,141	21 574 79
12 Mental Hospital	51,960	3,080	55,040	1,800	...	1,800	...	...	...	112,666	118,146	116,136	65 2,009 35
13 Leper Asylum, Chacachacare	20,760	6,200	26,960	1,880	300	2,180	6,600	1,360	7,960	70,020	82,980	80,825	92 154 08
14 House of Refuge, Trinidad	38,800	...	38,800	1,080	300	1,380	...	...	...	76,169	79,529	78,125	47 1,403 53
15 Do. Tobago	2,040	360	2,400	240	...	240	...	...	...	3,568	4,138	3,743	35 394 65
16 Bacteriological Laboratory	...	...	...	...	...	...	...	...	...	7,944	8,444	7,726	94 719 06
15 V. D. Clinics	...	...	...	...	...	...	...	...	...	9,192	9,192	2,972	32 6,219 68
16 Health Offices and Dispensaries	...	...	...	12,000	3,000	15,000	5,040	...	*5,040	31,360	35,276	33,538	50 1,737 50

* Rents.

TABLE B.

REVENUE :	\$	c.	\$	c.	\$	c.	\$	c.
Maintenance of Patients and Operation Fees ...	37,368	95			34,386	50		
Medicines sold at Medical Institutions ...	6,153	31			6,191	02		
Bacteriological Fees ...	1,070	84			922	22		
Miscellaneous Hospitals ...	810	73			637	58		
Dental Clinic Fees ...	27	60			28	80		
Fumigation Fees ...	508	80			540	63		
Milk Badges, Milk Vendors Badges, Dairymen's Licences ...	178	80			181	68		
Surplus Stores ...	16	01			29	22		
			46,135	04			42,917	65
EXPENDITURE :								
1. General.								
Personal Emoluments ...	213,654	68			201,868	51		
Travelling Allowances ...	14,007	73			13,453	47		
Telephones, Incidentals, &c. ...	2,117	26			1,279	87		
Allowances to Officers on Study Leave ...	1,958	62			912	46		
Fees under the Leper Ordinance ...	67	88			75	36		
Vaccination Fees, Expenses, &c. ...	8,134	94			8,143	22		
Deficiencies of Stores ...	102	94			46	91		
Library and Museum ...	999	31			749	02		
			241,043	36			226,528	82
2. Colonial Hospital, Port-of-Spain.								
Personal Emoluments ...	54,393	49			54,393	49		
Miscellaneous Labour ...	3,301	29			53,527	65		
Equipment and Miscellaneous ...	33,154	63			2,917	00		
Food ...	56,028	74			33,071	48		
Medicines ...	18,601	14			48,031	75		
Dental Service ...	1,392	00			14,389	99		
Special Equipment ...	4,937	96			1,238	40	153,176	27
Purchase of Van ...								
Annual outing Staff ...	240	00	172,049	25	896	36	896	36
					205	00	205	00
3. Colonial Hospital, San Fernando.								
Personal Emoluments ...	30,728	94			30,728	94		
Miscellaneous Labour ...	1,028	60			29,006	45		
Equipment and Miscellaneous ...	18,151	21			839	32		
Food ...	28,479	23			14,728	13		
Medicines ...	10,181	30			24,218	76		
Dental Service ...	753	60			9,986	83		
Annual Outing Staff ...	140	00	89,462	88	912	00	79,691	49
Purchase of Van ...					669	14	669	14
4. Colonial Hospital Tobago.								
Personal Emoluments ...	7,844	30			7,844	30		
Equipment and Miscellaneous ...	3,598	52			6,982	78		
Food ...	6,039	90			3,018	58		
Medicines ...	2,602	83			5,854	68		
Dental Service ...	600	00			2,145	84		
			20,685	55	600	00	18,601	88
Purchase of Ambulance ...	1,920	00	1,920	00				
5. District Hospitals (6).								
Personal Emoluments ...	16,850	72			15,324	87		
Equipment and Miscellaneous ...	9,432	83			9,198	61		
Food ...	17,765	94			13,618	67		
Medicines ...	6,485	95	50,535	44	5,803	05	43,945	20
6. Emergency Hospitals (2).								
Personal Emoluments ...	1,261	44			1,008	35		
Equipment and Miscellaneous ...	199	30			209	81		
Food ...	296	75			310	14		
Medicines ...	580	83	2,338	32	581	78	2,110	08
7. Mental Hospital.								
Personal Emoluments ...	44,170	46			40,405	03		
Equipment and Miscellaneous ...	15,361	15			17,544	00		
Food ...	54,173	50			51,865	68		
Medicines ...	1,489	90			1,590	87		
Dental Service ...	4	50			46	50		
Miscellaneous Labour ...	937	14			743	06		
Annual Outing Staff ...	220	00	116,356	65			111,595	14
Carried forward ...								

TABLE B.—Continued.

EXPENDITURE.—Continued.

			\$	c.	\$	c.	\$	c.	\$	c.
Brought forward	...	...	...	—	—	—	—	—	—	—
<i>8. Leper Asylum.</i>										
Personal Emoluments	...	...	...	23,342	36		15,810	81		
Dental Service	...	...	...	...			...
Wages, Temporary Employees	...	...	...	2,940	53		2,725	89		
Equipment and Miscellaneous	...	...	...	19,717	13		16,078	81		
Launch Service (Travelling)	...	...	...	7,128	16		6,646	88		
Food	...	...	...	25,518	44		26,068	01		
Medicines	...	...	...	2,179	30	80,825	92	1,587	74	68,918 14
Grants to Patients Recreation Fund	...	...	...	124	01	124	01	79	29	79 29
Purchase of New Launches and Engines	...	...	...	4,830	11	4,830	11			
Establishment of Dairy	...	...	...	5,738	97	5,738	97			
<i>9. Bacteriological Laboratory.</i>										
Personal Emoluments	...	...	...	3,844	61		3,330	53		
Equipment	...	...	...	3,842	33	7,726	94	3,398	40	6,728 93
<i>10. Public Health.</i>										
Personal Emoluments	...	...	...	36,262	34		31,564	89		
Travelling Allowances	...	...	...	14,289	32		11,825	53		
General Sanitation	...	...	...	41,966	01		38,448	37		
Miscellaneous and Equipment	...	...	...	640	02		619	89		
Health Education	...	...	...	417	60		189	15		
Medicines	...	...	...	216	25		197	93		
Bat Investigation	...	...	...	...			3,118	24		
Control of Paralytic Rabies	...	...	...	...		93,791	54	5,968	36	91,932 36
<i>11. District Nurses Service.</i>										
Personal Emoluments	...	...	...	4,594	11		2,855	55		
Uniform and Travelling	...	...	...	2,634	32		2,143	84		
Miscellaneous	...	...	...	817	99	8,046	42	779	89	5,779 28
<i>12. Bat Investigation and Rabies Control.</i>										
Personal Emoluments	...	...	...	6,700	77		...			
Contingencies	...	...	...	461	07		...			
Travelling	...	...	...	241	11		...			
Destruction of Bats	...	...	...	964	79	8,367	74	...		...
<i>13. Venereal Disease Services.</i>										
Personal Emoluments	...	...	...	1,433	76		286	70		
Equipment	...	...	...	1,496	79		499	14		
Miscellaneous Labour	...	...	...	41	77	2,972	32	...		785 84
<i>14. Quarantine.</i>										
Personal Emoluments	...	...	...	3,924	52		3,612	80		
Employees Temporary and Miscellaneous	...	...	...	...			312	00		
Quarantine Expenses	...	...	...	2,258	06	6,182	58	2,278	23	6,203 03
<i>15. Dispensaries and Health Offices.</i>										
Personal Emoluments	...	...	...	9,316	00		6,554	80		
Employees—Temporary and Miscellaneous	...	...	...	81	60		81	20		
Equipment and Miscellaneous	...	...	...	5,477	11		7,173	56		
Rents	...	...	...	4,521	84		4,613	10		
Medicines	...	...	...	14,141	95	33,538	50	4,051	92	32,474 58
<i>16. Grants.</i>										
City Council of Port-of-Spain	...	...	...	16,080	00		16,080	00		
Borough of San Fernando	...	...	...	2,112	00		2,112	00		
Borough of Arima	...	...	...	720	00	18,912	00	720	00	18,912 00
<i>17. Medical Stores.</i>										
Unallocated Stores	...	...	...	35,997	81	35,997	81			
						1,001,446	31			

TABLE "C" (a)
SOCIAL SERVICES.

POOR RELIEF:

House of Refuge, Trinidad :

Personal Emoluments	...	...	...	...	\$21,781.12	
Employees—Temporary and Miscellaneous	...				833.31	
Equipment and Miscellaneous	...	...	...	...	16,296.87	
Food	...	...	...	...	37,884.21	
Medicines	...	...	...	...	1,329.96	
Annual Outing Staff	...	...	...	...	180.00	
Film Projector—Half cost	...	...	...	...	—	\$78,305.47

House of Refuge, Tobago :

Personal Emoluments	...	...	...	...	\$936.72	
Equipment and Miscellaneous	...	...	...	...	532.51	
Food	...	...	...	...	2,157.56	
Medicines	...	...	...	...	116.56	3,743.35

CENTRAL POOR RELIEF BOARD:

Personal Emoluments	...	...	...	...	\$9,074.44	
Travelling Expenses	...	...	...	...	3,322.99	
Office Expenses	...	...	...	...	258.16	
Grants for Poor Relief	...	...	...	...	106,557.80	
Relief for Institute Orphan Children	...	...	...	...	5,383.80	124,597.19
						\$206,646.01

SOCIAL SERVICES.

TABLE "C" (b).

Return showing total expenditure of House of Refuge, Trinidad and Tobago during the year 1938 and the cost per bed as compared with the previous year.

Institution:	EXPENDITURE.			Total.	Number of patients treated.	Average annual cost per bed calculated on gross expenditure during		Daily cost per bed calculated on gross expenditure during		Cost of maintenance per bed per diem (salaries not included) during	
	Daily average number of beds occupied.	Salaries.	Other Charges including Medicines.			1937	1938	1937	1938	1937	1938
House of Refuge, Trinidad ...	700	\$ 21,781 12	\$ 56,344 35	\$ 78,125 46	1,098	\$ 103 66	\$ 112 74	\$ 28	\$ 31	\$ 18	\$ 22
House of Refuge, Tobago ...	55	936 72	2,806 63	3,743 35	86	56 53	68 06	15	19	12	14
Total ...	...	\$22,717 84	\$59,150 98	\$81,868 81							

TABLE D.

Return showing total expenditure of the several Medical Institutions during the year 1938 and the cost per bed as compared with the previous year.

INSTITUTIONS.	EXPENDITURE.			TOTAL.	Number of patients treated.	Average annual cost per bed calculated on gross expenditure during		Daily cost per bed calculated on gross expenditure during		Cost of maintenance per bed per diem (salaries not included) during	
	Daily average number of beds occupied.	Salaries.	Other Charges including Medicines.			1937	1938	1937	1938	1937	1938
Colonial Hospital, Port-of-Spain	459	\$ 54,393 49	\$ 117,415 76	\$ 171,809 25	9,764	\$ 360 61	\$ 374 31	\$ 99	\$ 1 03	\$ 64	\$ 99
Colonial Hospital, San Fernando	252	30,728 94	58,593 98	89,322 88	7,181	339 11	354 45	93	97	59	64
Colonial Hospital, Tobago	60	7,844 30	12,841 25	20,685 55	1,390	310 02	344 76	85	94	53	58
Arima District Hospital	30	2,366 33	5,960 41	8,326 74	729	212 68	277 56	61	76	42	55
St. Joseph Hospital	38	3,048 36	6,436 74	9,485 10	632	264 21	249 61	72	68	47	46
Tacarigua District Hospital	44	2,860 06	5,483 63	8,343 69	195	396 40	121 45	1 09	52	70	34
Couva District Hospital	49	3,882 10	7,107 40	10,989 50	1,370	240 13	224 28	56	61	36	39
Princes Town District Hospital	61	3,480 33	6,725 90	10,206 23	1,474	193 15	167 32	53	46	35	30
Cedros District Hospital	21	1,213 54	1,970 64	3,184 18	295	312 42	151 63	88	42	52	26
Mayaro Emergency Hospital	5	517 44	679 67	1,197 11	56	484 22	239 42	1 33	66	75	37
Sangre Grande Emergency Hospital	7	744 00	397 29	1,141 21	73	163 09	163 03	45	45	20	16
Mental Hospital, St. Ann's	735	44,170 46	71,966 19	116,356 65	1,029	152 65	158 31	42	43	27	27
Leper Settlement, Chacachacare	435	23,342 36	57,483 56	80,825 92	473	153 48	185 81	42	51	34	36
Total	...	\$178,591 71	\$353,062 42	\$531,874 01							

(d) Public Health :

General.—The state of health of the population was satisfactory. There were no major outbreaks of infectious diseases, most of which showed a tendency to decline in incidence. A considerable number of cases of a dengue like fever occurred during the latter months of the year. Port-of-Spain was principally affected but cases also occurred in other areas. There was no mortality.

Birth and Death Rates.—The birth rate rose from 31.5 in 1937 to 32.85 while the death rate fell from 17.4 to 15.8, the lowest yet recorded for the Colony. The infant mortality rate fell from 120.5 to 98.4. The lowest previously recorded was in 1936 when the rate was 96.8.

The rates for the past ten years are shown in graphical form.

Enteric.—There was a considerable decrease in the incidence of enteric fever, there being 439 cases notified as compared with 665 in the previous year. The mortality rate for this disease was 0.25 per 1,000 population.

Malaria.—The malaria incidence remains high but the number of cases reported from year to year indicates a steady though slow decline. Malaria is not a notifiable disease.

Anti-Malarial Work.—In addition to routine measures a considerable amount of survey work was carried out. Drainage work on the part of Government and of certain estates and petroleum companies was considerably extended.

Tuberculosis.—The number of new cases notified showed little change, 445 as compared with 430 in 1937. The Association for the Treatment and Prevention of Tuberculosis continued its valuable work.

Following upon the proposals submitted by the department in 1937, a board was appointed in 1938 amongst whose duties is to consider the question of acquiring a suitable site for a hospital sanatorium.

The mortality rate for enteric fever, malaria and pulmonary tuberculosis over the past ten years are indicated by graph.

Rabies.—There were no human cases and only two cases in animals. The percentage of desmodus bats examined which revealed the presence of negri bodies (5.9) indicates the necessity of continued control measures.

Leprosy.—Considerable improvements were effected at the leper settlement at Chacachacare. An agricultural colony was established on the mainland for discharged and non-infective cases. The produce of this colony is consumed at Chacachacare.

Venereal Disease.—The construction of the clinic at Port-of-Spain was completed. The new cases treated in this clinic numbered 2,352. The total number of new cases treated in hospitals and clinics was 5,338. In addition 4,621 cases of yaws received attention in these institutions.

Ankylostomiasis.—The provision for preventive measures remained inadequate. A considerable amount of work in connection with latrine accommodation is recorded.

Hospital Accommodation.—Considerable overcrowding continued, particularly in the colonial hospitals and in the mental hospital. A programme of hospital construction to be carried out in a period of five years was prepared.

Hospital Facilities—Clinics.—The clinics associated with the colonial hospitals at Port-of-Spain and San Fernando were developed considerably.

A blood transfusion service was instituted at Port-of-Spain.

Developments affecting Public Health, Water Supplies, &c.—Fourteen additional areas were brought into the central water supply system.

A committee was appointed by Government to investigate and report on the entire water supply of Port-of-Spain.

Various improvements of and extensions to village supplies are described.

Sewage Disposal.—The Woodbrook area of Port-of-Spain was sewered and connected to the sewerage system of the City.

San Fernando has no sewerage system. A Merryweather cesspool emptier was on order towards the end of the year. A water-borne sewage system is the most urgent sanitary measure for this town.

Rural Sanitation.—There was some extension of the scavenging services in rural areas. Efforts were continued to require householders to provide suitable latrine accommodation.

Maternity and Child Welfare.—The maternity sections of the various hospitals were severely taxed. Inadequate housing conditions in the towns result in many normal confinements being conducted in hospitals.

Ante-natal clinics were well attended and indicate that expectant mothers are beginning to realise the value of ante-natal care.

The Child Welfare League continued its admirable work.

School Hygiene.—School medical inspection was continued on the lines of the previous year. The children of 93 schools were examined. Free distribution of fresh milk to school children in the compulsory education area was commenced towards the end of the year.

Housing.—Building activity increased. In controlled areas, excluding Port-of-Spain and San Fernando, 2,007 building applications were received and 1,436 new buildings were erected. Continued improvement in the housing of labourers by various companies is recorded.

A housing survey was commenced and a summary of the findings appears later in this report.

SECTION II.—PUBLIC HEALTH.

I.—Vital Statistics.

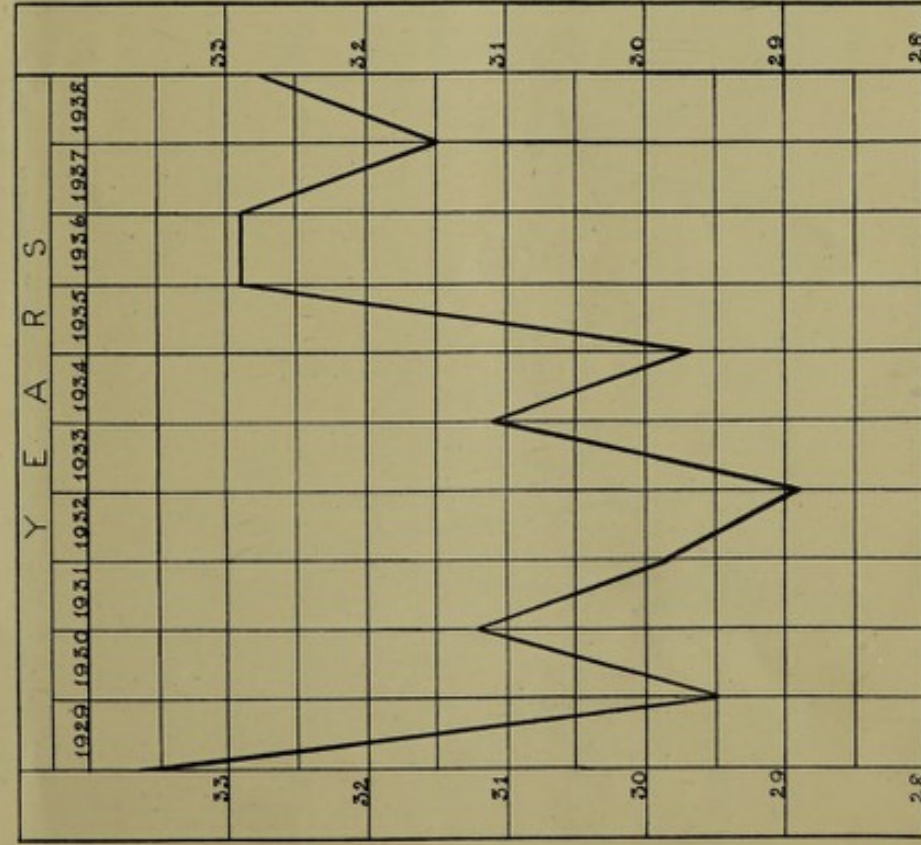
The table given below shows the principal vital statistics over a period of 11 years.

Year.	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
Population	403,275	413,119	414,572	419,559	425,572	432,058	439,994	448,253	456,043	464,889
Birth Rate	29.5	31.2	29.9	28.9	31.1	29.7	32.9	32.9	31.5	32.85
Death Rate	19.4	18.9	19.9	17.1	19.6	18.8	17.5	16.3	17.4	15.82
Infantile Mortality	127.0	125.5	144.4	108.9	131.3	127.4	99.4	96.8	120.5	98.42
Maternal mortality per 1,000 live births	8.0	...	9.0	6.7	7.4	8.1	5.0	4.8	6.4	6.09
Malaria death rate per 1,000 population	1.61	1.58	1.77	1.39	1.65	1.41	1.19	1.05	1.11	1.07
Pulmonary tuberculosis death rate per 1,000 population	1.07	.94	.93	.85	.97	.95	1.00	.93	.89	.80
Enteric Fever death rate per 1,000 population65	.83	.89	.59	.56	2.16	2.30	1.30	1.45	.25

TRINIDAD AND TOBAGO.

BIRTH RATE

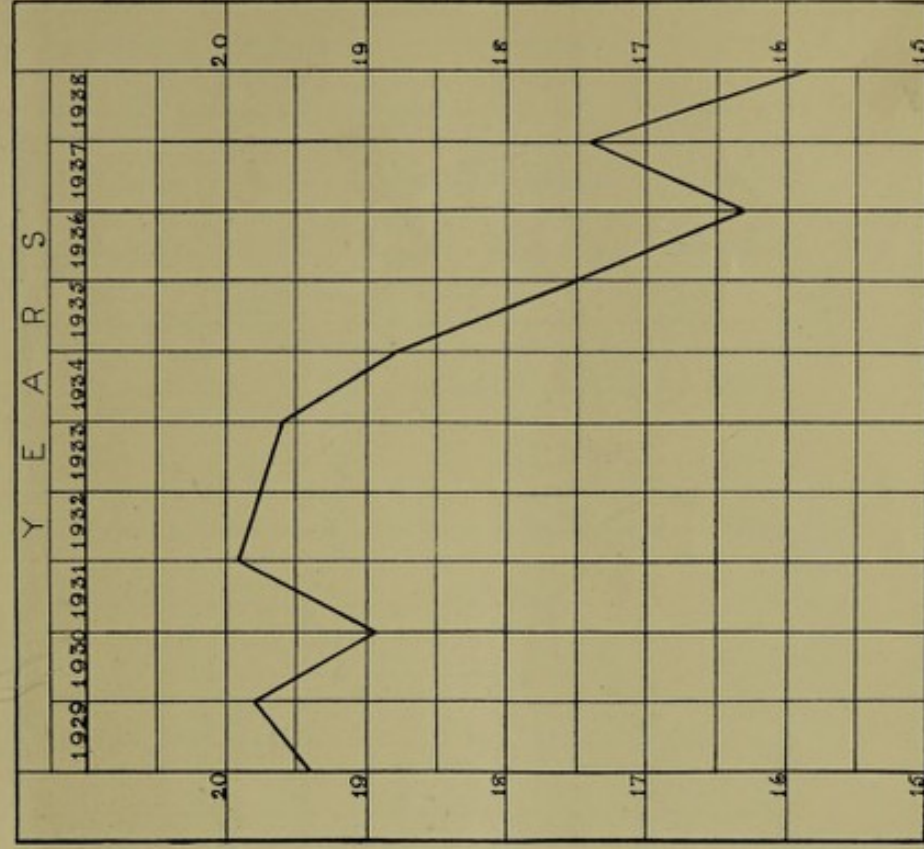
Births per 1000 of population, 1929 - 1938.

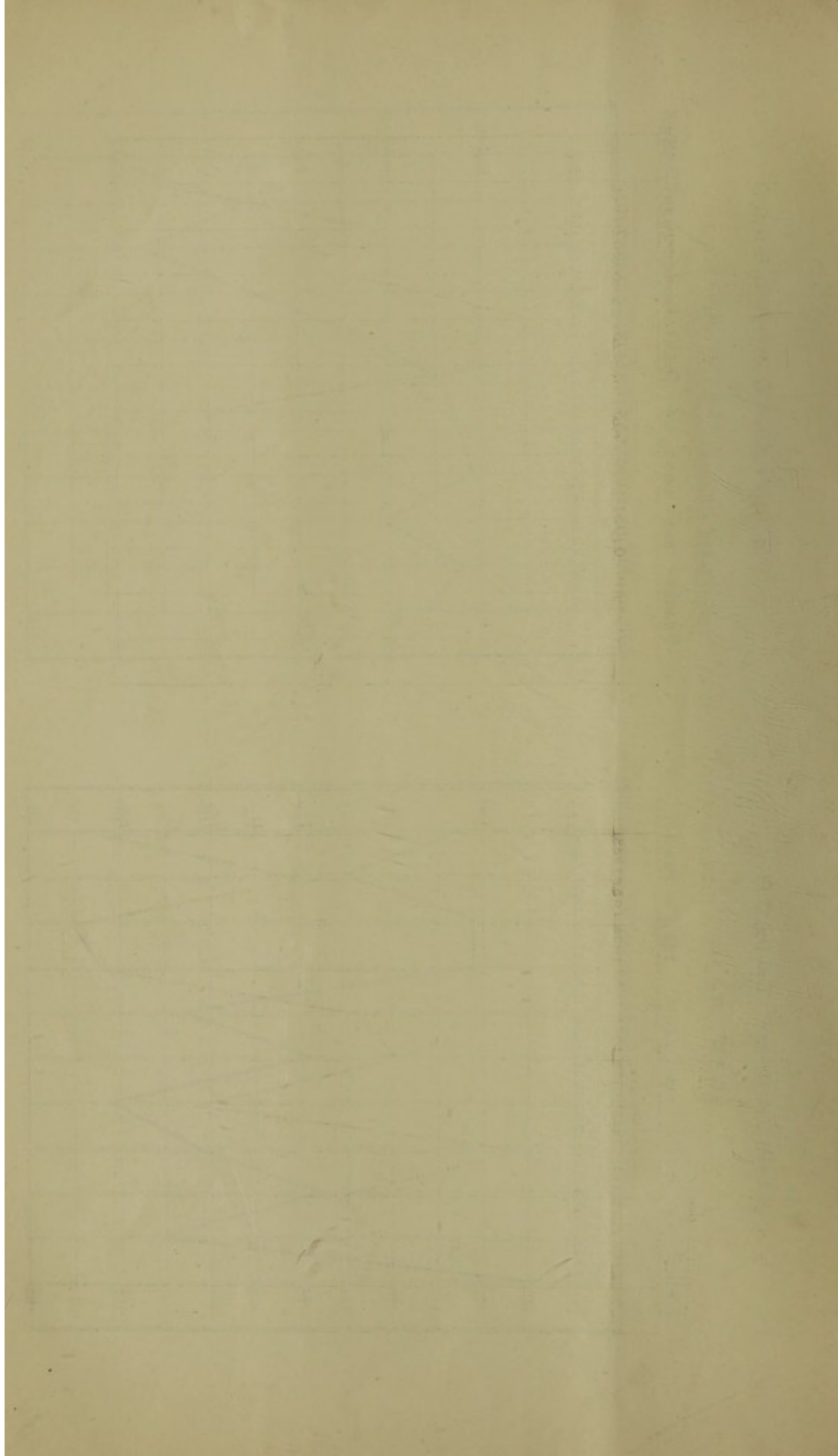


TRINIDAD AND TOBAGO

DEATH RATE

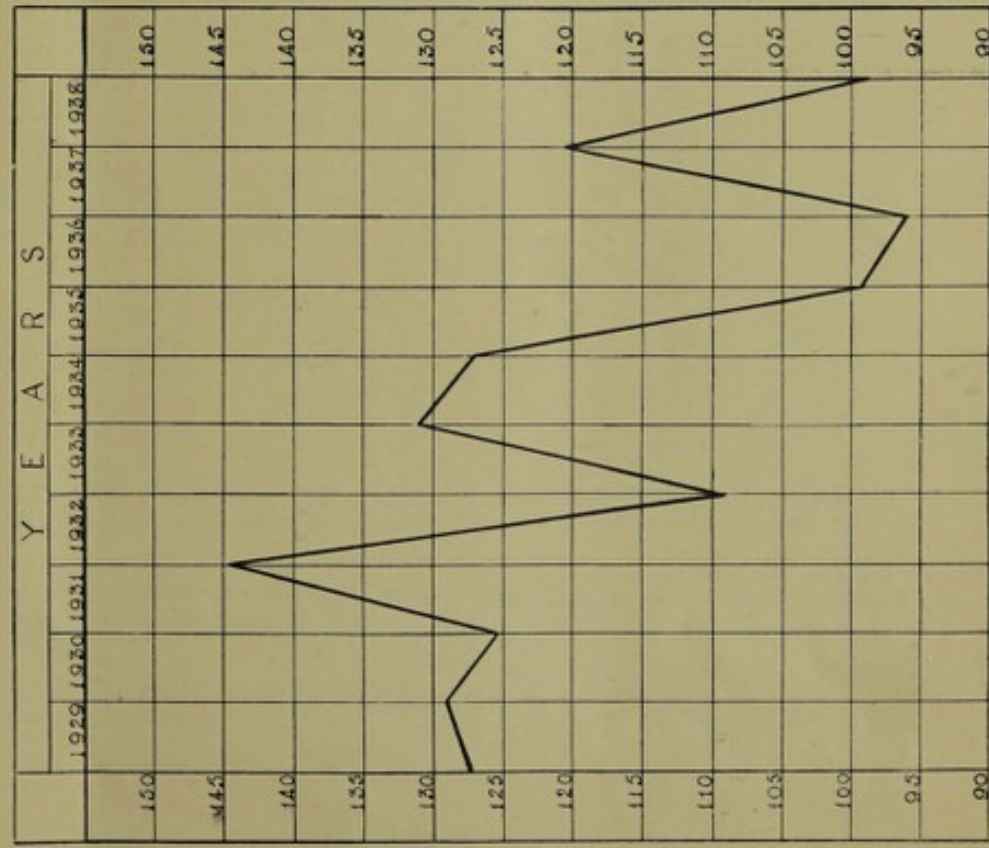
Deaths per 1000 of Population, 1929 - 1938.





TRINIDAD AND TOBAGO

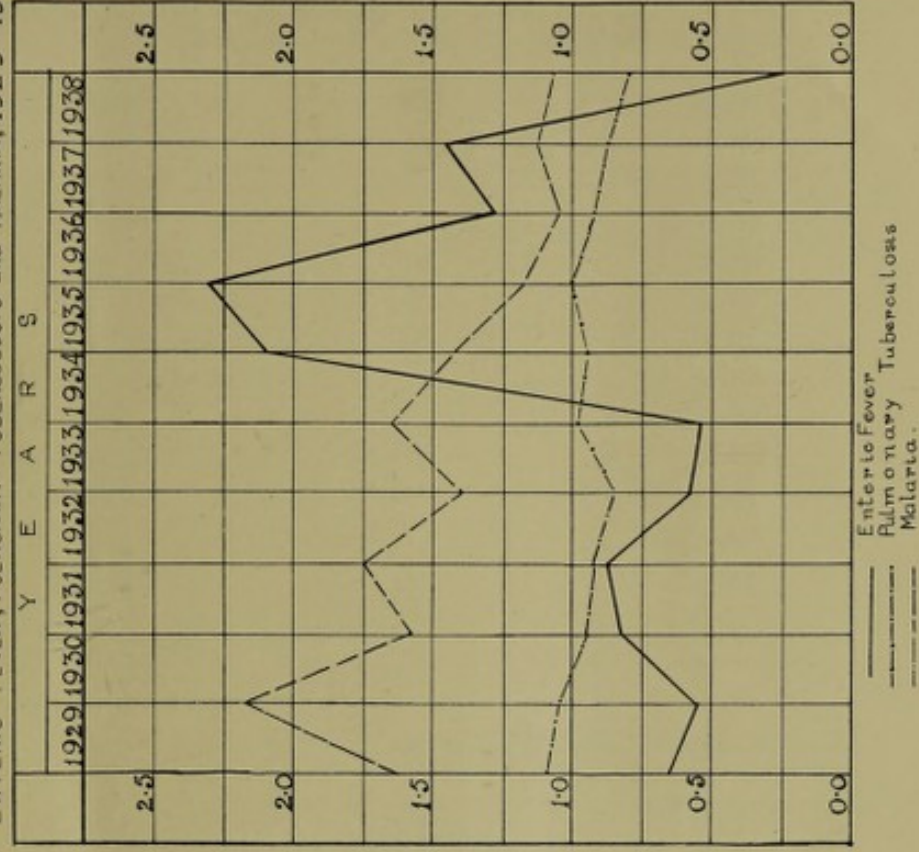
INFANTILE MORTALITY RATE, 1929-1938

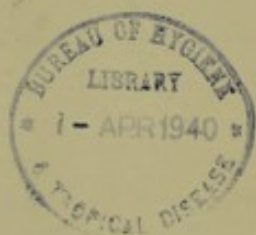


TRINIDAD AND TOBAGO

Deaths per 1000 of Population due to

ENTERIC FEVER, PULMONARY TUBERCULOSIS and MALARIA, 1929-1938.





The total live births were 15,119. Total still births 936. Deaths from all causes 7,836. The estimated population as at 31st December, 1938, was 464,889. The distribution of the population was as follows:—

City of Port-of-Spain	...	...	...	...	89,550
Borough of San Fernando	...	...	...	...	16,166
Borough of Arima	...	...	...	...	5,722
County of St. George	...	...	...	...	16,413
Eastern Counties, Mayaro	...	...	...	...	4,546
Do. do. Nariva	...	...	...	...	12,173
Do. do. St. Andrew	...	...	...	...	26,285
Do. do. St. David	...	...	...	...	6,376
County of Caroni	...	...	...	...	57,662
County of Victoria	...	...	...	...	77,808
County of St. Patrick	...	...	...	...	52,405
Tobago	...	...	...	...	28,556
Waters of the Colony	...	...	...	...	1,227
					<hr/> 464,889 <hr/>

Details for each area are given below:—

<i>District.</i>	<i>Birth Rate.</i>	<i>Death Rate.</i>	<i>Still Birth Rate.</i>	<i>Infantile Mortality.</i>	<i>Maternal Mortality.</i>
Port-of-Spain	28.8	20.9	6.7	102.37	—
St. George	34.9	16.2	4.3	95.34	—
St. David	19.9	10.0	1.5	94.49	—
St. Andrew	27.8	10.2	6.0	87.43	—
Caroni	32.7	13.2	8.2	106.16	—
Tobago	30.2	13.3	4.0	77.64	—
Montserrat	29.8	13.1	—	90.2	—
Couva	37.9	22.3	115.4	133.0	—
Pointe-à-Pierre	—	—	54.0	66.4	—
Naparima	—	—	62.9	102.6	—
Savana Grande	—	—	78.5	95.9	—
Ortoire/Moruga	—	—	58.4	122.2	—
Cedros	32.4	21.6	71.8	104.9	—
La Brea	—	—	61.2	87.0	—
Erin/Siparia	—	—	44.3	—	—
Nariva/Mayaro	32.3	13.1	77.9	74.6	—
San Fernando	41.9	16.2	57.5	82.59	7.4

It will be noted that the population is estimated to have increased by 67,796 persons in 11 years. The birth rate remains approximately the same, while the death rate shows a definite downward trend.

The principal causes of infantile mortality were malaria and gastro-intestinal diseases. The rise in 1937 was due to the unusual delay of the rainy season with the inevitable increase in these diseases. The infantile mortality rate shows a marked decline.

The maternal mortality rate is also falling. The principal causes of maternal mortality were eclampsia and accidents of parturition.

The mortality rate for enteric fever per 1,000 of the population fell from 1.45 in 1937 to .25 in 1938.

The mortality rates for malaria and pulmonary tuberculosis per 1,000 of the population also fell slightly in 1938.

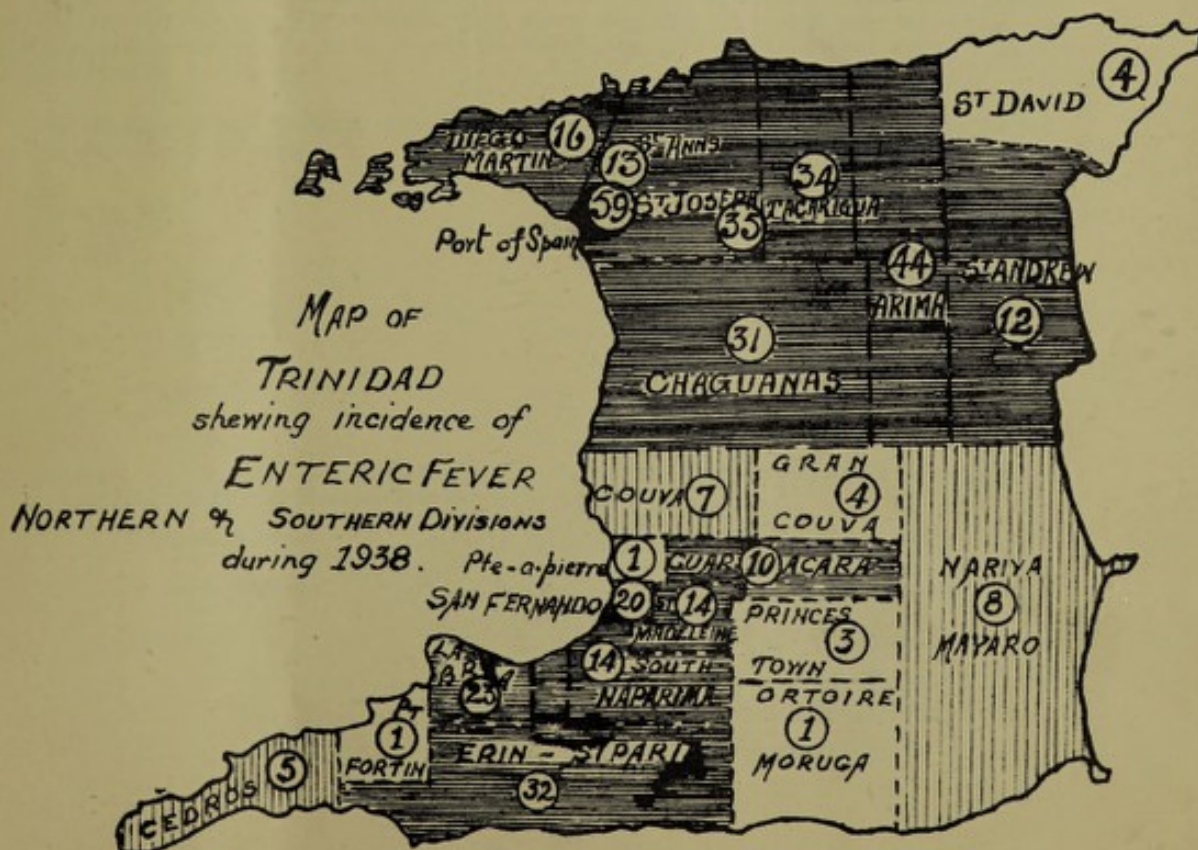
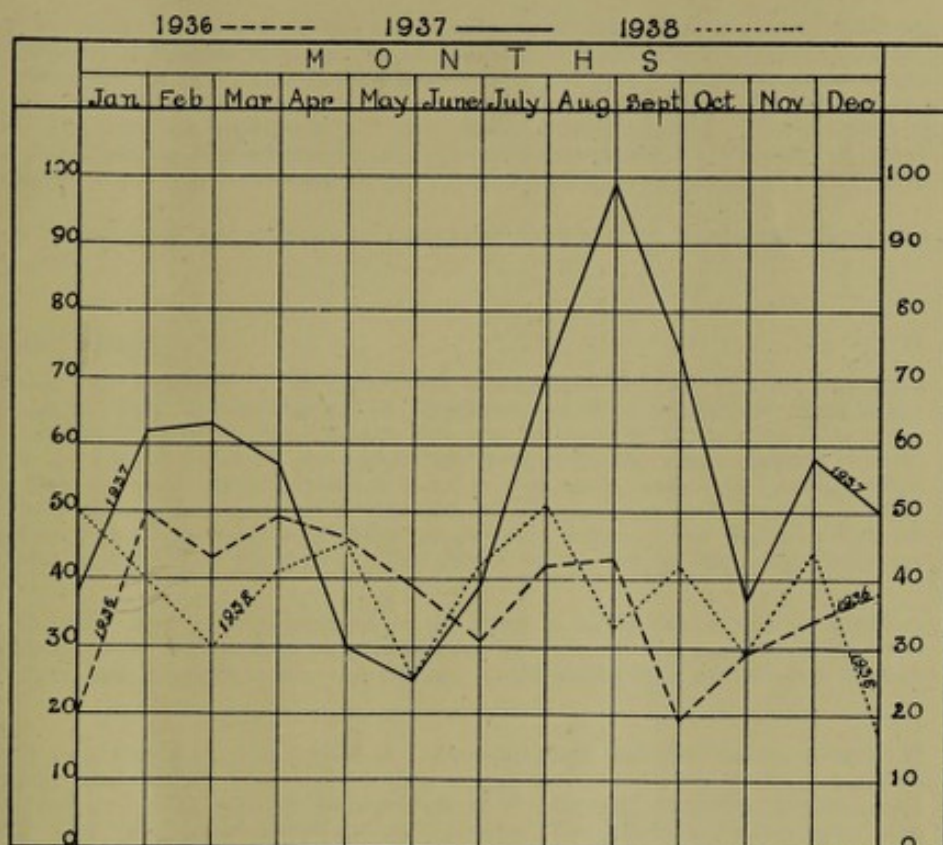
Table of principal causes of death.—1929-1938.

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
Enteric Fever ...	76	96	107	84	74	192	211	118	116	117
Influenza ...	65	40	60	19	70	21	42	28	43	31
Malaria ...	648	645	734	583	700	594	522	473	509	500
Dysentery ...	164	162	200	100	106	200	107	84	95	49
Pulmonary Tuberculosis ...	420	295	385	357	412	406	382	420	409	381
Syphilis ...	205	162	152	157	151	176	154	148	164	156
Cancer ...	135	151	158	146	148	132	151	215	197	197
Cerebral Haemorrhage and Apoplexy	202	210	215	201	238	209	205	178	213	237
Infantile Convulsions ...	56	60	44	29	25	38	38	39	33	34
Cardiac and Valvular Diseases ...	530	432	478	475	481	500	497	481	500	497
Bronchitis ...	651	486	586	389	520	330	373	361	376	324
Broncho Pneumonia ...	163	77	108	95	163	125	144	147	288	169
Lobar Pneumonia ...	197	148	132	139	175	216	283	286	257	195
Pneumonia (not otherwise defined) ...	...	38	53	39	63	46	52	55	47	58
Diarrhoea and Enteritis ...	417	496	632	394	351	419	324	305	469	295
Ankylostomiasis ...	181	161	178	157	176	203	121	119	116	118
Nephritis ...	479	470	442	384	400	442	435	385	449	433
Diseases of the Puerperal State ...	117	123	112	60	97	116	122	103	100	105
Diseases of Early Infancy ...	893	1,026	993	800	943	967	882	838	947	933
Old Age ...	560	703	775	675	784	898	860	707	753	783

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TRINIDAD AND TOBAGO

ENTERIC FEVER— Incidence by Months.



II.—PUBLIC HEALTH.

(a) General.

In general the health of the Colony has been satisfactory. There were no cases of human rabies and no epidemic of infantile paralysis. Small outbreaks of enteric fever occurred at Arima, St. James Barracks, Port-of-Spain and Kelly Village during the year. Details of these appear later in the report. Influenza with increased incidence of pneumonia was prevalent during November and December. The year was abnormally wet and no dry season occurred. The incidence of malaria, however, appeared to be unaffected by this. The general improvement in health and public health administration recorded in the Borough of San Fernando last year was continued during 1938.

The City of Port-of-Spain was extended to include the villages of St. James and Cocorite as from 1st June, 1938.

(b) Communicable Diseases.

Enteric Fever.—The incidence of this disease was considerably less than in 1937. 439 cases were reported (665 in 1937). A map showing the distribution of these is attached. Both Senior Medical Officers of Health show by their statistics that over 50 per cent. of the cases occurred in children between the ages of 0 and 15, the highest age group being the school children of 6–10. Carelessness in drinking and bathing in polluted water is a probable cause. An increased effort is being made to deal with the situation by education, mass inoculation, and intensive sanitary measures including the provision of better water supplies for schools. The mortality rate for enteric fever was .25 per 1,000 population. The details of the two principal outbreaks are as follows:—

ARIMA:—An outbreak of 17 cases occurred in the Town of Arima between 19th December, 1937, and 4th April, 1938. No case had been notified for the previous nine months. These cases all occurred in recognised insanitary areas. An intensive sanitary campaign was put into force in the area.

ST. JAMES POLICE BARRACKS, PORT-OF-SPAIN:—Fourteen cases with four deaths occurred at St. James Barracks between 25th June and 5th July among the recruits. No common source of infection could be traced. The sanitary arrangements of the recruits' dormitory, hospital, and barrack premises were found to be inadequate and obsolete. The following improvements were carried out:—construction of new W.C's, urinals, shower baths and wash basins, provision of an adequate drinking water supply, improvement of washing up facilities in the kitchen and improvement of the sanitary arrangements in the hospital.

The seasonal variation in comparison with other years is shown on the graph.

A small outbreak of enteric fever occurred also in New Jersey, La Brea (12 cases). The original infection was contracted in Port-of-Spain. It is noteworthy that other cases reported during the year occurred sporadically in areas outside the distribution area of the Central Water Scheme. 45 cases occurred in Tobago.

The Borough of San Fernando maintained its decline in the number of cases, figures for the last five years being as follows:—

1934	...	...	...	...	...	...	39
1935	...	...	...	...	...	...	22
1936	...	...	...	...	...	...	31
1937	...	...	...	...	...	...	22
1938	...	...	...	...	...	...	23

Malaria.—The disease is not notifiable and the figures are therefore not exact. The number of cases reported by District Medical Officers was as follows:—

Northern Division	...	...	...	5,697 (6,284 in 1937).
Southern Division	...	...	...	12,009 (10,856 in 1937).
Tobago	...	...	...	1,309 (1,378 in 1937).
Total	...	...	...	19,015 (18,518 in 1937).

The distribution of the Southern Division cases was as follows:—

San Fernando	...	...	...	...	880	(The uncorrected mortality rate for the Borough of San Fernando was 0.62.)
Couva	...	...	...	...	678	
Gran Couva	...	...	...	...	1,613	
Guaracara	...	...	...	...	1,036	
Princes Town	...	...	...	...	122	
Ste. Madeleine	...	...	...	...	802	
Ortoire/Mortuga	...	...	...	...	894	
Nariva/Mayaro	...	...	...	...	353	
Erin/Siparia	...	...	...	...	3,000	
South Naparima	...	...	...	...	1,066	
La Brea/Point Fortin	...	...	...	...	1,216	
Pointe-à-Pierre	...	...	...	...	86	
Cedros	...	...	...	...	276	

The highest incidence of malaria occurred in July, August, September and October.

Pneumonia (including Broncho-Pneumonia).—There were considerably fewer cases and deaths from pneumonia in 1938. 546 cases occurred with 108 deaths as compared with 836 cases and 238 deaths in 1937. The peak of incidence was reached during October–November as was the case in 1937. This is also the period when the highest incidence of influenza is recorded.

The age incidence was highest in 0–5 age group (29.9 per cent. of the cases).

Influenza.—This disease is not notifiable. The figures obtained are therefore not exact. 2,593 cases were reported (3,263 in 1937). The usual increased incidence occurred during October, November and December.

Tuberculosis.—445 cases were notified (430 in 1937). The distribution of these is shown on the map attached. A table of age incidence in areas exclusive of the Town of Port-of-Spain is given below:—

Age Group.	Total Cases.
0–5	2
5–10	3
10–15	4
15–20	44
20–25	51
25–30	61
30–40	65
40–50	44
Over 50	23
Age not stated	16

The incidence falls most heavily on young adults.

The figures for sex distribution show that males and females were equally affected.

The Association for the Treatment and Prevention of Tuberculosis rendered invaluable help during the year. The dispensaries in Port-of-Spain and San Fernando were well attended. The following conclusions are drawn by the Secretary of the San Fernando branch in his annual report:

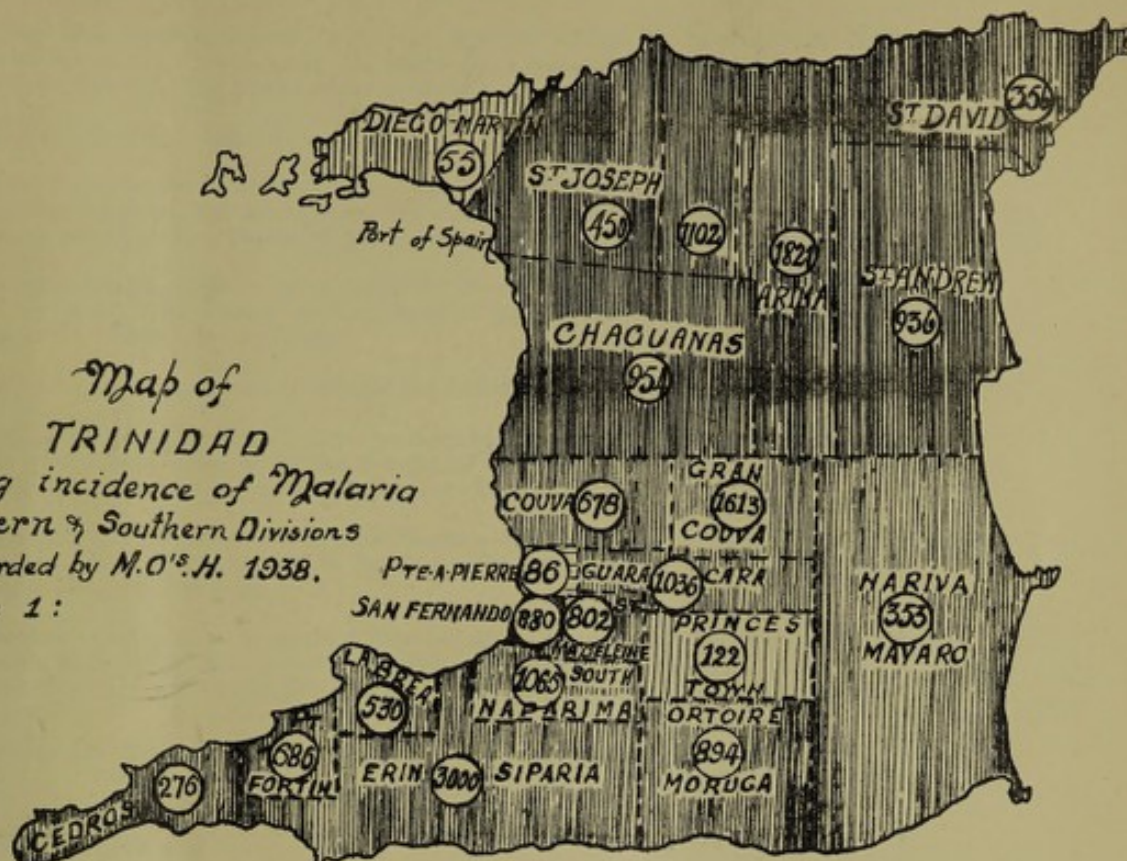
1. Fewer cases of definite tuberculosis attended the dispensary during the year. 18 cases were notified (43 in 1937). Deaths of which there were 14 in San Fernando alone, and cases too weak to attend the dispensary, account for the difference.
2. Attendances have been more regular both for cases and contacts.
3. The incidence of tuberculosis is divided equally among East Indians and West Indians.
4. The age group "over 30" presents the highest incidence.

Diphtheria.—Cases of this disease occur sporadically each year. 45 cases were notified in 1938 (68 in 1937). The age incidence was greatest in the 0–5 age group. District Medical Officers report that the type of disease met with in 1938 was of greater severity than usual.

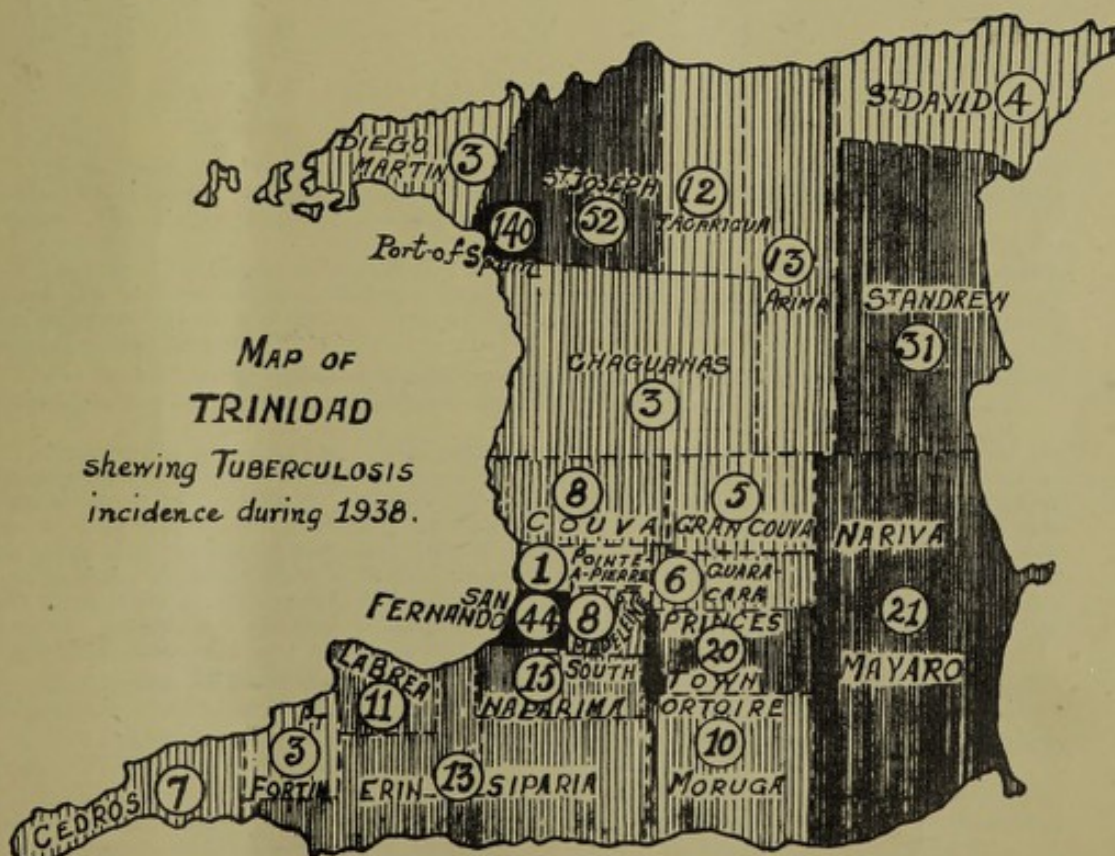
Chicken Pox.—272 cases were notified (212 in 1937). The majority of these occurred in March, April and May. A small outbreak was reported at the Tacarigua Orphanage during the period June–August. 19 cases occurred in San Fernando during the year (four in 1937).

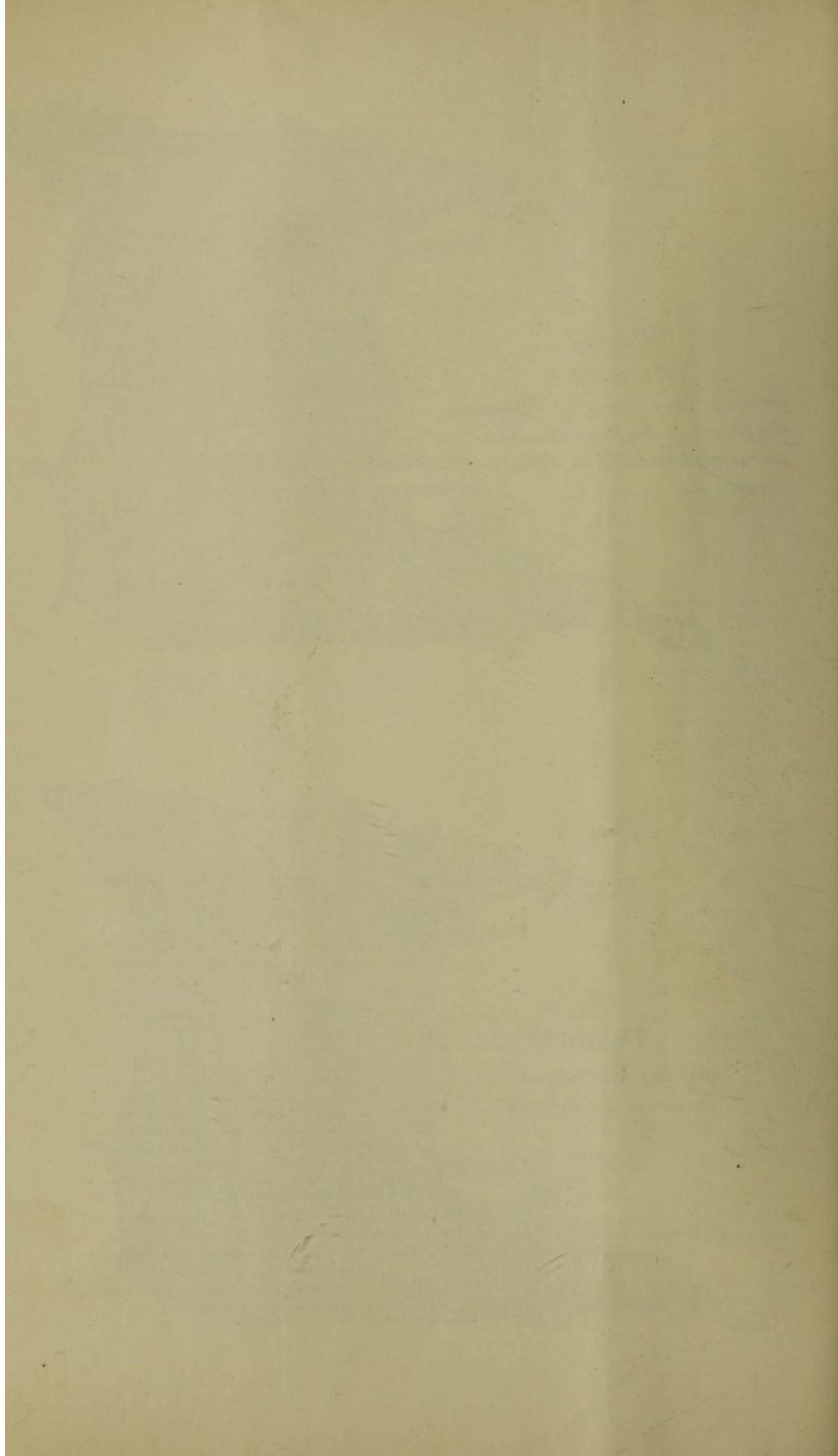
Ophthalmia Neonatorum.—84 cases were notified (102 in 1937).

Map of
TRINIDAD
showing incidence of Malaria
Northern & Southern Divisions
as recorded by M.O.S.H. 1938.
Scale: 1:



MAP OF
TRINIDAD
showing TUBERCULOSIS
incidence during 1938.





Anterior Poliomyelitis.—Seven cases were reported during the year (95 in 1937). They occurred at Siparia (2), Port-of-Spain (1), Couva (1), Chaguanas (1), St. Andrew County (1) and Plymouth, Tobago (1). The cases had no connection with each other and no epidemic arose.

Anthrax.—No cases occurred.

Human Paralytic Rabies.—There was no case of paralytic rabies during the year (15 in 1937). The control of desmodus bats has now reached a stage of considerable efficiency. There were only two cases of animal rabies. Details of preventive measures are given later in this report.

Whooping Cough.—This is not a notifiable disease. A high incidence has prevailed during the last two years. The number of cases reported in 1938 was small in comparison. 78 cases (1,099 in 1937). There were no deaths.

Measles.—The low incidence of measles has continued, only two cases were reported.

Filaria.—Although this disease exists in the Colony it is not of economic importance. Cases are rarely seen though *Culex fatigans* is present in all parts of the Colony. The few cases which are noticed appear to come from other islands or the mainland.

Yellow Fever, Typhus, Smallpox and Plague.—Trinidad continues to enjoy immunity from these diseases. Extra vigilance will be necessary when the new harbour is completed and ships are brought alongside the quay.

Dysentery.—286 cases were reported (396 in 1937). Excepting at the hospitals no differentiation is made in the notifications between amoebic and bacillary dysentery. 17 cases of the bacillary type occurred at St. Ann's Mental Hospital during November and December. 54 cases were reported from Tobago.

The seasonal distribution in the Northern Division was as follows during 1937 and 1938:

Month	Cases in 1937.	Cases in 1938.
January	21	5
February	7	7
March	9	5
April	9	2
May	8	19
June	28	10
July	30	13
August	19	6
September	4	4
October	3	11
November	15	17
December	11	7

In the South the incidence remained highest in the Usine Ste. Madeleine and Erin/Siparia areas. The incidence in sugar estates is the result of earlier days when barracks were built near stables. The infection at the present time is largely spread by flies.

Leprosy.—The system of surveillance of discharged lepers has been discontinued, attention being now directed to the examination of contacts especially at school medical inspections and health offices. 24 cases of leprosy were notified from the Southern Division (two of these during school medical inspection).

The Senior Medical Officer of Health, Southern Division, attended the International Leprosy Conference in Cairo in March as official delegate of the Colony.

Venereal Diseases and Yaws.—The establishment of the new venereal diseases clinic at the Colonial Hospital, Port-of-Spain, has shown the need of this service. The clinic which is built on lines approved by the Ministry of Health has provided efficient means of treating large numbers of cases. This work under the Medical Officer of Health, Venereal Diseases, has increased to such an extent that already the new clinic finds it difficult to cope with the patients. A similar clinic and a second Medical Officer of Health, Venereal Diseases, at Colonial Hospital, San Fernando, will be necessary as a next step in this important branch of the health services of the Colony. In the Southern Division the part-time arrangement of last year continued and an increased number of venereal diseases cases were treated by the venereal diseases clinic at San Fernando.

The Medical Officer in charge of the venereal diseases clinic in San Fernando estimates that 50 per cent. of the cases of primary syphilis did not return after the first injection.

This indicates the necessity for providing a service in San Fernando similar to that in Port-of-Spain. Provision for this is included in the Five Year Development Programme.

Yaws is not a notifiable disease. Cases inevitably come for treatment to the venereal diseases clinics and the figures given below, though not complete, are the first indication of the extent of this disease in the Colony. The attached map shows the principal endemic yaws areas in the Colony.

TABLE I.
Prevalence of Notifiable Diseases, 1938, showing distribution of cases.

District.	NUMBER OF NOTIFICATIONS RECEIVED.										Total.
	Enteric Fever.	Pneumonia.	Pulmonary Tuberculosis.	Tuberculosis	Diphtheria.	Chicken- Pox.	Ophthalmia Neonatorum.	Acute Polio-my-elitis.	Acute Ascending Transverse Myelitis.	Cerebro- Spinal Fever.	
Diego Martin/Bocas	16	3	3	...	1	1	1	...	...	...	25
St. Ann's	13	17	23	...	1	...	1	...	...	...	55
St. Joseph	35	35	29	...	5	6	9	...	...	...	119
Tacarigua	34	10	12	1	1	56	...	...	...	...	114
Arima (Rural)	11	12	7	...	2	...	...	...	...	...	32
St. Andrew	12	37	31	1	1	13	2	1	...	...	98
St. David	4	12	4	...	...	1	1	...	...	...	22
Chaguanas	31	7	3	...	...	3	3	1	...	...	48
Couva	7	19	7	...	...	1	...	...	...	...	34
Gran Couva	4	8	5	1	...	...	1	...	...	...	19
Guaracara	10	17	6	...	1	3	2	...	...	...	39
Princes Town	3	16	20	...	2	5	4	...	...	...	50
Ste. Madeleine	14	8	8	...	1	...	4	...	...	...	35
Pointe-a-Pierre	1	6	2	1	...	1	...	...	...	...	11
Ortoire-Moruga	1	5	9	...	...	2	1	...	...	...	18
Nariva-Mayaro	8	19	21	...	1	1	...	...	...	...	50
Naparima	14	22	15	...	...	...	1	...	...	...	52
Erin-Siparia	32	31	13	1	5	5	12	2	...	...	101
Brighton/La Brea	23	20	13	...	1	3	1	...	...	...	61
Point Fortin	1	2	1	...	...	2	...	...	...	...	6
Cedros	5	19	7	...	2	...	...	...	...	...	33
Scarborough, Tobago	22	37	11	...	...	...	6	...	...	...	76
Roxborough, Tobago	10	10	4	1	...	4	3	...	...	...	32
Plymouth, Tobago	13	19	8	...	...	4	3	1	...	...	48
Total Rural Districts	324	391	262	6	24	111	55	5	...	...	1,178
Arima	33	10	6	...	3	...	...	...	...	...	52
San Fernando	23	44	44	...	2	19	5	...	...	...	137
Port-of-Spain	59	101	133	7	16	142	24	2	...	...	484
Total Urban Districts	115	155	183	7	21	161	29	2	...	...	673
Total All Districts	439	546	445	13	45	272	84	7	...	...	1,851

TABLE II.
Prevalence of Notifiable Infectious Diseases, 1938, showing Monthly Incidence of Cases.

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Enteric Fever ...	40	30	41	45	25	42	51	33	42	29	44	17	439
Pneumonia ...	40	30	35	35	44	45	24	41	46	81	76	49	546
Pulmonary Tuberculosis ...	50	27	44	35	44	42	33	33	41	28	31	37	445
Tuberculosis (Other Forms) ...	1	1	...	...	1	1	1	4	3	1	...	...	13
Diphtheria ...	2	2	3	7	4	4	4	4	3	6	2	4	45
Chicken Pox ...	5	3	65	62	38	43	17	15	7	4	8	5	272
Ophthalmia Neonatorum ...	3	8	9	4	9	5	4	7	15	5	5	10	84
Acute Poliomyelitis ...	1	2	...	...	1	1	...	...	2	...	...	...	7
Acute-Ascending Transverse Myelitis ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebro Spinal Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	142	103	197	188	166	183	134	137	159	154	166	122	1,851

Table showing new cases of Venereal Diseases and Yaws treated at Hospitals and Clinics.

PLACE.	SYPHILIS.			GONORRHOEA.			GRANULOMA AND OTHERS.			YAWS.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
V. D. Clinic Port-of-Spain ...	757	549	1,306	444	64	508	340	198	538	28	15	43
St. Joseph	203	...	...	56	...	...	171	...	...	142
Tacarigua	250	...	...	16	...	...	248	...	...	112
Arima	80	...	...	36	...	...	...	...	...	155
Toco	18	...	...	12	...	...	...	...	...	999
Sangre Grande	633
Roxborough Tobago	60	...	...	15	...	...	...	...	...	1,500
V. D. Clinic San Fernando ...	377	208	585	241	66	307	54	12	66	...	...	3
San Fernando District	153	...	...	166	...	...	...	...	...	16
Princes Town	103	...	...	70	...	...	...	...	...	...
Ste. Madeleine	212	...	...	159	...	...	...	...	...	20
Gran Couva	361
Moruga	327
Guaracara	84
Schools (Southern Division)	226
Totals	2,970	...	...	1,345	...	...	1,023	...	...	4,621

The Medical Officer of Health, Schools, Southern Division provides the following figures for yaws as a result of surveys in rural schools.

<i>School.</i>	<i>District.</i>	<i>Percentage.</i>
Tabaquite C.M. ...	...Gran Couva ...	... 25.0 per cent.
Tabaquite R.C. ...	... do. ...	... 6.9 do.
Brasso R.C. ...	... do. ...	... 14.0 do.
Milton C.M. ...	...Couva ...	... 23.7 do.

Ankylostomiasis.—Attention has been drawn in previous reports to the prevalence of hookworm infection in the Colony. Infection rates have remained high because of the poor sanitation of large areas in the past. During recent years rapid progress in the building of latrines has taken place and it has become possible to pronounce certain areas as being sufficiently well sanitized for an intensive hookworm campaign to be successful with reasonable security against re-infection. Plans were therefore drawn up in 1938 for one hookworm unit to be enlarged in 1939 to 1 clerk, 2 microscopists and 12 attendants and to work on the lines approved by the Rockefeller Foundation. The area chosen was Cedros.

The two hookworm units in 1938 consisted of two sanitary inspectors each, who performed the work without the help of attendants or microscopists.

<i>Northern Unit</i> ...	...Carapichaima	...Infection Rate 85.8 per cent.
	Caroni	... do. 86.6 do.
<i>Southern Unit</i> ...	...Erin/Siparia	... do. 87.94 do.
	Cedros	... do. 47.13 do.

The following table shows the area visited by the hookworm units during the last ten years and the rates of infection found year by year:

<i>Year</i>	<i>Place.</i>	<i>Infection Rate.</i>
1928 ...	...Guayaguayare, Siparia, Tunapuna ...	...No figures.
1929 ...	...Tacarigua, Peñal ...	...80.0 per cent.
1930 ...	...Dabadie, Couva ...	...73.1 per cent.
1931 ...	...Arouca, Dabadie, Couva, Pointe-à-Pierre...	...No figures.
1932 ...	...Arima, Claxton Bay ...	...No figures.
1933 ...	...Arima, Ste. Madeleine ...	...No figures.
1934 ...	...Chaguanas ...	...70.0 per cent.
	Ste. Madeleine ...	...71.0 per cent.
	Arima (Rural) ...	...85.0 per cent.
	Blanchisseuse ...	...70.0 per cent.
1935 ...	...Chaguanas, Cunupia, St. Augustine ...	...94.58 per cent.
	Guaracara ...	...77.52 per cent.
	Charlie Village, Todd's Road, Bejucal, Fletcher Road, Caparo Valley Road ...	...66.01 per cent.
	Petit Morne ...	...57.63 per cent.
	Ste. Madeleine ...	...67.05 per cent.
1936 ...	...Cunupia ...	...78.97 per cent.
	Caparo and Todd's Road ...	...80.3 per cent.
	Guaracara ...	...79.46 per cent.
1937 ...	...Cunupia, Carapichaima, Waterloo ...	...90.36 per cent.
	Guaracara, Erin/Siparia ...	...78.27 per cent.
1938 ...	...Carapichaima ...	...85.8 per cent.
	Caroni ...	...86.6 per cent.
	Erin/Siparia ...	...87.94 per cent.
	Cedros ...	...47.13 per cent.

Lack of proper sanitation has prevented these infection rates being appreciably reduced by the treatment given by the units. The hookworm found is *ankylostoma duodenale* and not the less harmful *Necator americanus*.

Cases of hookworm were also treated by the District Medical Officers at health offices. The following figures show the widespread infection which exists in the Colony.

<i>Northern Division.</i>		<i>Southern Division</i>	
Diego Martin	... 48 cases.	San Fernando	... 227 cases.
St. Joseph	... 207 do.	Couva	... 325 do.
Tacarigua	... 652 do.	Gran Couva	... 55 do.
Arima (Rural)	...1,142 do.	Guaracara	... 380 do.
St. Andrew	... 432 do.	South Naparima	... 297 do.
St. David	... 148 do.	La Brea/Point Fortin	... 166 do.
Chaguanas	... 690 do.	Cedros	... 237 do.
Arima (Urban)	... 431 do.	Princes Town	... 182 do.
		Ste. Madeleine	... 665 do.
		Moruga	... 279 do.
		Nariva/Mayaro	... 400 do.
		Erin/Siparia	... 304 do.
		Pointe-à-Pierre	... 113 do.

The total cases reported in Trinidad and Tobago for 1938 were 7,549.

SECTION III.—HYGIENE AND SANITATION.

WORK DONE AND PROGRESS MADE.

(a) Mosquito and Insect borne Diseases :

Special attention was given to the lowering of the stegomyia incidence at Cocorite near the Pan American Airways base, owing to the possibility of the introduction of yellow fever from South American countries.

Malaria.—In addition to the ordinary routine inspections and minor anti-malarial work the following measures were taken:—

Maintenance and repairs to the low tide culverts at Eve's swamp, filling of the swamp at Teteron Bay, construction of a low tide level culvert at Carenage, concreting at Cumana, clearing of tidal railway borrow pit and concrete drains at Laventille. Dry weather surveys particularly at Cedros, Flanagan Town and Tabaquite have shown that the dry weather incidence of malaria is often the result of neglected borrow pits. Sobo camp has been rendered malaria free by a programme of work executed by the company on the recommendations of the Health Department. Trinidad Leaseholds have undertaken similar work at Barrackpore and Pointe-à-Pierre with marked success. The following table from the report of the Medical Officer of Health, Schools, Southern Division, is of interest:—

District.	Splenic Index.
South Naparima	51.0 per cent.
North Naparima	37.4 do.
Couva	37.4 do.
Guaracara	34.0 do.
Ortoire/Moruga	23.5 do.
Gran Couva	24.2 do.

The following prophylactic measures are available for the population:—

- (1) Sale of quinine at Government Post Offices in rural areas.
- (2) Distribution of free quinine in schools.
- (3) Distribution of free quinine on sugar estates and oilfields.
- (4) Health office treatment.

Since the outbreak of malaria among the troops at La Brea in 1937 special attention has been paid to the environs of the Pitch Lake. The surface of the lake, dams, ravines, and swamps have been treated and concreting of considerable stretches of drains was completed by the Trinidad Lake Asphalt Company and the Trinidad Operating Company. The Rousillac swamp was surveyed with the assistance of the Water and Sanitary Engineer.

A survey at Pointe-à-Pierre, following some cases of malaria, disclosed heavy breeding of anopheles tarsimaculatus in railway borrow pits, in large depressions formed by tractors, and in abandoned field drains.

Similar conditions at Marabella gave rise to anopheles which were a danger to Pointe-à-Pierre and San Fernando. 2,500 feet of earthen drains were concreted. Similarly at Guayaguayare oilfields, a survey, following on cases of malaria, showed heavy breeding of anopheles. The principal drains were concreted.

Considerable work was undertaken by owners of cocoa estates and the Public Works Department under the Cocoa Subsidy scheme. This consisted chiefly in the clearing of ravines and rivers.

In the model village of Abyssinia, Guayaguayare, some low lying swampy areas were effectively drained and the principal drains were concreted.

Forest Reserve and Cruze Oilfields—resurveys were conducted and breeding areas eliminated by drainage. There were some cases of malaria reported from these fields.

A survey was conducted in a proposed location in Mayaro where workers' houses were to be erected. This was a well known malaria area. The measures adopted kept the camp free from infection.

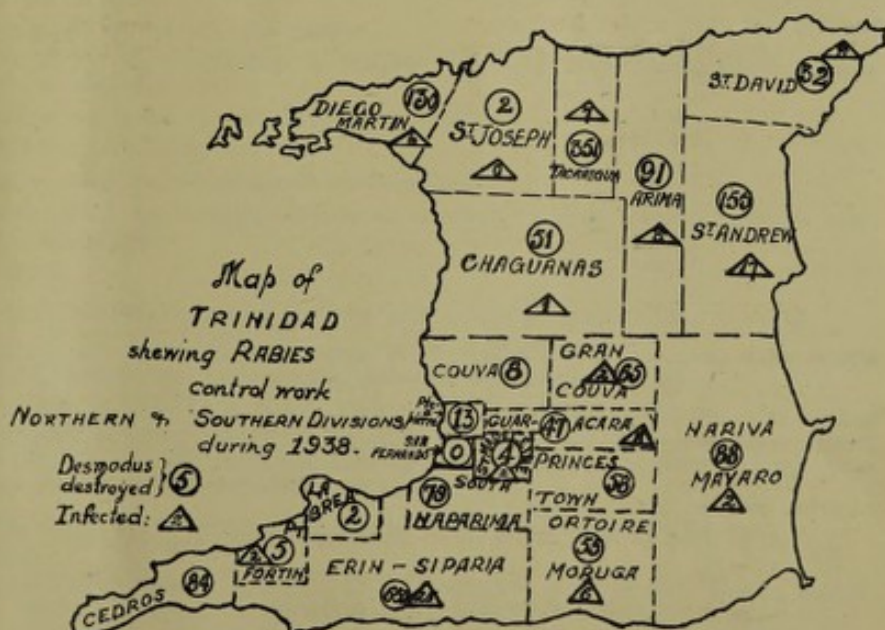
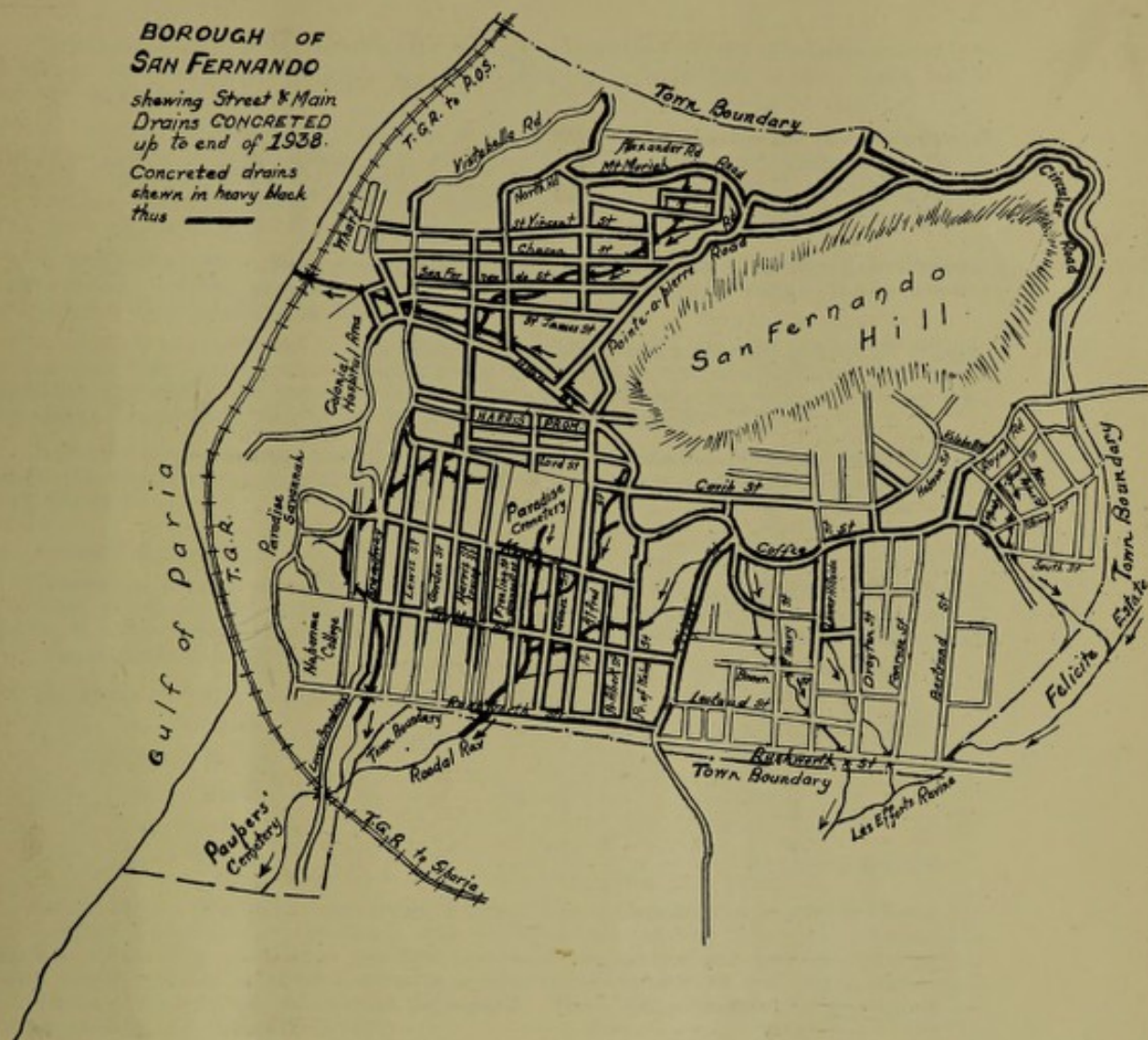
In the Couva district, a low lying swampy area in Balmain Village was surveyed and extensive breeding of anopheles discovered. Temporary measures were adopted by the local health authority. A permanent drainage scheme is under consideration.

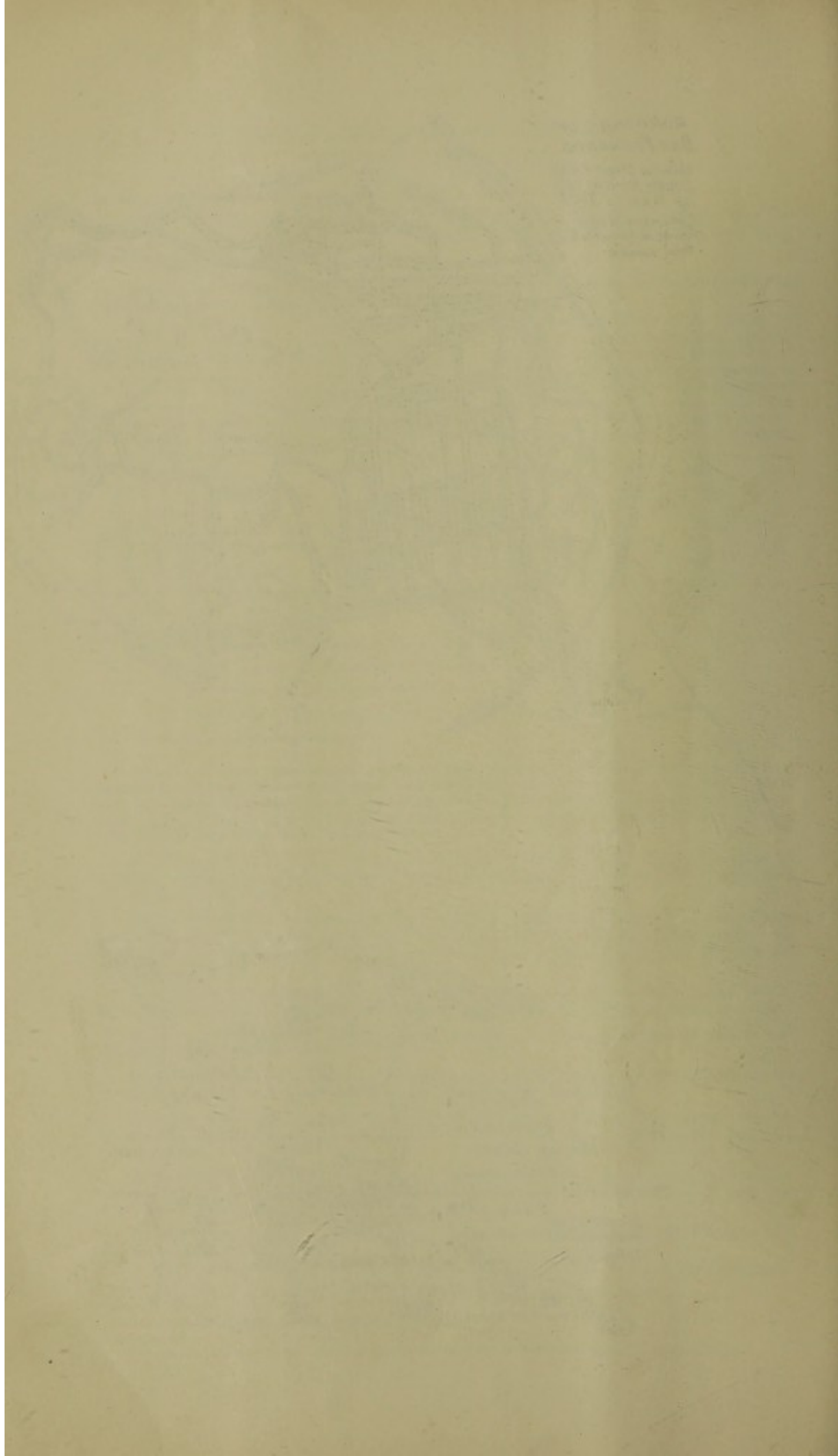
In Dow Village, Couva, a general survey was carried out, and measures taken to deal with anopheles breeding included:—

- (a) Clearing of main drains by the Esperanza Estate and the Public Works Department.
- (b) Filling of "tapia" holes by the local health authority and owners.
- (c) Drainage of a portion of railway borrow pit.

Re-surveys were carried out in the Naparima district especially around San Fernando.

showing Street & Main
Drains CONCRETED
up to end of 1938.
Concreted drains
shown in heavy black
thus _____





Considerable work has been done by the Borough in concreting its road side drains and ravines. A plan of the Town of San Fernando is attached showing the work done to date. 7,217 feet of concrete drains were laid.

In Vistabella the local health authorities of San Fernando, North Naparima and the owner of Vistabella Estate, in collaboration, have accomplished useful work in reclaiming a swamp by dumping town refuse, diversion of a large ravine, and ploughing and grading by mechanical means. An anopheles breeding ground within the Borough in the north-western section was effectively dealt with by the local health authority.

A seepage area at St. Marie Estate, Cedros, and an anopheles breeding ground at Columbia Estate, Cedros, received attention. A pond was drained at L'Envense Estate. Heavy breeding of anopheles formerly existed in this pond.

A re-survey was conducted in Point Fortin in connection with a proposal to establish villages. It was clear that, until extensive drainage could be undertaken and watercourses cleared at the tidal ends, this district will always be malarial. Localised breeding places received attention from the oilfields. Insanitary drains to the extent of 250 feet were concreted.

In the Princes Town area valuable low lying land was reclaimed by ploughing and filling with refuse. An attractive recreation ground is in course of formation and several breeding places have been eliminated.

(b) Epidemic Diseases :

Smallpox.—No cases of smallpox or alastrim occurred in the Colony during the year. Medical inspection of schools has revealed that there is a growing population of unvaccinated school children in certain areas. Steps will be taken to remedy this in 1939. In San Fernando 355 children were vaccinated (175 in 1937).

The available figures for vaccinations are as follows:—

San Fernando	...	...	...	...	355 (Health Office).
Ortoire/Moruga	...	...	...	...	502
Nariva/Mayaro	...	...	...	...	363
Erin/Siparia	...	...	...	...	1,080
North Naparima	...	...	...	...	41 (Rural Schools).
					<u>2,341</u>

Enteric Fever.—The greater percentage of enteric fever occurred amongst school children. In the Southern Division mass inoculation was combined with medical inspection whenever the situation demanded it. The usual measures were taken for dealing with sporadic cases of this disease namely isolation in hospital, oiling of cesspits, sanitation of yards and drains, inoculation, surveillance of contacts and educational propaganda. There was a considerable decrease in the number of cases, i.e. 439 (617 in 1937).

Paralytic Rabies.—Maps are attached showing the progress made and dividing the island into:—

- (a) Controlled areas.
- (b) Semi-controlled areas.
- (c) Uncontrolled areas.

Control is maintained by the following methods:—

- (a) Reports of bat biting submitted by sanitary inspectors, ward officers, school teachers and the general public.
- (b) Inspection and house to house census of bat biting.
- (c) Prophylactic inoculation.
- (d) Survey of forest for digesting and roosting places.
- (e) Bat destruction by trapping with nets, shooting, gassing, painting animals with strychnine syrup.
- (f) Rechecking.

Two features have been confirmed by the field work of the bat units during the year.

- (1) The persistence of the *Desmodus* bats in re-occupying roosting places from which other *Desmodus* bats had on many occasions been previously cleared.
- (2) *Desmodus* bats have been found sometimes in communities with the fruit eating *Hermidemas*. More recently it has been discovered that roosts formerly occupied by *Hermidemas* only have been cleared of *Hermidemas* and possession taken by large colonies of *Desmodus* bats.

Operations were conducted by the bat units at the following places during the year:—

Northern Division :

Coolie Block, Diego Martin, Bachelor's Hall, Macqueripe, Maracas Bay, Monos, Ravine Sable, Mahaica, Madras Settlement, Mautica, Arouca, Blanchisseuse, Filette, Nariva Mangrove Swamp, Matura, Dabadie, Cumuto and Caroni North Bank. Re-surveys were also made of controlled and semi-controlled areas at monthly intervals.

No. of *Desmodus* Positive for 1938-94

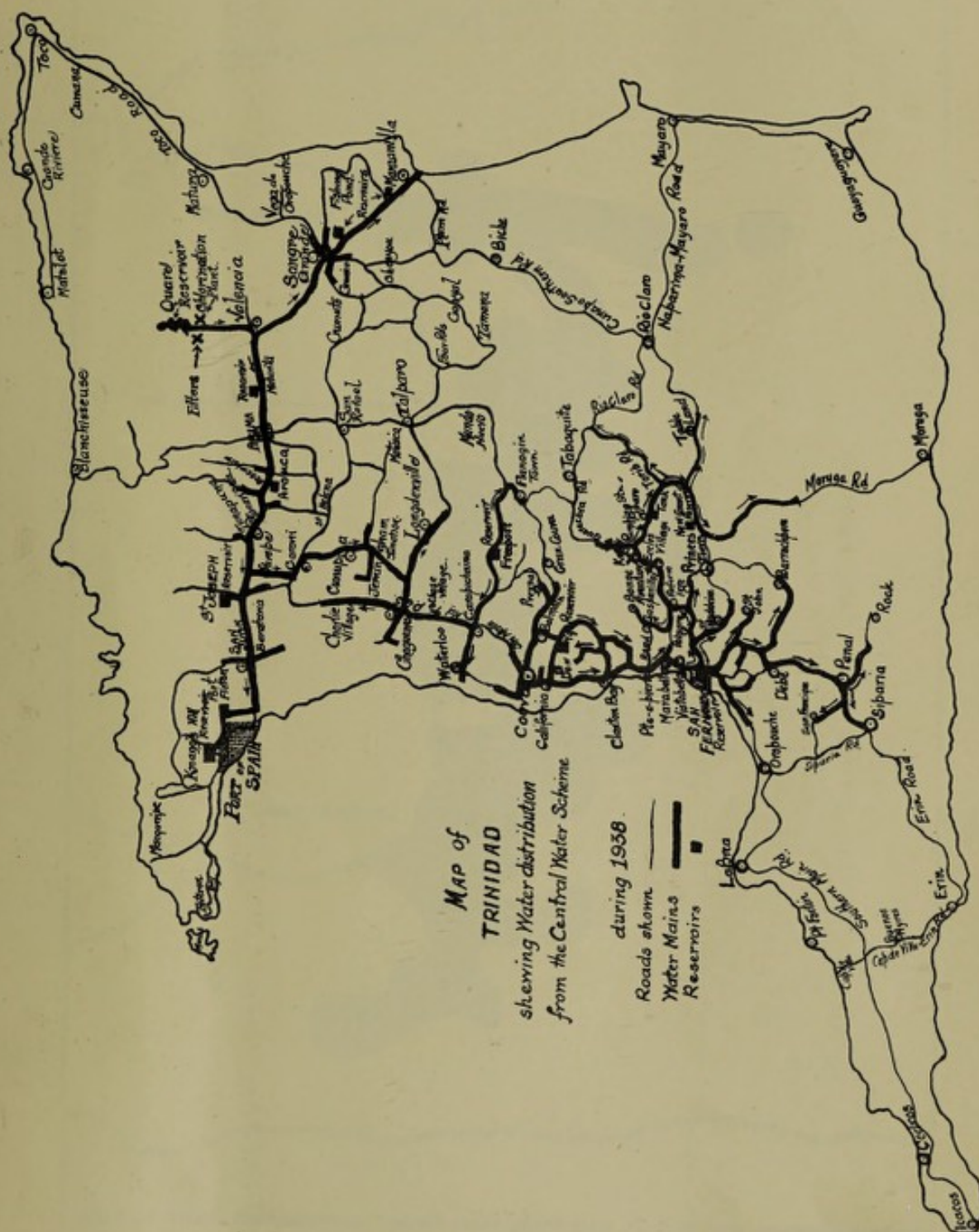
TABLE III.—ANTI-RABIC MEASURES.

Destruction of Bats (*Desmodus Rufus*) 1938.

P = Poisoned.

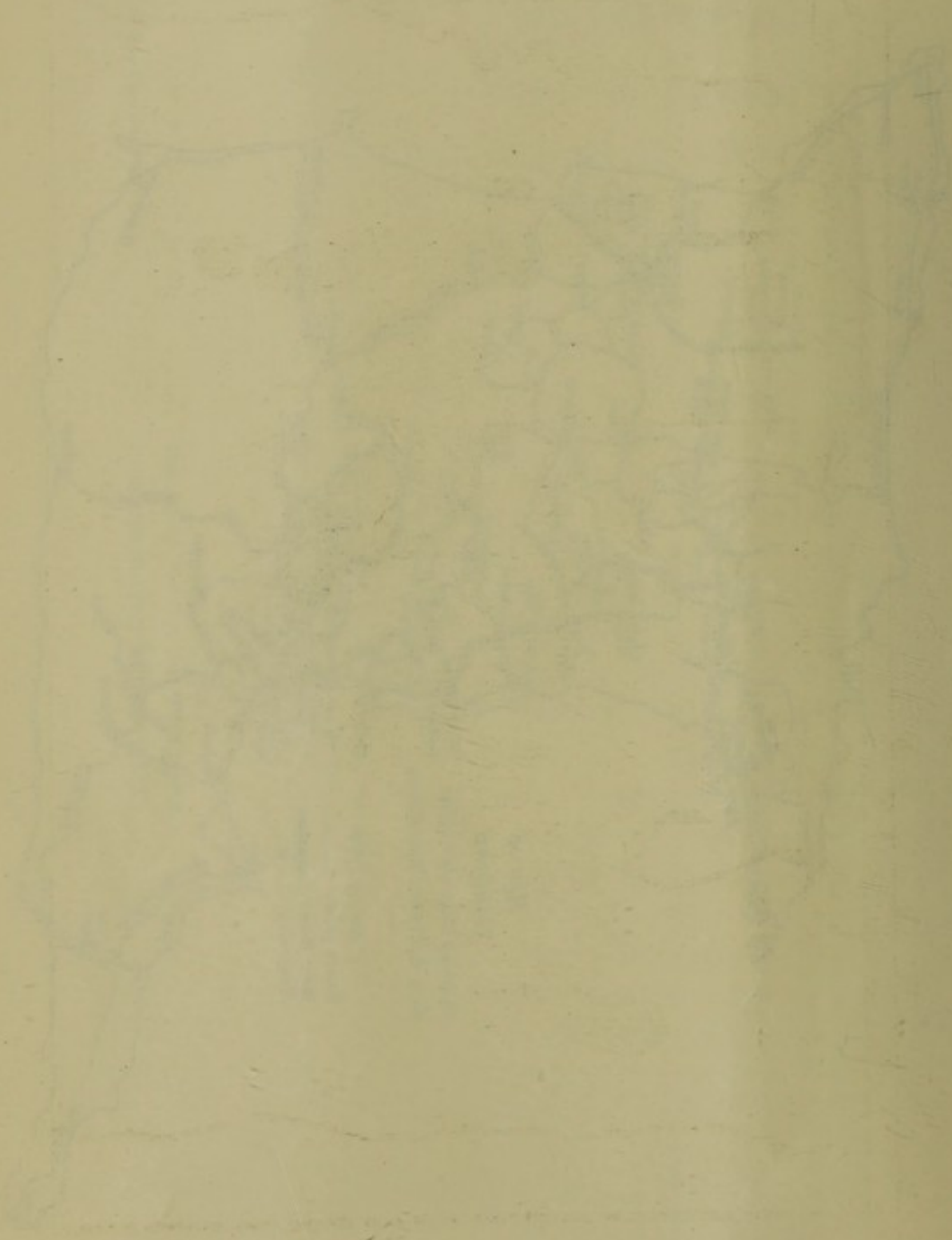
K = Killed by other means.

DISTRICT.	Jan.		Feb.		March.		April.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		Total Jan. to Dec.		Grand Total.
	P	K	P	K	P	K	P	K	P	K	P	K	P	K	P	K	P	K	P	K	P	K	P	K	P	K	P+K
Arima	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	86
Arooca	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Caroni	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cedros	...	...	1	73	1	76	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	156
Chaguanas	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	53
Couva	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diego Martin/Bocas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erin/Siparia	8	6	8	3	2	14	8	2	8	2	10	8	2	8	7	16	4	12	1	3	2	2	...	...	...	...	64
Gran Couva	22	3	125	7	215	3	82	3	6	47	6	41	...	3	...	51	9	40	...	21	5	27	...	...	...	...	674
Guaracara	1	52	2	...	...	4	...	...	...	1	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	57
La Brea	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Nariva-Mayaro	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
Ortoire-Moruga	2	4	...	...	1	9	1	26	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Pointe-a-Pierre	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	39
Port-of-Spain and St. Ann's	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	45
Princes Town	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	95
Sangre Grande	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11
South Naparima	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
St. Joseph	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	38
Tacarigua	4	20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	137
Toco	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6
Total	15	144	17	284	16	367	18	223	20	96	21	100	17	47	14	131	17	144	3	63	9	131	3	57	170	1,787	1,957



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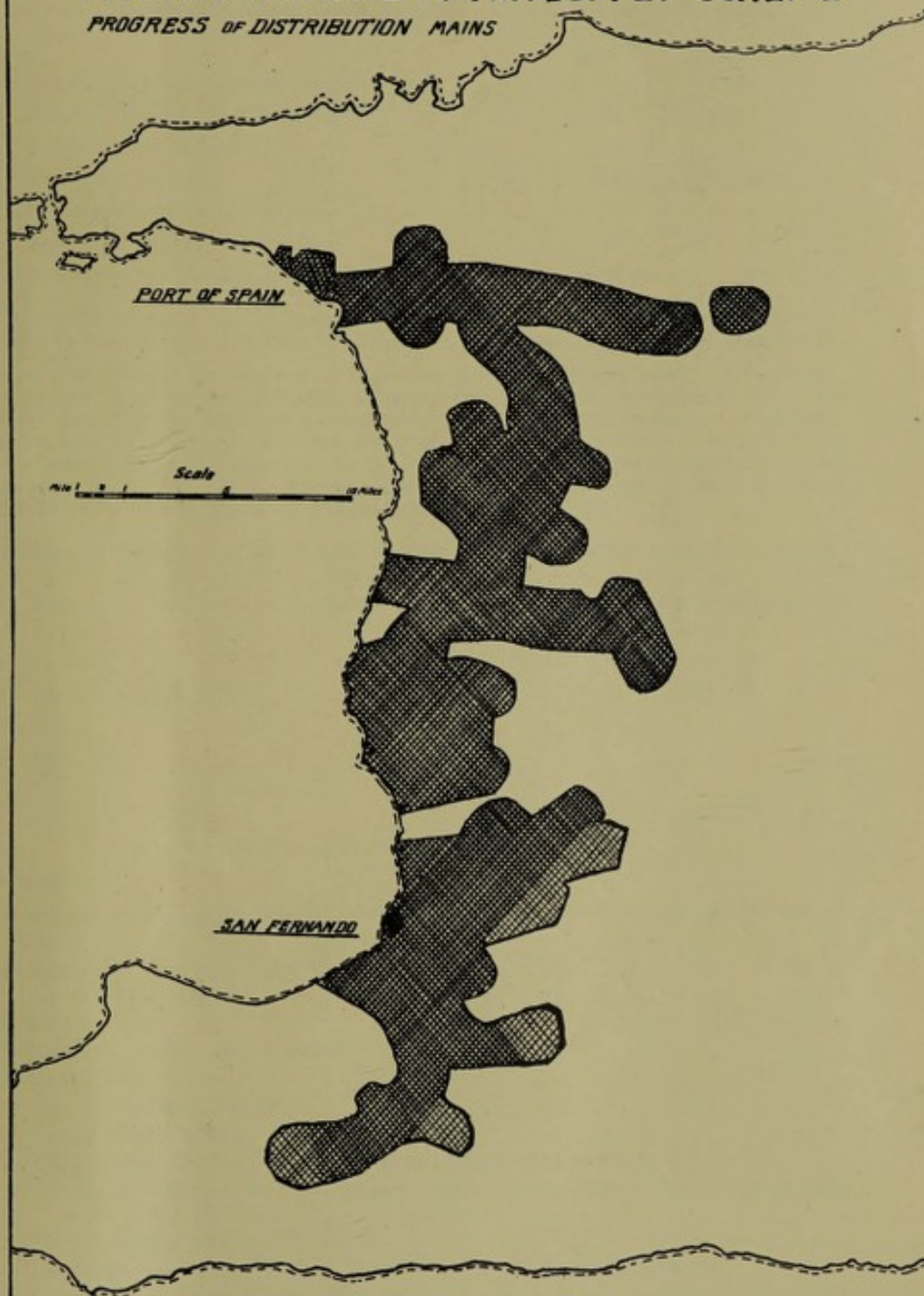
ASTOR LENOX TILDEN FOUNDATION



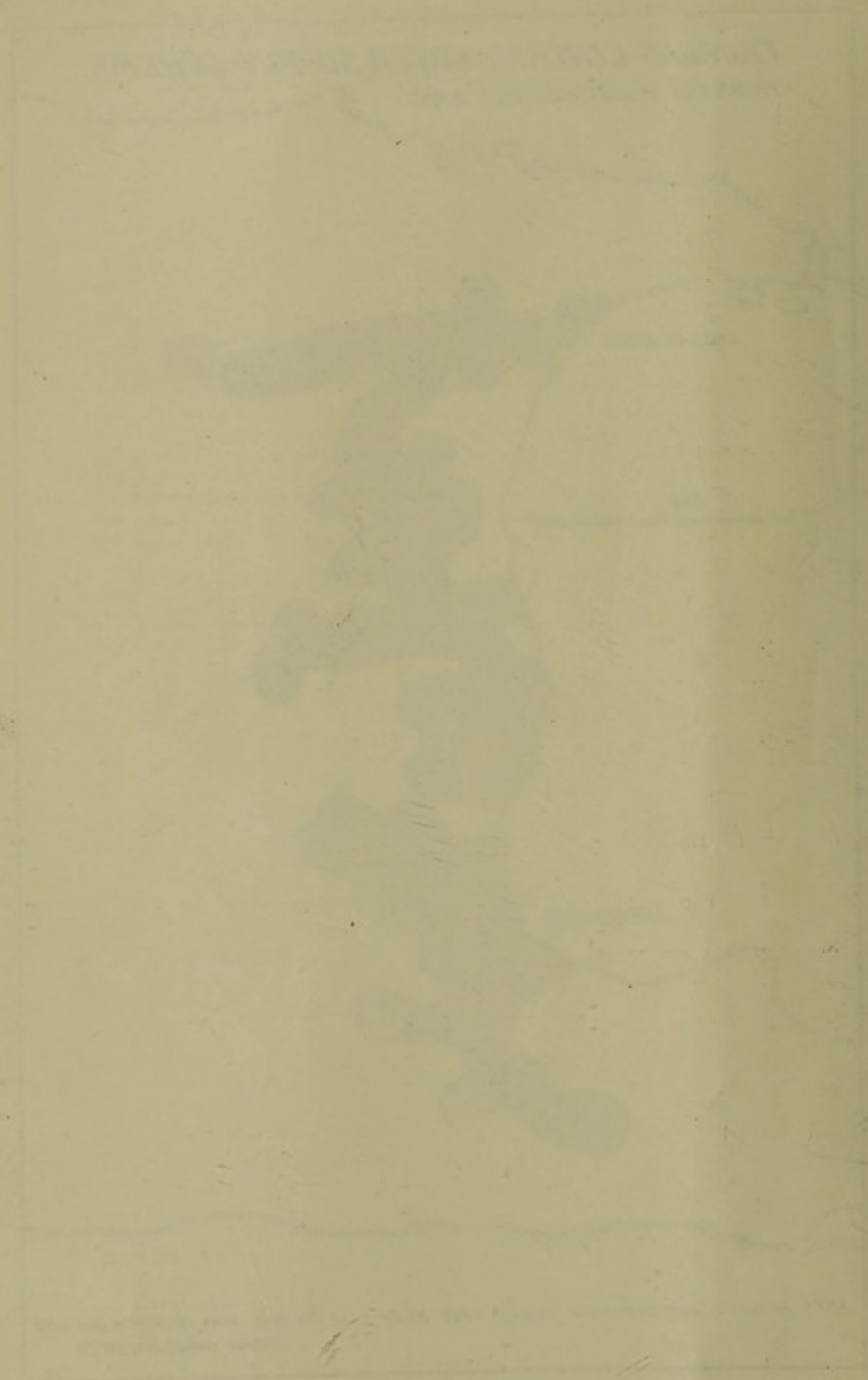
1891

TRINIDAD CENTRAL WATER SUPPLY SCHEME

PROGRESS OF DISTRIBUTION MAINS



*AREA IN WHICH DISTRIBUTION MAINS HAVE BEEN LAID TO THE END OF MONTH DEC 1938
SHOWN CROSS HATCHED*



Southern Division :

Poui Trace, Princes Town District, the Delhi section of the Erin/Siparia District and Biche. Monthly re-surveys were made of the controlled and semi-controlled areas.

Table III shows the location and numbers of *Desmodus* bats destroyed during the various months of the year. There were no cases of human rabies and only two of animal rabies.

			1937.	1938.
Number of <i>Desmodus</i> bats caught	...	...	2,415	1,957
Number examined by Bacteriologist	...	...	2,247	1,693
Number found infected	...	...	143	101
Percentage infected	...	...	6.3%	5.9%
Number of cases of human rabies...	...	...	15	0
Number of cases of animal rabies ...	...	...	57	2
Number of new roosting places found	...	...	51	26

Infected bats were found at Tabaquite, Tortuga, Mayaro, Cedros, Malgretoute, Moruga, Pointe-à-Pierre, La Brea, Siparia, San Francique, Fyzabad, New Grant, Guaracara and Point Fortin.

The steady reduction in the numbers of *Desmodus* captured (3,623 in 1936, 2,415 in 1937, 1,957 in 1938) may be regarded as reflecting a definite decrease in the population of these bats in the Colony. On the other hand, the percentage of infected bats remains high. It has been shown that an infected *Desmodus* may live for a prolonged period without showing evidence of the disease other than its ability to pass on the infection. It has, however, also been proved that in some cases early death follows infection. The extent, therefore, to which the disease itself is assisting in reducing the bat population remains a matter for speculation.

The incidence of the disease in man and in animals during the past five years is of interest:

Year.	No. of cases of Human Rabies notified.	No. of cases of Animal Rabies notified.
1934	7	312
1935	21	331
1936	4	217
1937	15	57
1938	0	2

II.—GENERAL MEASURES OF SANITATION.

A.—Water Supplies :

Central Supply.—A map is attached showing the central water supply at the end of the year.

The following new areas were supplied:—

- (1) Lopinot Road, Arouca.
- (2) Curepe Village.
- (3) Ramoutar Village, Sangre Grande.
- (4) Todd's Road.
- (5) Part of Chaguanas Village.
- (6) Caroni Savannah Road.
- (7) Villages along Southern Main Road from Carapichaima to South Naparima.
- (8) Villages at Waterloo, Freeport, Mission, Arena, Couva, Milton, Dow, Phoenix Park in the Couva district.
- (9) Villages along the Cedar Hill Road.
- (10) Hermitage and Bonne Aventure Roads in the North Naparima district.
- (11) Villages along the Guaracara-Tabaquite, St. Joseph and Tarouba Roads in the North Naparima district.
- (12) Villages along the Naparima-Mayaro, Corinth and Cipero Roads in Ste. Madeleine area.
- (13) Villages along the San Fernando-Siparia-Erin Road and Peñal-Rock Road in the Erin/Siparia district.
- (14) Villages along the Caparo Valley and Mamoral Road in the Gran Couva district.

Port-of-Spain.—Building development in the vicinity of one of the principal water supplies of the City of Port-of-Spain gave rise to concern regarding the safety of the supply. As a result Government appointed a Committee whose terms of reference were to investigate and report on the entire water supply of the City of Port-of-Spain.

Sangre Grande Water Supply.—Complaints were made of the continued unsatisfactory state of the water supply of Sangre Grande. This has now been remedied by connecting the central supply to the Sangre Grande distribution system.

Princes Town.—Parts of Princes Town and Guaracara have now a pipe-borne water supply from the Morichal and Atagual springs and also a supply from the Central Water Scheme. During the year faecal contamination was proved to be due to an adjoining cesspit which was subsequently removed.

Fyzabad.—Fyzabad and adjacent villages and Oropouche have a pipe-borne supply from the Fyzabad Waterworks.

Other Sources.—All oilfields have their local pipe-borne supplies and in many cases stored rain water. Government cisterns are provided for Carapichaima, Couva, Mayo, Moruga, Rio Claro and Erin. Other areas depend on dams or pools of water which is definitely unsafe. Water schemes dealing with these areas are being considered by the Central Water Board.

Survey of new supplies :

- (1) A spring was located in Biche for the supply of neighbouring villages.
- (2) Test holes were made in Guayaguayare by the Water and Sanitary Engineer with a view to providing a supply for the village. One test hole was successful and provided potable water. The other was brackish.
- (3) Ravine Roseau in Mayaro was investigated as a possible supply for Mayaro. Granville springs were inspected with a view to their supplying **Cedros**.

B.—Sewage Disposal :

Urban, Port-of-Spain.—Water-borne sewage disposal exists in a large part of Port-of-Spain. This was extended during the year to the Woodbrook area of Port-of-Spain.

The pail system is disappearing and septic tanks continue to increase in number with the extension of the Central Water Scheme. They exist in

- (a) Staff bungalows on many sugar estates.
- (b) All oilfield staff bungalows.
- (c) Many Government offices and quarters.
- (d) Factory workshop at Waterloo, Pointe-à-Pierre, Guayaguayare (Kern Trinidad Oilfields) and Point Fortin.
- (e) Workers cottages at Forest Reserve ;
Apex ;
Cruze Oilfields (Guapo) ;
Palo Seco ;
Usine Ste. Madeleine.
Workers barracks at Pointe-à-Pierre ;
Usine Ste. Madeleine.
- (f) Many private residences.

In a few places water-borne sewage is discharged into the sea, *i.e.* La Brea (Trinidad Lake Asphalt Company) ; Vessigny (Antilles Oil Company) ; Sobo (Standard Oil Company).

The bathing places in these districts have been polluted and any increase in this method of disposal is to be deprecated.

San Fernando.—In the Town of San Fernando, the method of disposal is by conservancy. The faecal matter from cesspits is collected in drums and disposed of finally into a "faecal pit" which is prevented from becoming a nuisance by the use of saw dust and crude oil.

A "model privy" on exhibition at the Town Hall has proved to be of great educational value to the inhabitants, who very early recognised its advantages both with regard to the prevention of fly breeding and general cleansing.

There is a "cleansing station" near the faecal dump for the cleansing of the drums. Shower baths are also provided for the use of the cesspit cleaners.

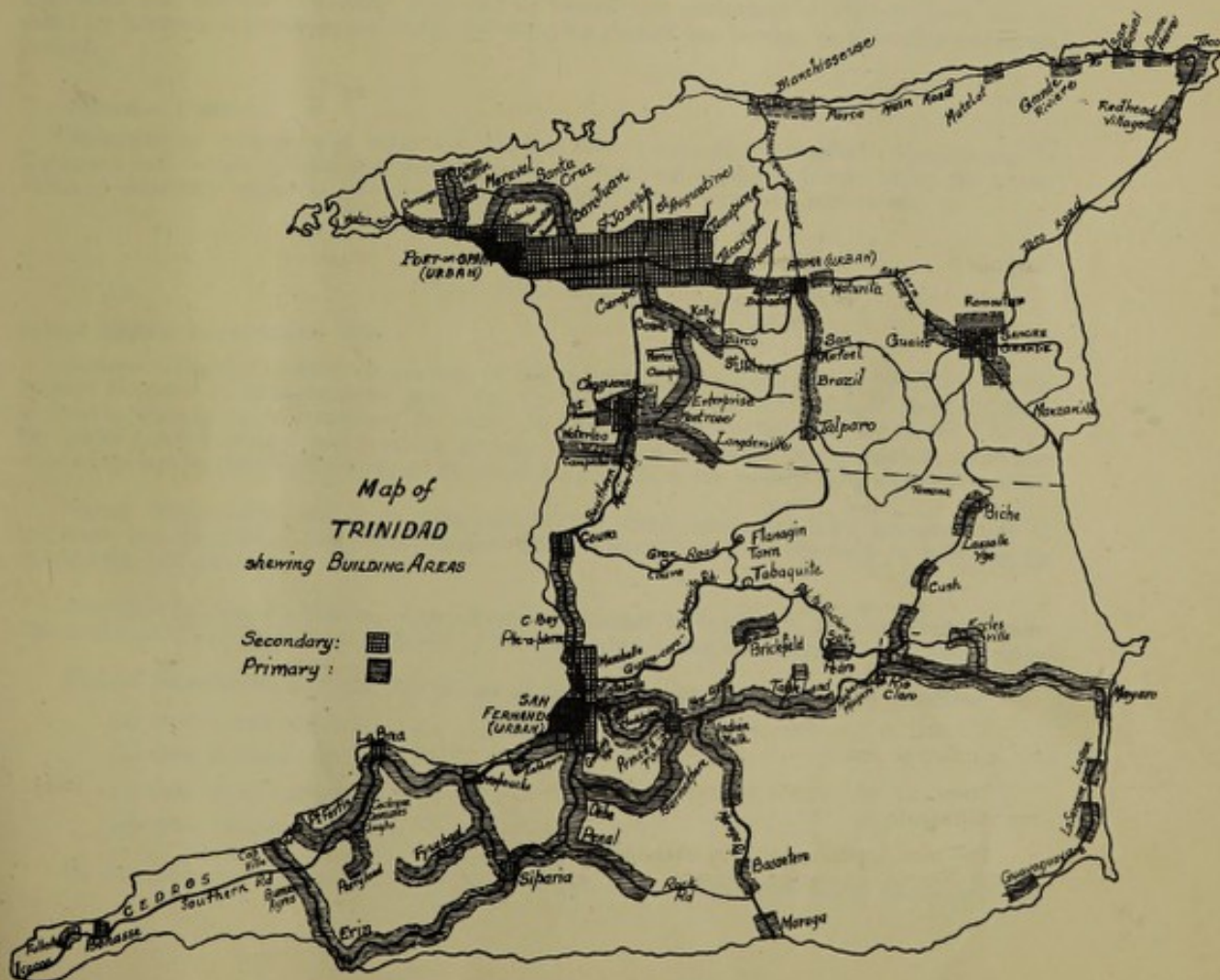
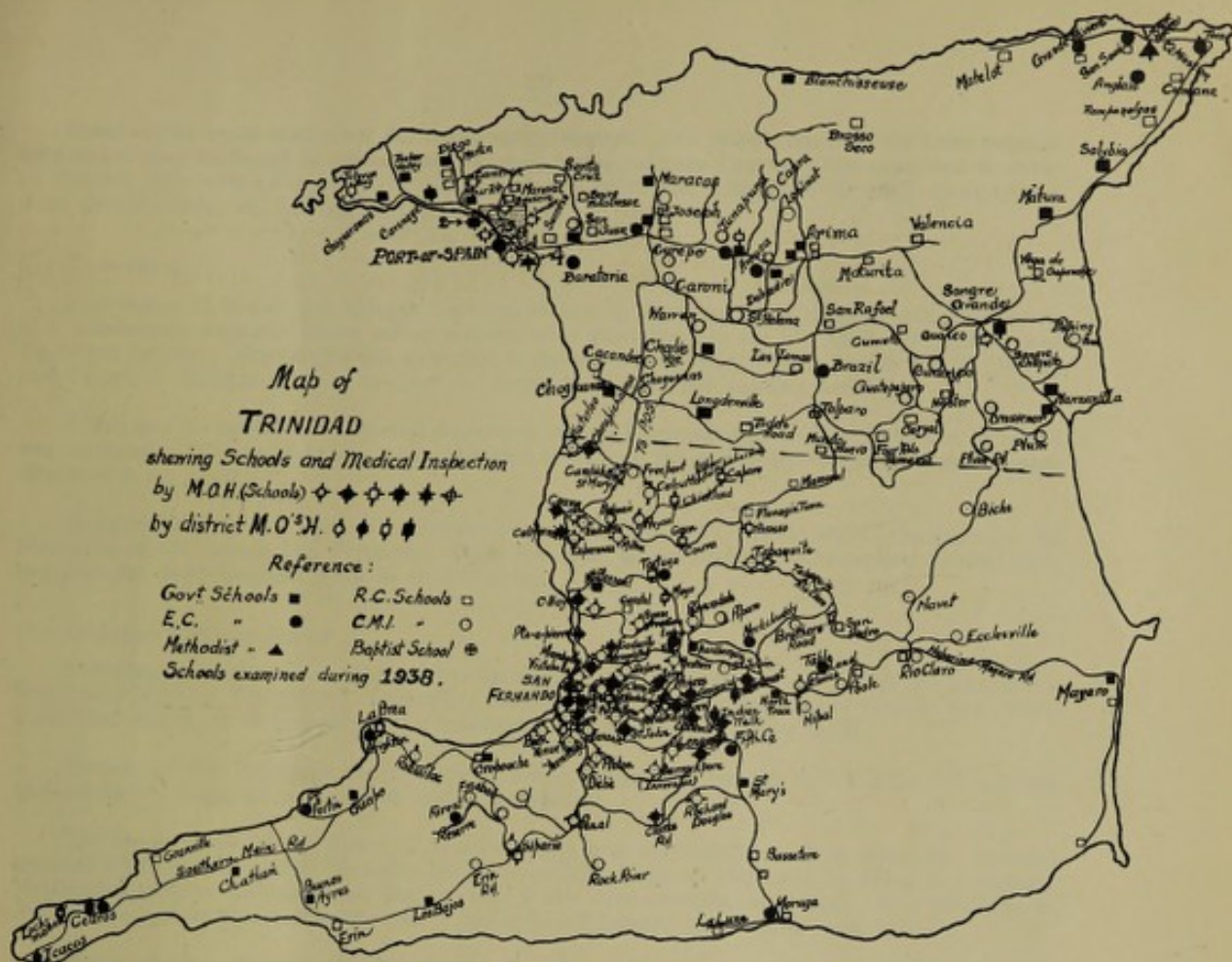
A "Merryweather" cesspool emptier is now on order so that in the new year, a more sanitary method for the cleansing of cesspits will be in operation.

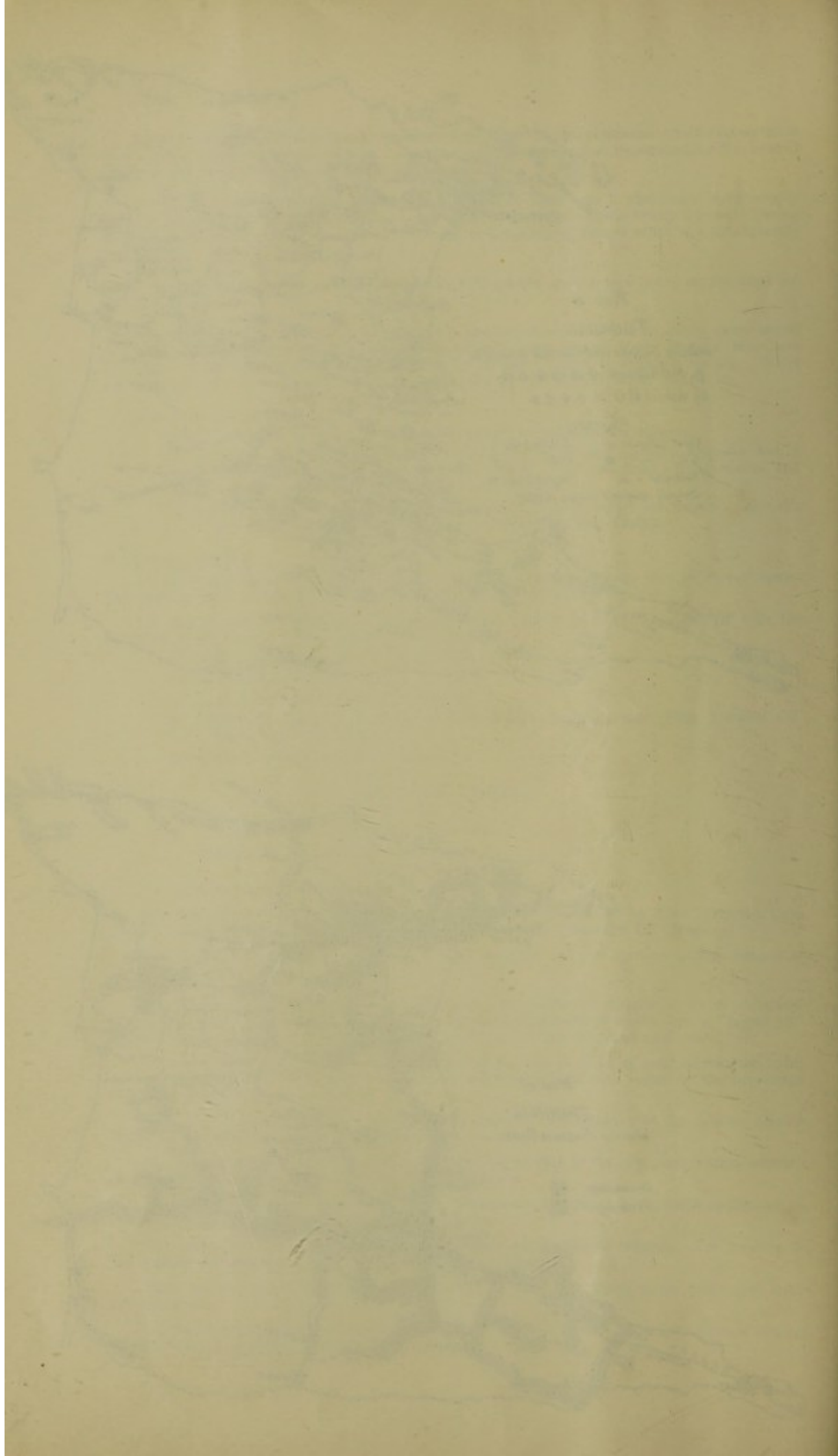
There are several septic tanks in the town. Prospective builders have to make application to the local health authority for permission to erect these.

The soil in San Fernando is not suitable for land purification of effluents. The increase in the number of septic tanks is bound to increase soil pollution.

There are two public sanitary conveniences in the Borough. There is no doubt that these are inadequate.

The most pressing sanitary measure for the Town is the need for a comprehensive scheme for the disposal of sewage by water-borne methods.





Rural.—The usual method is the conservancy system. The privy cesspit is the most popular type and it may be found in various modifications throughout the Colony. The campaign to equip all districts fully with adequate privy accommodation continued throughout the year, except for a short period during the housing survey.

C.—Scavenging :

Scavenging of towns and villages was undertaken by local health authorities and contractors in a satisfactory manner. Motor refuse wagons were introduced in the St. Ann's, St. Joseph and Tacarigua districts. The service was extended in the suburbs of Port-of-Spain and in the St. Joseph and Tacarigua districts in order to meet the demands of increased building activity.

There was an increase in the area scavenged at San Fernando and a daily collection of refuse was arranged. 752 new dust bins were provided to replace the old system of using empty cement drums with no cover.

In rural districts new areas were declared under the Bye-laws. These were principally in the Naparima district round San Fernando, where the vote for scavenging was increased to deal with demands for more frequent work in several areas.

D.—Disposal of House Refuse :

Dumping grounds were satisfactorily maintained by local health authorities at Laventille, San Juan, Maraval, Chaguanas, Tacarigua, Dabadie, Arima, Maturita, Sangre Grande and Toco. Controlled tipping is in general use for reclaiming low-lying and swampy lands.

Portions of the Tunapuna and St. Joseph house refuse were treated by the activated compost method at St. Augustine and proved useful as manure.

The house refuse of the Town of San Fernando was successfully used in filling the malarial swamps west of the hospital. Valuable land was reclaimed also at Vistabella by filling in a swamp. Mechanical graders and controlled tipping with a saw dust covering were used. It is proposed to deal with other anopheles breeding places round San Fernando in a similar manner.

House refuse is disposed of in the oilfields by gas incinerators.

In rural areas controlled tipping was used to reclaim low-lying ground. Anti-malarial work of this nature was useful at Cedros, Flanagin Town, La Brea, Point Fortin, Peñal, Naparima, Guaracara and Moruga. Excellent work of this nature was performed at Princes Town where, aided by mechanical levelling and filling, the dumping ground has become an attractive recreation ground.

E.—Offensive Trades :

Slaughtering, tanning, and night soil disposal were adequately controlled. Slaughtering at Tunapuna and Sangre Grande was done at public Government slaughter houses under the supervision of veterinary surgeons. Privately owned slaughter houses were well maintained.

III.—SCHOOL HYGIENE.

School Medical Examination, 1938 :

General.—Regular sanitary inspection of the schools of the Colony was provided by the Medical Department throughout the year. Dr. Lai Fook carried out the duties of Medical Officer of Health, Schools, up to November 29, 1938. Dr. Arnim Stewart acted from December 1 to 16. Dr. Stella Abidh worked in the Southern Division throughout the year. School medical inspection was carried out by the District Medical Officers of the districts as far as their other duties permitted.

Nurses' Visits.—The number of visits paid by the school nurses has been increased both in the north and the south. The School Medical Officers report increased efficiency in following up of children with defects.

Free Milk for School Children.—This scheme was started on October 1, 1938, in Port-of-Spain. 720 bottles of $\frac{1}{2}$ pint each were supplied. After November 1 this was increased to 1,500 bottles.

Medical Examinations.—Only four groups of children in each school are now examined.

- (a) Over 5 and under 7.
- (b) Over 8 and under 9.
- (c) Over 12 and under 13.
- (d) Over 13 and under 14.

By this method all school children will be examined at least three times during their school life.

TABLE I.

Schools examined giving number of children with defects.

School.	NUMBER EXAMINED			NUMBER WITH DEFECTS.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.
NORTHERN DIVISION.						
A. Urban.—Port-of-Spain.						
St. Teresa Intermediate ...	14	62	76	9	32	41
Belmont Girls' R.C. ...	...	116	116	...	103	103
Belmont Boys' R.C. ...	135	...	135	110	...	110
Belmont Wesleyan ...	33	42	75	21	27	48
Providence Intermediate ...	1	48	49	1	34	35
Belmont E.C. ...	82	106	188	60	83	143
Belmont Boys' Intermediate ...	100	...	100	72	...	72
Escallier Land E.C. ...	31	25	56	18	16	34
Gloster Lodge Moravian ...	39	39	78	25	26	51
Quarry Street E.C. ...	10	61	71	8	29	37
St. Roses Intermediate ...	4	146	150	1	87	88
Park Street Boys' R.C. ...	163	...	163	104	...	104
Calvary Hill R.C. ...	46	49	95	35	26	61
Rose Hill R.C. ...	50	62	112	38	38	76
Piccadilly E.C. ...	71	73	144	45	35	80
Bethlehem R.C. ...	77	65	142	54	46	100
Woodbrook E.C. ...	50	50	100	46	42	88
Mucurapo E.C. ...	89	113	202	80	81	161
Gaines Normal ...	23	46	69	23	43	66
Boissierre Village R.C. ...	51	38	89	49	33	82
St. Ann's R.C. ...	39	37	76	39	31	70
Laventille R.C. ...	38	32	70	36	32	68
Duke Street E.C. ...	18	121	139	12	100	112
Richmond Street E.C. ...	178	...	178	131	...	131
Western Boys' R.C. ...	73	...	73	60	...	60
Sacred Heart R.C. ...	9	158	167	7	126	133
Moulton Hall Methodist ...	66	76	142	40	51	91
St. Vincent Street E.C. ...	3	151	154	...	90	90
Tranquillity Boys' Intermediate ...	124	...	124	95	...	95
Tranquillity Girls' Intermediate ...	8	125	133	6	65	71
Mucurapo Girls' R.C. ...	...	96	96	...	73	73
Mucurapo Boys' R.C. ...	108	...	108	75	...	75
Cameron R.C. ...	73	56	129	38	31	69
Woodbrook C.M. ...	84	41	125	58	22	80
Total Port-of-Spain ...	1,890	2,034	3,924	1,396	1,402	2,798
B. Northern Rural—St. Joseph-Tacarigua.						
Tunapuna Boys' R.C. ...	76	...	76	31	...	31
Toco ...	158	136	294	148	120	268
Diego Martin ...	82	104	186	57	79	136
Total Northern Rural ...	316	240	556	236	199	435
C.—SOUTHERN DIVISION.						
Urban.—San Fernando.						
Girls' R.C. ...	27	199	226	25	181	206
Boys' R.C. ...	138	...	138	121	...	121
Broadway E.C. ...	43	57	100	41	48	89
Coffee Street E.C. ...	93	94	187	77	77	154
Vistabella C.M. ...	43	51	94	45	40	85
San Fernando C.M. ...	59	47	106	55	43	98
Wesleyan Methodist ...	47	75	122	37	54	91
Total ...	450	523	973	401	443	844

TABLE I.—Continued.

Schools examined giving number of children with defects.—Contd.

School.	NUMBER EXAMINED.			NUMBER WITH DEFECTS.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.
D.—SOUTHERN DIVISION.						
<i>Rural.</i>						
Corinth C.M. ...	32	14	46	32	14	46
Exchange C.M. ...	34	12	46	33	9	42
Bonne Aventure C.M. ...	35	25	60	35	25	60
Lengua C.M. ...	30	29	59	30	28	58
Canaan C.M. ...	25	17	42	25	16	41
Picton C.M. ...	47	28	75	46	27	73
Jordan Hill C.M. ...	42	31	73	42	31	73
Debe C.M. ...	33	14	47	32	14	46
Brothers C.M. ...	29	8	37	28	8	36
Princes Town C.M. ...	50	32	82	50	32	82
Bien Venue C.M. ...	28	6	34	27	6	33
Esperanza C.M. ...	51	19	70	51	18	69
Hermitage C.M. ...	19	10	29	19	10	29
Inverness C.M. ...	57	23	80	55	18	73
Harmony Hall C.M. ...	43	18	61	43	18	61
Reform C.M. ...	32	14	46	32	14	46
Ste. Madeleine C.M. ...	27	10	37	25	10	35
Waterloo C.M. ...	67	23	90	65	23	88
Molton C.M. ...	95	53	148	92	48	140
Tabaquite C.M. ...	58	19	77	57	19	76
Rochard Douglas C.M. ...	20	6	26	20	6	26
Penal C.M. ...	328	183	511	305	139	444
Ste. Madeleine R.C. ...	22	20	42	22	20	42
Exchange R.C. ...	18	13	31	16	13	29
Princes Town R.C. ...	23	23	46	22	19	41
Cipero R.C. ...	40	31	71	39	28	67
Carapichaima R.C. ...	37	21	58	36	20	56
Brasso R.C. ...	35	20	55	35	20	55
Tabaquite R.C. ...	18	11	29	18	5	23
St. Clements E.C. ...	22	21	43	21	21	42
Couva E.C. ...	65	48	113	61	43	104
Claxton's Bay E.C. ...	25	13	38	20	10	30
Princes Town E.C. ...	30	31	61	28	28	56
Craignish E.C. ...	24	19	43	22	18	40
New Grant E.C. ...	15	19	34	13	19	32
Lengua E.C. ...	23	16	39	20	14	34
5th Company E.C. ...	24	15	39	24	14	38
Caledonia E.C. ...	15	19	34	15	17	32
St. John E.C. ...	36	34	70	36	30	66
Marabella E.C. ...	15	23	38	13	19	32
Carapichaima E.C. ...	60	41	101	57	40	97
5th Company Baptist ...	17	21	38	15	18	33
Princes Town Methodist ...	15	22	37	14	22	36
Gasparillo Government ...	18	11	29	15	11	26
Pointe-a-Pierre Government ...	39	32	71	37	29	66
California Government ...	55	29	84	54	26	80
Iere Government ...	25	23	48	24	22	46
Clarke-Rochard Government ...	68	36	104	66	36	102
48 Schools ...	1,966	1,206	3,172	1,887	1,095	2,982

$$48 + 44 = 92 \text{ (see p 13)}$$

$$\begin{array}{rcl} N. & 34+3 & = 37 \\ S. & 48+7 & = 55 \\ & & \hline & & 92 \end{array}$$

TABLE II.
Defects.

DISEASE.	NORTHERN DIVISION			B. Rural St. Joseph, Tacarigua, Toco, Diego-Martin.			SOUTHERN DIVISION			D. Rural.		
	A. Urban.—Port-of-Spain						C. Urban—San Fernando.					
	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.
Total number of children examined	1,890	2,034	3,924	316	240	556	450	523	973	1,066	1,206	3,172
No. of defects found in children examined	1,396	1,402	2,798	452	372	824	401	443	844	1,887	1,095	2,982
Number with enlarged spleen	1	1	2	34	31	65	46	39	85	746	334	1,080
Anaemia	4	2	6	35	28	63	59	67	126	1,396	745	2,141
Enlarged glands	260	285	545	...	...	...	67	29	96	547	246	793
Hookworm (Clinical examination only)	8	8	16	Not examined microscopically.			Not examined microscopically.			Not examined microscopically.		
Other Parasites	1	1	2	54	42	96	36	12	48	1,129	574	1,703
Pediculi Capitis	39	136	175	4	2	6	40	25	65	26	17	43
Undernourishment	228	220	448	24	5	29	98	111	209	708	441	1,149
Carious Teeth	806	753	1,559	138	8	146	111	97	208	929	480	1,409
Other dental conditions	7	13	20	...	108	246	286	324	604	1,091	649	1,740
Tonsils and Adenoids	182	243	425	77	...	...	1	7	8	10	9	19
Yaws	6	3	9	11	77	154	78	106	184	536	320	856
Other skin diseases	155	90	245	57	3	60	...	1	1	158	43	201
Follicular conjunctivitis	38	32	70	12	36	93	60	36	96	545	217	762
Xerosis*	501	360	861	...	1	13	7	15	22	106	61	167
Other Eye Diseases	10	9	19	3	...	...	5	3	8	290	76	366
Errors of refraction	15	22	37	...	4	4	3	15	18	19	10	29
Ear diseases	15	10	25	9	...	...	8	37	45	53	16	69
Tuberculosis—Lung	...	...	...	...	9	18	3	1	4	13	7	20
Tuberculosis—Others	1	1	2	...	...	...	3	...	3	9	1	10
Respiratory diseases	70	64	134	2	...	...	...	...	...	...	...	...
Diseases of Heart and Circulation	8	11	19	2	...	2	31	39	70	321	135	456
Congenital Syphilis	7	10	17	...	...	...	21	21	42	71	42	113
Hernia	7	3	10	...	...	...	...	...	...	3	...	3
Other defects	23	21	44	4	1	5	18	19	37	26	16	42
										75	23	98

* The figures given are those sent in by the School Medical Officer but this matter is still under investigation (Port-of-Spain Urban).
Total children examined 962 (San Fernando Urban).

	Port-of-Spain.	NORTHERN	San Fernando.	SOUTHERN
		Rural.		Rural.
Percentage of defects in the children examined	71.3%	67.4%	84.7%	94.0%

It should be noted that the figures for poorly nourished children cannot be considered accurate since hookworm has not been excluded. It is probable that many of these children were suffering from hookworm.

The following figures are available for the Southern Division:—

PERCENTAGE OF INDIVIDUAL DEFECTS.

Defect.	Urban (San Fernando). Per cent.	Rural, Southern. Per cent.
Enlarged Spleen	8.74	34.05
Anaemia	12.90	67.49
Intestinal Diseases ... ..	.62	—
Hookworm	4.93	53.68
Other Parasites	6.68	1.35
Ped Capitis	21.48	36.22
Undernourished	21.38	44.42
Carious Teeth	62.08	54.85
Other Teeth Defects ... ..	.82	.59
Tonsils and Adenoids	18.91	26.99
Enlarged Glands	9.87	25.00
Yaws ... ..	.10	6.34
Impetigo ... ..	.10	.13
Ringworm ... ..	.41	.16
Other Skin Diseases	9.87	24.02
Follicular Conjunctivitis	2.26	5.26
Xerosis ... ..	.82	11.54
Other Eye Diseases	1.85	.91
Errors of Refraction	4.62	2.18
Ear Diseases ... ..	.41	.63
Pulmonary Tuberculosis ... ..	.30	.32
Respiratory Diseases	7.19	14.38
Heart and Circulation	4.32	3.56
Congenital Syphilis	—	.09
Hernia ... ..	.41	1.32
Other Deformities	3.80	3.09
	(973 children examined).	3,172 children examined).

IV.—LABOUR CONDITIONS.

The rainfall of the year was unusually heavy and caused a failure of the cocoa, citrus and rice crops with attendant unemployment.

There were strikes on the oilfields at Apex, Guayaguayare, La Brea and Brighton and on the sugar estates at Waterloo and Usine Ste. Madeleine. At no time, however, were the essential public health services seriously dislocated.

Early in the year legislation was introduced to control building of quarters for men in temporary exploration areas in the oilfields.

The majority of the oilfields now have industrial medical officers. A medical officer has been appointed to Ste. Madeleine and another to Caroni. Part time medical officers are employed on others. No provision for hospitalisation of labourers on oilfields or estates exists. The necessity for establishing canteens on estates and oilfields is slowly being recognised.

Question of industrial hygiene in connection with factories has been undertaken in the routine work of the Health Department. One firm has equipped its workshop with exhaust ventilation for the removal of noxious fumes and has also shown an interest in the recommendations submitted to them for the welfare of its workers.

The Chief Sanitary Inspector, Northern Division, has supplied the following list of factories in operation in the north of the Colony:

NORTHERN DIVISION.

Factories in Operation.

District.	Locality.	Number.	Activity.
CHAGUANAS	Waterloo	1	Sugar manufacture.
	Caroni	1	do. do.
	Orange Grove	1	do. do.
	Woodford Lodge	1	do. do.
	Longdenville	1	Brick and Clay Products.
ST. JOSEPH	St. Joseph	1	Paper pulp manufacture.
	St. Augustine	1	Sugar manufacture (experimental).
	Success Village	1	Coconut products.
	do.	1	Manufacture of lime and oil.
	do.	1	Manufacture of grape juice.
	Laventille	1	Chocolate manufacture.
	Santa Cruz	2	do. do.
	Laventille	3	Quarrying and stone crushing.
	Barataria	1	Manufacture of coal pot.
	Aranguez, San Juan	1	Concrete products.
	do. do.	1	Industrial gas manufacture.
TACARIGUA	Five Rivers	1	Chocolate manufacture.
DIEGO MARTIN	Carenage	1	Manufacture of lime oil.
	do.	1	Manufacture of fibre.
ST. ANN'S	St. Ann's	1	Aerated water factory.
SANGRE GRANDE	Sangre Grande	1	Coconut oil products.
	do.	1	Manufacture of coffee.
VARIOUS DISTRICTS		23	Aerated water factories.

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V.—HOUSING AND TOWN PLANNING. — (See lower Graph, page 29.)

A map is attached showing the great increase in building activities in the Southern Division during the year. The following table shows the figures for the south of the island for the last three years:

Year.	Number of Applications Received and Examined.	Number of Buildings Erected.	Number of Buildings Repaired.
1936	763	244	109
1937	1,193	488	253
1938	1,514	1,086	388

The total number of building applications received in the Colony was 2,007. The total number of buildings erected was 1,436. Owners of some uneconomic cocoa estates took advantage of the demand for building sites and converted their lands into building areas. Owing to the need for housing industrial workers a considerable number of new lay outs was approved.

Sugar Estates.—Many sugar estates have demolished the worst of the long range barracks and have replaced them by the regulation double cottage housing two families. In this connection the Usine Ste. Madeleine group of estates have been pioneers. A definite scheme for housing has been in operation here for many years. It was decided to reserve yearly allocations for the purpose of replacing demolished barracks by cottages for two families. The Ste. Madeleine type of housing has served as a model for other firms.

Housing schemes have been inaugurated at the following estates:—

1. Usine Ste. Madeleine (La Fortune, Hermitage and Cedar Hill).
2. Waterloo Estates (Brechin Castle and Caroni).
3. Esperanza.
4. Forbes Park.
5. Craignish.
6. Woodford Lodge.

The attached photographs show housing progress at Brechin Castle Estate.

HOUSING DEVELOPMENT.

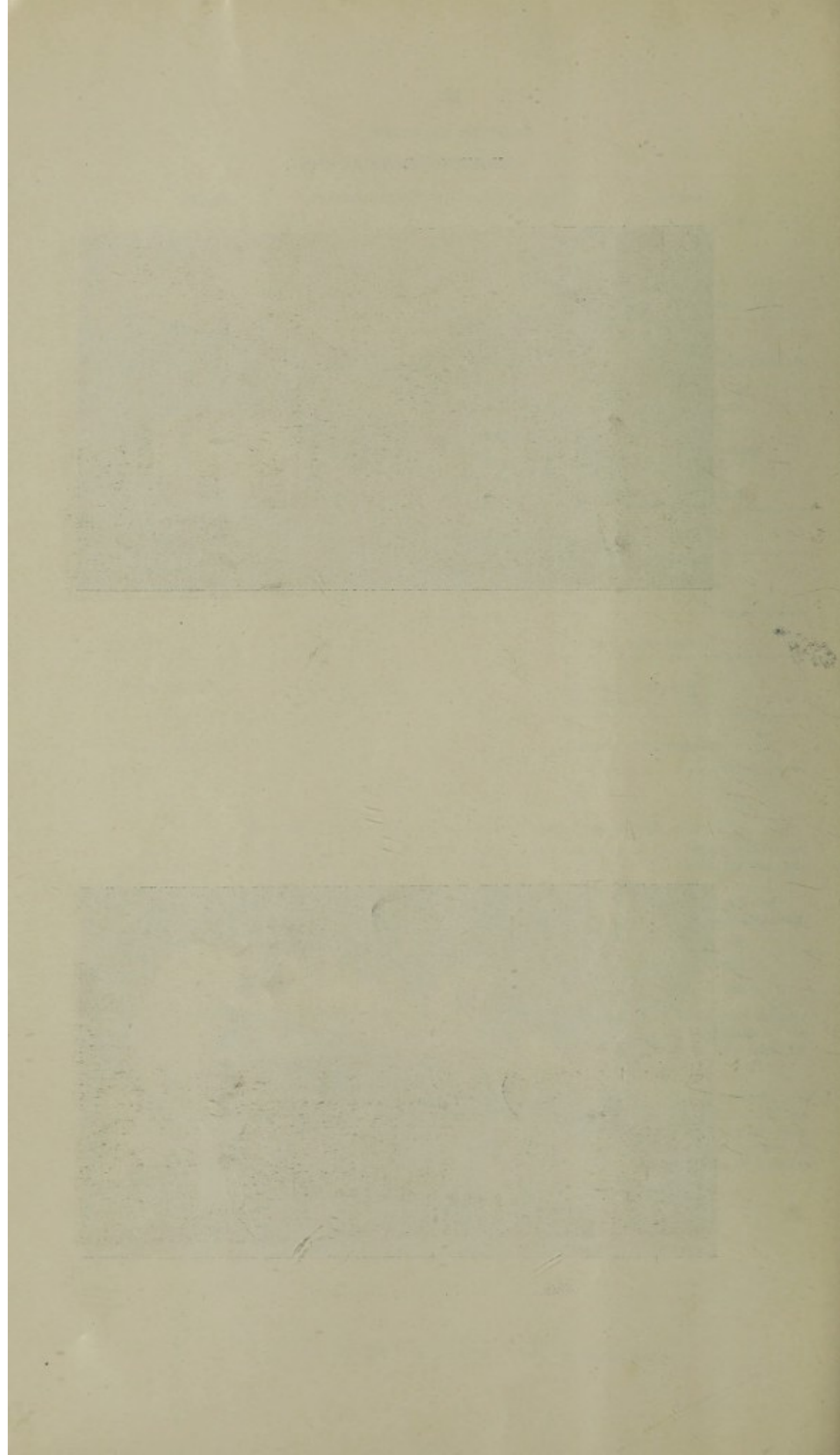
BRECHIN CASTLE ESTATE.



Long Range Barracks.



In Process of Demolition.



HOUSING DEVELOPMENT.

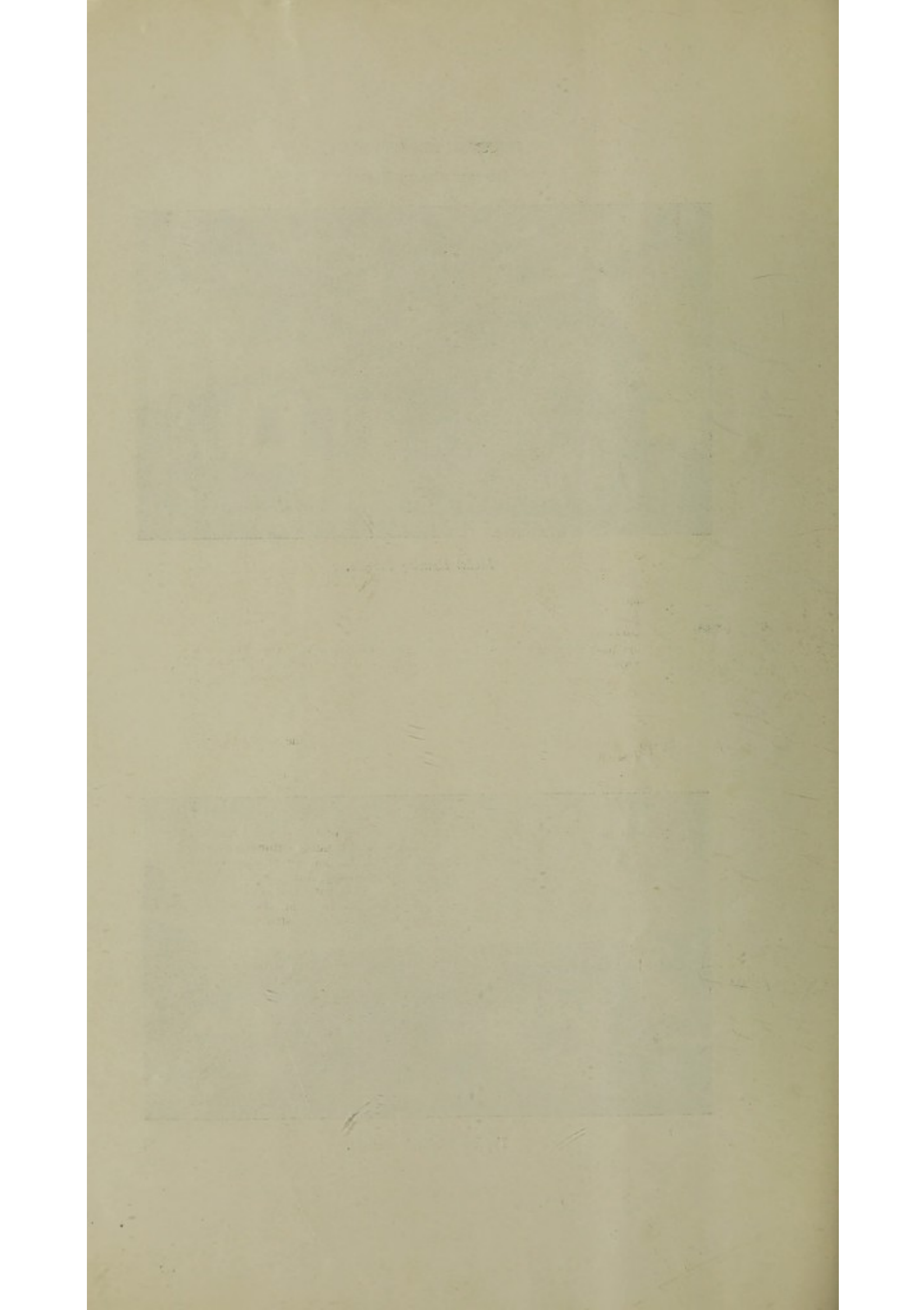
BRECHIN CASTLE ESTATE.



Model Housing Scheme.



Typical Worker's Cottage.



Cocoa Estates.—Housing conditions on cocoa estates have progressed very little owing to the depressed condition of the industry.

Oilfields.—The housing conditions on oilfields have improved considerably.

TRINIDAD LEASEHOLDS:

Pointe-à-Pierre.—Most of the workers here live in San Fernando where the congestion has considerably increased. Some live in the near villages of Marabella, Vistabella and Ne Plus Ultra. Only a small number of the workers are accommodated in the Leaseholds compound. The small original village of Pointe-à-Pierre is slowly disappearing.

Forest Reserve.—Many workers cottages have been erected here though there are still some long range barracks. An insanitary village still exists but this is gradually disappearing.

Barrackpore.—Long range barracks still exist.

Guayaguayare.—The company has undertaken here an extensive housing scheme for workers on a plan approved by the Health Department.

UNITED BRITISH OILFIELDS:

Point Fortin.—There has been good improvement in housing. The company has laid out a model village. The local health authority is considering a scheme for dealing with the insanitary village of Point Fortin.

APEX OILFIELDS:

Fyzabad.—The company houses some of its workers in barracks and some in model cottages. Many workers live in the insanitary village of Fyzabad.

TRINIDAD PETROLEUM DEVELOPMENT CO.:

Palo Seco.—There is little accommodation for workers on the field itself. Some model cottages have been erected but chiefly for the better paid workers. The other labourers are housed in the neighbouring insanitary villages of Palo Seco and Los Charos.

KERN TRINIDAD OILFIELDS:

Guapo.—Some provision has been made for housing workers but many of those who cannot find accommodation in company houses live in Cochrane Village which is sanitary and well laid out, and in Boodoosingh Village which is old and insanitary. The company's housing comprises long range barracks and more recent labourers' cottages.

ANTILLES OILFIELDS:

Sobo.—This company began operating comparatively recently. Most of the workers live in the villages of Sobo and Vessigny.

TRINIDAD CENTRAL OILFIELDS:

Tabaquite.—At present a few barracks and houses for labourers are provided.

As has been pointed out in previous reports demolition and closing of houses have the effect of increasing overcrowding in adjacent villages. The Housing and Planning Ordinances which were in preparation at the end of the year were devised to consider the housing problems of the country as a whole. Wide powers are given to the Housing Commission which will administer them. Under these Ordinances a model village had been planned at Morvant near Port-of-Spain. This village is intended to house the persons removed from slums in Port-of-Spain. By the end of the year the model village had been sited and roads and drains were under construction.

Housing Survey.—During the latter part of the year a complete housing survey of the Colony was inaugurated by the Health Department. The results of this were being summarised and co-ordinated as the year ended. The summary of all housing is attached to this report as Appendix

APPENDIX.

SURVEY OF HOUSING, 1938.

Northern Division.		General Summary.		Villages.		
Heads.		Particulars.	John John.	Caroni.	Chaguanas.	Total.
Number of Do.	...	Cottages ...	35	182	123	440
	...	Barracks ...	90	37	74	201
Size of Lot	...	Cottages—Full sized and	...	73	97	170
	...	Barracks—Not full sized	125	22	42	189
Rent	...	Cottages—From	\$2.16	...	\$1.68	
	...	To	\$2.40	\$8.00	\$30.00	
	...	Barracks—From	\$1.00	.60	.50	
	...	To	\$2.00	\$2.00	\$3.00	
Rooms	...	Cottages ...	79	505	472	1,056
	...	Barracks ...	295	120	306	721
Families	...	Cottages ...	34	175	136	345
	...	Barracks ...	275	78	148	501
Adults	...	Cottages ...	94	452	343	889
	...	Barracks ...	455	123	425	1,003
Children	...	Cottages ...	63	268	201	532
	...	Barracks ...	146	34	136	306
Materials for Walls	...	Cottages—Wood ...	25	86	102	213
	...	Tapia ...	5	96	3	104
	...	Concrete ...	5	...	18	23
	...	Barracks—Wood ...	70	23	71	164
	...	Tapia ...	13	14	1	28
	...	Concrete ...	7	...	2	9
For Floors	...	Cottages—Wood ...	32	175	122	329
	...	Earth ...	3	7	...	10
	...	Concrete ...	...	...	1	1
	...	Barracks—Wood ...	87	36	74	197
	...	Earth ...	3	1	...	4
	...	Concrete ...	...	...	...	...
For Roofs	...	Cottages—Galv. Iron	35	182	125	340
	...	Tiles ...	...	...	...	...
	...	Thatch ...	...	...	...	...
	...	Barracks—Galv. Iron	90	37	74	201
	...	Tiles ...	...	...	...	...
	...	Thatch ...	...	...	...	...
State of repair	...	Cottages—Good ...	7	24	51	82
	...	Bad ...	28	158	72	258
	...	Barracks—Good ...	9	3	1	13
	...	Bad ...	81	34	73	188
Latrines—Type of	...	Cottages—Pail ...	...	...	...	...
	...	Cesspit ...	20	116	109	245
	...	W.C. ...	...	...	...	...
	...	Barracks—Pail ...	...	...	...	...
	...	Cesspit ...	75	28	74	177
	...	W.C. ...	...	...	...	...
Condition	...	Cottages—Good ...	6	38	77	121
	...	Bad ...	14	28	32	74
	...	None ...	15	50	...	65
	...	Barracks—Good ...	9	4	10	73
	...	Bad ...	16	13	64	93
	...	None ...	25	1	...	36

APPENDIX.

SURVEY OF HOUSING, 1938.—Continued.

Northern Division.

General Summary.

Villages.

Heads.	Particulars.	John John.	Caroni.	Chaguanas.	Total.
Water Supply ...	Cottages—Pipe Borne	35	182	123	340
	Rain Water	...	...	...	...
	Wells ...	...	...	...	...
	Barracks—Pipe Borne	0	3	74	201
	Rain Water	...	...	...	...
	Wells ...	...	...	...	...
Ventilations and Windows ...	Cottages—Adequate	10	11	53	74
	Inadequate	25	171	70	266
	Barracks—Adequate	22	1	7	30
	Inadequate	68	36	67	171
Drainage ...	Cottages—Natural	35	182	71	288
	Provided	...	...	52	52
	Barracks—Natural	90	37	39	166
	Provided	...	...	35	35
Rubbish Disposal ...	Cottages—Bins	...	...	117	117
	Burnt	...	...	6	6
	In Yard	35	182	...	217
	Barracks—Bins	...	...	71	71
	Burnt	...	...	3	3
	In Yard	90	37	...	127
Washing Facilities	Cottages—Provided	...	...	16	16
	None	35	182	107	324
	Barracks—Provided	...	...	...	...
	None	90	37	74	201
Vermin ...	Cottages—Prevalent	30	182	52	264
	None	5	...	71	76
	Barracks—Prevalent	90	37	58	185
	None	...	...	16	16
Flies ...	Cottages—Prevalent	35	182	123	340
	None	...	...	...	...
	Barracks—Prevalent	90	37	74	201
	None	...	...	...	...
Mosquitoes ...	Cottages—Prevalent	35	182	123	340
	None	...	...	...	...
	Barracks—Prevalent	90	37	74	201
	None	...	...	...	...
Gardens ...	Cottages—Available	1	...	2	3
	Cultivated	7	...	...	7
	None	27	182	121	330
	Barracks—Available	...	...	...	...
	Cultivated	3	...	...	3
	None	87	37	74	198

APPENDIX.

SURVEY OF HOUSING, 1938.

Northern Division.

General Summary.

Estates.

Heads.	Particulars.	Diego Martin.	St. Joseph.	Tacarigua.	Chaguana.	Arima.	Sangre Grande.	Toco.	Total.
Number of	Cottages Barracks	15 29	45 59	14 35	79 135	32 88	51 113	27 51	263 510
Size of Lots	Cottages—Full sized and Barracks—Not Full sized	36 3	104 ...	49 ...	214 ...	120 ...	164 ...	70 8	757 11
Rent	Cottages Barracks	Not Rented. do.	Not Rented. do.	Not Rented. do.	Not Rented. do.	Not Rented. do.	\$30 ...	Not Rented. do.	\$30 ...
Rooms...	Cottages Barracks	45 230	228 518	93 314	357 1,063	94 394	306 609	107 182	1,230 3,310
Families	Cottages Barracks	16 164	62 320	23 203	127 748	31 237	42 212	26 132	327 2,016
Adults	Cottages Barracks	39 237	124 626	50 304	221 1,470	91 378	102 611	52 193	679 3,819
Children	Cottages Barracks	29 66	62 342	17 136	78 484	44 132	21 225	24 52	275 1,437
Material for Walls	Cottages—Wood Tapia Concrete Barracks—Wood Tapia Concrete	11 ... 4 28 ... 1	38 2 5 53 4 2	58 2 4 25 10 ...	76 1 2 116 18 1	19 12 1 50 38 ...	43 6 2 86 27 ...	23 3 1 46 5 ...	268 26 19 404 102 4
Material for Floor	Cottages—Wood Earth Concrete Barracks—Wood Earth Concrete	15 29	45 57 2 ...	14 33 2 ...	79 135	32 24 4 ...	51 113	27 51	263 442 8 ...

APPENDIX.

SURVEY OF HOUSING, 1938—Continued.

Estates.

General Summary

Northern Division.

Heads	Particulars.	Diego Martin.	St. Joseph.	Tacarigua.	Chaguanas.	Arima.	Sangre Grande.	Toco.	Total.
Material for Roofs	Cottages—Galv. Iron ...	14	35	14	78	32	50	26	249
	Tiles ...	1	...	...	...	...	1	...	2
	Thatch ...	...	...	...	1	...	...	1	2
	Barracks—Galv. Iron ...	29	59	35	131	87	113	50	504
State of Repair ...	Tiles ...	...	...	...	...	...	...	...	...
	Thatch ...	...	...	...	4	1	...	1	6
	Cottages—Good ...	15	42	13	73	32	47	27	249
	Bad ...	...	3	1	6	...	4	...	14
Latrines—Type of	Barracks—Good ...	25	56	26	67	84	77	38	373
	Bad ...	4	3	9	58	4	36	13	127
	Cottages—Pail Cesspit ...	...	6	...	15	...	3	...	24
	W.C. ...	12	21	6	43	32	36	27	177
Condition	Barracks—Pail Cesspit ...	3	18	8	21	...	12	...	62
	W.C. ...	...	31	...	...	...	...	...	31
	Cottages—Good ...	29	28	35	134	88	113	51	478
	Bad ...	...	...	...	1	...	...	...	1
Water Supply	Cottages—Good ...	15	44	14	49	29	35	27	213
	Bad ...	...	1	...	30	3	16	...	50
	Barracks—Good ...	8	19	32	64	60	59	31	273
	Bad ...	21	32	3	70	28	51	20	225
Ventilation and Windows	None ...	...	...	...	1	...	3	...	4
	Cottages—Pipe Borne Rain Water ...	8	28	6	31	10	20	...	103
	Wells &c. ...	4	7	5	45	11	30	20	122
	Barracks—Pipe Borne Rain Water ...	24	26	9	86	10	46	7	38
Water Supply	Wells &c. ...	...	1	...	39	19	49	...	201
	Wells &c. ...	5	14	26	10	59	18	36	123
	Cottages—Adequate ...	15	44	12	47	18	42	23	201
	Inadequate ...	...	1	2	32	14	9	4	62
Ventilation and Windows	Barracks—Adequate ...	...	22	20	12	9	23	18	109
	Inadequate ...	24	37	15	123	79	90	33	401

APPENDIX.

SURVEY OF HOUSING, 1938.—Continued.

Estates.

General Summary.

Northern Division.

Head.	Particulars.	Diego Martin.	St. Joseph.	Tacarigua.	Chaguanas.	Arima.	Sangre Grande.	Toco.	Total.
Drainage	...	...	...	...	...	...	...	...	...
	Cottages—Natural	13	22 bad	14 bad	34 bad	32	31	20	166
	Barracks—Natural	2	23	...	22	...	20	7	74
	Provided	5	20 bad	17 bad	73 bad	88	68	43	314
	...	24	39	18	62	...	45	8	196
Rubbish Disposal	...	...	...	...	...	...	...	...	...
	Cottages—Bins	2	13	10	40	...	...	...	65
	Burnt	...	...	...	...	...	1	2	3
	In Yard	13	32	4	39	32	50	25	195
	Barracks—Bins	5	31	18	64	...	...	...	118
	Burnt	...	...	...	...	...	...	3	3
	In Yard	24	28	17	71	88	113	48	389
Washing Facilities	...	...	...	...	...	...	...	...	...
	Cottages—Provided	...	38	10	24	...	29	7	108
	None	15	7	4	55	32	22	20	155
	Barracks—Provided	...	2	1	3	...	6	...	12
	None	29	57	34	132	88	107	51	498
Vermis	...	...	...	...	...	...	...	...	...
	Cottages—Prevalent	2	...	3	15	24	5	2	51
	None	13	45	11	64	8	46	25	212
	Barracks—Prevalent	27	59	32	134	88	112	26	478
	None	2	...	3	1	...	1	25	32
Flies	...	...	...	...	...	...	...	...	...
	Cottages—Prevalent	12	45	14	79	32	51	3	236
	None	3	...	...	...	...	...	24	27
	Barracks—Prevalent	24	59	35	135	88	113	9	463
	None	5	...	...	...	...	...	42	47
Mosquitoes	...	...	...	...	...	...	...	...	...
	Cottages—Prevalent	12	45	14	79	32	51	9	242
	None	3	...	...	...	...	...	18	21
	Barracks—Prevalent	24	59	35	135	88	113	23	477
	None	5	...	...	...	...	...	28	33
Gardens	...	...	...	...	...	...	...	...	...
	Cottages—Available	8	...	4	19	15	24	18	88
	Cultivated	8	...	11	8	3	6	14	50
	None	7	45	...	52	17	27	13	161
	Barracks—Available	25	...	32	7	27	37	31	159
	Cultivated	25	31	15	4	25	20	20	140
	None	4	82	...	124	61	76	31	324

APPENDIX.

SURVEY OF HOUSING, 1938.

Southern Division.

General Summary.

Villages.

Heads.	Particulars.	Naparrima.	Ste. Madeleine.	Pointe-a-Pierre.	Guaracara.	Erin-Siparia.	La Brea.	Point Fortin.	Cedros.	Princes Town.	Otoire-Moruga.	Couva.	Gran Couva.	Nariva-Mayaro.	Total.
Number of Villages...	...	36	14	2	20	33	12	15	13	9	25	31	19	8	237
Number of Cottages	...	3,352	1,029	50	2,185	3,351	709	944	839	1,502	1,011	1,869	889	2,643	21,333
Number of Barracks	...	285	129	17	74	730	335	509	98	103	95	211	41	437	3,064
Size of Lot	...	3,271	902	64	2,206	3,302	637	1,117	784	1,592	1,862	1,774	909	2,929	21,529
	...	366	166	3	53	689	407	336	153	73	144	306	21	151	2,868
Rent	\$ 2.00	\$ 1.00	\$ 2.00	...	...	...	\$ 1.20	...	...	\$ 1.00	...	...
	\$ 5.00	\$ 1.50	\$ 6.50	...	...	...	\$ 2.40	...	...	\$ 7.20	...	...
	\$ 2.00	\$ 3.00	\$ 6.00	...	...	...	\$ 3.75	...	...	...	...	...
	\$ 8.00	\$ 15.00	\$ 25.00	...	...	...	\$ 12.00	...	...	...	...	...
Rooms	...	881	359	63	253	2,756	1,200	1,815	361	369	300	747	126	1,497	10,727
	...	7,727	2,064	125	3,840	7,411	1,279	2,203	1,975	3,754	4,807	3,767	1,735	5,419	46,166
Families	...	3,536	1,027	63	1,969	3,326	709	944	814	1,676	3,468	1,822	658	3,688	23,700
	...	723	313	53	179	2,265	976	1,492	210	291	224	538	242	905	8,411
Adults	...	8,316	2,538	153	4,389	7,801	1,635	2,336	2,180	3,901	4,396	4,605	1,598	5,289	49,137
	...	1,353	482	96	273	3,300	1,462	2,522	474	443	345	878	117	1,298	13,043
Children	...	5,490	1,644	107	3,433	5,466	814	1,356	1,359	2,640	3,332	2,834	1,373	3,405	33,223
	...	521	215	37	79	1,100	496	559	268	196	160	354	113	543	4,641
Materials for Walls...	...	2,339	840	42	1,441	1,746	530	593	486	1,426	1,697	728	578	2,467	14,903
	...	986	87	8	724	2,535	176	320	331	136	212	1,120	310	176	7,121
	...	37	2	...	20	37	3	31	22	...	2	21	1	...	176
	...	276	127	17	70	497	295	351	98	103	91	193	37	429	2,554
	...	3	2	...	4	261	40	143	...	...	4	17	3	8	485
	...	6	...	...	...	3	...	15	...	...	...	1	1	...	26
Materials for Floors	...	2,474	967	45	1,916	2,982	705	924	701	1,485	1,902	1,297	827	2,643	18,768
	...	872	63	5	268	358	3	20	138	77	9	572	62	...	2,447
	...	6	...	...	1	11	1	...	...	...	...	...	...	...	19
	...	284	128	17	74	729	335	509	98	103	95	211	41	437	3,061
	...	1	1	...	...	1	...	...	...	...	...	...	...	...	3

APPENDIX.

SURVEY OF HOUSING, 1938.—Continued

General Summary.

Southern Division.

Villages.

Heads.	Particulars.	Napa- rima.	Ste. Made- leine.	Pointe- a-Pierre.	Guara- cara.	Erin- Siparia.	La Brea.	Point Fortin.	Cedros	Princes Town.	Ortoire- Moruga.	Couva.	Gran Couva.	Nariva- Mayaro.	Total.
Materials for Roofs...	Cottages—Galv. Iron Tiles, &c. Thatch Barracks—Galv. Iron Thatch	2,486 ... 866 285	932 ... 97 128 1	43 ... 7 17 4	1,177 ... 1,008 70 204	1,897 ... 1,454 536 302 33	450 33 226 302 33	497 ... 447 282 227	572 ... 267 98	1,024 ... 538 99 4	814 1 1,096 72 23	1,283 ... 586 211 ...	590 ... 299 41 ...	1,259 ... 1,384 380 57	13,024 34 8,275 2,511 553
State of Repair	Cottages—Good ... Bad Barracks—Good ... Bad	1,370 1,982 97 188	797 322 81 48	48 2 12 5	1,581 604 65 9	1,904 1,447 339 301	549 160 253 82	798 146 401 108	656 183 55 43	703 859 23 80	1,355 556 77 18	891 978 119 92	559 330 15 26	1,107 1,536 208 229	12,228 9,105 1,745 1,319
Latrines Type	Cottages—Cesspit Privy Water Closet Barracks—Cesspit Privy Water Closet	2,216 40 266	1,000 2 129	49 1 17	1,743 ... 73	1,372 3 604	650 2 328	831 ... 493	824 ... 98	1,348 ... 103	1,410 2 88	1,212 5 211	843 ... 41	2,102 ... 407	15,600 55 2,948
Condition	Cottages—Good ... Bad None Barracks—Good ... Bad None	1,022 1,234 1,096 123 150 12	867 135 27 111 18 ...	34 16 ... 10 7 ...	1,518 225 442 66 7 1	1,206 1,169 956 323 371 36	549 103 57 258 70 7	679 152 113 381 112 16	786 38 2 84 14 ...	855 493 214 67 36 ...	1,090 320 499 60 28 7	5 316 452 164 47 ...	551 292 46 23 18 ...	805 1,297 541 196 211 30	9,967 5,790 4,445 1,866 1,089 109
Water Supply	Cottages—Pipe-borne Rain Water Wells, &c. Barracks—Pipe-borne Rain Water Wells, &c.	2,486 ... 866 274 11	1,029 129 ...	42 5 11 6 11 ...	1,360 825 ... 45 ... 29	261 1,535 1,569 90 421 208	... 281 428 ... 151 184	... 789 155 ... 454 55	... 839 98 ...	1,312 250 ... 103	143 395 1,373 12 18 65	1,646 ... 223 211	643 3 243 14 1 26	... 2,594 49 ... 258 179	8,922 7,516 4,917 884 1,412 757
Ventilation and Windows	Cottages—Adequate Inadequate Barracks—Adequate Inadequate	1,101 1,251 73 212	729 300 84 45	14 36 6 11	366 1,819 ... 74	2,060 1,187 330 400	512 197 266 69	648 296 215 294	270 569 11 87	227 1,335 10 93	902 1,009 29 66	769 1,100 97 114	65 824 17 24	1,841 802 210 227	9,504 10,725 1,348 1,716
Drainage	Cottages—Natural Concrete Barracks—Natural Concrete	3,188 164 255 30	1,027 2 128 1	47 3 15 2	2,184 1 74 ...	3,259 91 723 7	686 23 335 ...	867 21 437 ...	839 ... 98 ...	1,562 ... 103 ...	1,896 15 93 2	1,845 24 211 ...	889 ... 41 ...	2,643 ... 437 ...	20,932 344 2,950 42

APPENDIX.

SURVEY OF HOUSING, 1938.—Continued.

Southern Division.

General Summary.

Villages.

Heads.	Particulars.	Napari- rima.	Ste. Made- leine.	Pointe- a-Pierre.	Guara- cara.	Erin- Siparia.	La Brea.	Point Fortin.	Cedros.	Princes Town.	Ortoire- Moruga.	Conva.	Gran Couva.	Nariva- Mayaro.	Total.
Rubbish Disposal ...	Cottages—Bins ...	1,153	161	39	163	434	307	425	301	1,562	142	1,869	224	987	7,767
	In back yard ...	2,199	868	11	2,022	2,928	402	498	525	...	1,769	...	665	1,656	13,543
	Barracks—Bins ...	201	55	17	7	...	165	237	60	103	14	211	25	...	1,295
	In back yard ...	84	74	...	67	530	170	272	38	...	81	...	16	247	1,579
Washing Facilities ...	Cottages—Provided ...	45	46	...	21	517	20	165	214	63	47	111	196	190	1,635
	Not Provided ...	3,307	981	50	2,164	2,883	689	779	625	1,499	1,864	1,758	693	53	17,345
	Barracks—Provided ...	7	9	...	1	147	37	84	...	...	...	22	7	2,590	2,904
	Not Provided ...	278	120	17	73	583	298	425	98	103	95	189	34	12	2,325
Vermin ...	Cottages—Prevalent ...	3,327	...	80	2,185	2,562	136	...	...	1,562	...	136	799	425	11,212
	Not Prevalent ...	25	1,029	...	...	789	573	944	839	...	1,911	1,733	90	2,643	10,576
	Barracks—Prevalent ...	285	...	14	74	538	87	...	...	103	8	45	39	437	1,630
	Not Prevalent ...	...	129	3	...	192	248	509	98	...	87	166	2	...	1,434
Flies ...	Cottages—Prevalent ...	3,343	...	50	2,185	3,313	12	...	...	1,562	1,911	1,869	859	2,643	17,747
	Not Prevalent ...	9	1,029	...	...	38	697	944	839	...	...	...	30	...	3,586
	Barracks—Prevalent ...	285	...	17	74	718	17	...	...	103	95	211	41	437	4,998
	Not Prevalent ...	...	129	...	...	12	318	509	98	...	...	...	...	...	1,066
Mosquitoes ...	Cottages—Prevalent ...	3,343	256	50	2,185	3,326	226	944	839	1,562	1,911	1,869	859	2,568	17,938
	Not Prevalent ...	9	773	...	...	25	483	...	...	...	...	...	30	75	1,395
	Barracks—Prevalent ...	284	55	...	74	730	139	509	98	103	95	211	41	437	2,776
	Not Prevalent ...	1	74	17	...	...	196	...	...	...	...	...	...	...	288
Garden Available ...	Cottages—Yes ...	2,766	82	...	2,163	2,926	436	847	701	1,163	1,694	155	247	1,157	14,237
	No ...	586	947	50	22	399	273	97	138	399	217	1,714	642	1,486	6,970
	Barracks—Yes ...	156	4	...	74	366	84	447	7	29	54	25	4	68	1,318
	No ...	129	125	17	...	352	251	62	91	74	41	186	37	369	1,734
Cultivated or Not ...	Cottages—Yes ...	2,272	78	...	22	1,887	378	762	517	1,148	1,266	134	236	1,157	9,857
	No ...	494	4	...	2,163	1,039	58	85	184	414	509	21	8	329	5,308
	Barracks—Yes ...	108	4	...	74	176	78	381	1	29	28	18	4	68	969
	No ...	48	...	...	...	189	6	66	6	...	49	7	...	301	672

APPENDIX.

SURVEY OF HOUSING, 1938.—Continued.

Estates.

General Summary.

Southern Division.

Heads.	Particulars.	Napari- rma.	Ste. Made- leine.	Pointe-a- Pierre.	Guara- cara.	Erin- Siparia.	La Brea.	Point Fortin.	Cedros.	Princes Town.	Ortoire Moruga.	Couva.	Gran Couva.	Nariva- Mayaro.	Total.
Number of	Estates ...	13	10	1	9	12	2	3	9	3	23	15	21	73	194
Number of Cottages	...	164	87	116	8	201	38	...	13	...	28	191	10	139	995
Number of Barracks	...	153	170	12	29	195	43	40	68	47	45	139	107	172	1,210
Size of lot...	Cottages—Full-sized Barracks—Not Full-sized	287 30	156 101	127 1	8 29	341 55	29 52	40 ...	81 ...	...	65 8	36 284	46 71	139 172	1,355 850
Rent	Cottages ... Barracks	...	...	\$4.40	...	...	...	...	...	...	...	...	...	...	...
Rooms	Cottages ... Barracks	597 989	252 1,453	449 90	45 100	915 883	115 474	309 ...	70 300	...	107 291	663 1,014	43 426	571 780	3,827 7,383
Families	Cottages ... Barracks	169 730	88 1,003	116 90	9 75	210 752	38 170	...	12 174	...	25 182	102 731	10 296	139 506	1,009 5,132
Adults	Cottages ... Barracks	430 1,392	208 2,021	289 175	21 123	546 1,343	94 608	...	26 420	...	52 281	439 1,486	23 486	321 851	2,449 9,929
Children	Cottages ... Barracks	242 574	185 1,027	61 12	21 65	238 566	88 299	...	5 241	...	25 68	256 785	15 309	46 263	1,182 4,540
Materials for Walls	Cottages—Wood Tapia ... Concrete Barracks—Wood Tapia ... Concrete	163 ... 1 124 ... 29	80 7 ... 170	87 ... 29 12	8 29	186 7 8 102 16 77	38 43 ... ...	...	13 68 ... ...	...	28 45	53 60 69 128 1 ...	10 107	139 172	805 83 107 1,087 17 106
For Floors	Cottages—Wood Tapia ... Concrete Barracks—Wood Tapia ...	163 1 153 ...	87 ... 170 ...	85 ... 12 ...	8 ... 29 ...	200 ... 195 ...	38 ... 43 ...	...	13 ... 68 ...	...	28 ... 45 ...	187 5 ... 123 6	10 107 ...	139 172 ...	958 5 33 1,204 6

APPENDIX.

SURVEY OF HOUSING, 1938.—Continued.

Southern Division.				General Summary.							Estates.				
Heads.	Particulars.	Naparrima.	Ste. Madeleine.	Pointe-a-Pierre.	Guaracara.	Erin-Siparia.	La Brea.	Point Fortin.	Cedros.	Princes Town.	Ortoire-Moruga.	Couva.	Gran Couva.	Nariva-Mayaro.	Total.
For Roofs...	Cottages—Galv. Iron	162	87	116	8	193	3	...	13	...	26	186	10	139	943
	Thatch	...	...	...	...	4	...	...	...	...	...	5	...	...	9
	Tiles, &c.	1	...	...	...	4	35	...	...	...	2	...	...	...	42
...	Barracks—Galv. Iron	150	170	12	29	94	2	40	68	47	45	129	107	172	1,065
	Thatch	...	...	...	...	101	...	...	...	...	...	...	...	...	101
	Tiles, &c.	4	...	...	...	...	41	...	...	...	...	...	...	...	45
State of Repairs	Cottages—Good	92	55	116	8	193	38	...	12	...	28	189	10	136	877
	Bad	72	32	...	...	8	...	...	1	...	...	2	...	3	118
	Barracks—Good	57	84	12	24	177	43	37	41	18	32	38	48	116	727
Latrines Type	Bad	96	86	...	5	18	...	3	27	29	13	91	59	66	493
	Cottages—Cesspit Privy	119	23	...	8	51	...	...	13	...	24	155	10	131	534
	W.C.	35	28	268	...	150	38	...	...	...	4	36	...	5	564
Condition	Barracks—Cesspit Privy	149	63	...	29	49	...	27	68	36	45	129	85	154	834
	W.C.	...	35	13	...	142	43	13	...	...	...	...	...	...	246
	Cottages—Good	139	41	268	8	195	38	...	12	...	25	165	7	93	991
Water Supply	Bad	15	10	...	...	3	...	...	1	...	3	26	3	43	104
	None	10	...	...	...	3	...	...	...	...	...	...	...	3	16
	Barracks—Good	63	138	13	17	191	43	35	61	18	32	29	24	112	776
Ventilation	Bad	79	25	...	12	...	...	5	7	18	13	100	61	48	368
	None	11	9	...	...	4	...	...	...	...	...	...	22	18	64
	Cottages—Pipe borne	91	82	116	1	117	...	...	...	...	...	150	...	...	557
Water Supply	Rain (stored)	9	2	...	...	84	...	...	13	...	28	35	10	139	320
	Others	64	3	...	7	...	38	...	...	...	...	6	...	...	118
	Barracks—Pipe-borne	102	91	12	22	102	...	18	...	47	...	122	56	...	572
Ventilation	Rain (stored)	...	52	...	...	93	...	22	68	...	32	...	6	172	445
	Others	51	27	...	7	...	43	...	...	...	13	7	45	...	193
	Cottages—Adequate	110	47	116	8	198	38	...	13	...	23	189	10	96	848
Ventilation	Inadequate	54	40	...	...	3	...	...	...	...	5	2	...	43	147
	Barracks—Adequate	27	31	12	...	81	43	25	1	...	22	80	10	59	391
	Inadequate	126	139	...	29	114	...	15	67	47	23	49	97	113	819

APPENDIX.

SURVEY OF HOUSING 1938.—Continued.

Southern Division.				General Summary.							Estates.				
Heads.	Particulars.	Naparrima.	Ste. Madeleine.	Pointe-a-Pierre.	Guaracara.	Erin-Siparia.	La Brea.	Point Fortin.	Cedros	Princes Town.	Ortoire-Moruga.	Couva.	Gran Couva.	Nariva-Mayaro.	Total.
Drainage ...	Cottages—Natural	77	84	116	8	84	...	...	13	...	15	185	10	139	731
	Concrete	...	3	...	...	117	38	...	...	...	13	6	...	...	264
	Barracks—Natural	91	58	12	29	115	...	34	68	47	21	127	107	172	881
	Concrete	62	112	...	...	80	43	...	...	...	24	2	...	...	323
Rubbish Disposal ...	Cottages—Bins	89	56	116	8	184	38	...	13	...	...	191	3	...	698
	In back-yard	75	31	...	...	17	...	...	...	28	...	...	7	139	297
	Barracks—Bins	90	81	12	29	177	43	25	68	...	...	129	18	...	672
	In back-yard	63	89	...	...	18	...	15	...	47	45	...	89	172	538
Washing Facilities ...	Cottages—Provided	47	46	116	7	184	38	...	13	...	17	152	10	16	646
	Not provided	117	41	...	1	17	...	...	...	...	11	39	...	123	349
	Barracks—Provided	14	24	12	27	168	43	36	...	...	...	35	13	...	372
	Not provided	139	146	...	2	27	...	4	68	47	45	94	94	172	838
Vermin ...	Cottages—Yes	105	...	10	8	36	...	...	...	...	...	189	10	...	358
	No	59	87	106	...	165	38	...	13	...	28	2	...	139	637
	Barracks—Yes	153	...	12	28	130	...	...	68	47	39	129	95	...	698
	No	...	170	...	1	65	43	40	...	...	6	...	12	172	509
Flies ...	Cottages—Yes	153	49	116	8	144	...	...	13	...	28	186	10	139	846
	No	11	38	...	...	57	38	...	...	...	...	5	...	...	149
	Barracks—Yes	153	48	12	29	148	...	...	68	47	45	129	107	172	958
	No	...	122	...	...	47	43	40	...	...	...	...	...	...	252
Mosquitoes	Cottages—Yes	157	18	20	8	108	...	...	...	...	28	186	10	139	674
	No	7	69	96	...	93	38	...	13	...	...	5	...	...	321
	Barracks—Yes	153	112	12	29	134	...	40	68	47	45	129	107	172	1,048
	No	...	58	...	...	61	43	...	...	...	...	...	...	...	162
Garden Available ...	Cottages—Yes	136	15	...	8	181	38	...	...	...	24	186	10	139	737
	No	28	72	116	...	20	...	...	13	...	4	5	...	...	258
	Barracks—Yes	132	19	...	29	89	43	10	68	17	16	89	...	172	684
	No	21	151	12	...	106	...	30	...	30	29	31	107	...	517
Cultivated or Not ...	Cottages—Yes	103	15	...	...	125	5	...	...	...	22	80	7	139	496
	No	33	...	...	8	56	33	...	...	...	6	106	3	...	245
	Barracks—Yes	113	15	...	...	67	29	10	16	17	14	59	...	13	353
	No	19	4	...	29	22	14	...	...	30	2	...	...	161	311

VI.—FOOD IN RELATION TO HEALTH AND DISEASE.

Hospital returns continue to show that scurvy, rickets, pellagra and beri beri as established diseases are rare. Early malnutritional states are shown, however, by the following figures from the School Medical Officers:

NORTHERN DIVISION.

Port-of-Spain School Children :

Enlarged Glands	...	...	14 per cent.	(348 children out of 3,411 examined in Port-of-Spain were certified as under-nourished through poverty, i.e. 10.20 per cent.
Carious Teeth	...	...	37 per cent.	
Tonsils and Adenoids	...	...	10 do.	
Xerosis	...	...	22 do.	

SOUTHERN DIVISION.

San Fernando School Children :

Malnutrition	...	...	21.38 per cent.
Xerosis	...	...	.82 do.

RURAL.

Malnutrition	...	...	44.42 per cent.
Rural	...	...	11.54 do.

Labourers on sugar estates make more use of shops than those of cocoa estates since the wages of the former are higher. Garden crops are used more on cocoa estates with the result that the cocoa labourer eats more fresh food.

It has been fully established that the diet of the people is deficient in vitamin "A" and first class proteins. The problem of malnutrition is now that of finding the means of reducing the price of the protective foods sufficiently to allow the poor people to buy them. It should be noted that figures for malnutrition amongst school children are only relatively accurate since hookworm has not been excluded.

Markets and Abattoirs.—At Port-of-Spain, St. James, Arima, Tunapuna and Sangre Grande the inspection and control of meat and fish was well maintained. The public markets at San Fernando, La Brea, Fyzabad, Princes Town and Peñal were satisfactory. At San Fernando a lair was in course of erection at the end of the year. Both markets and abattoirs were regularly inspected throughout the year.

Food Inspection.—The usual inspection and control of foodstuffs sold in shops and markets was satisfactorily carried out by the Sanitary Inspectors.

Dairies.—The general sanitary condition of the modern dairies at Government Farm, St. Joseph, Jerningham Junction, Cascade, Tunapuna, Maraval and Diego Martin and the estate dairies at Waterloo and Ste. Madeleine remained satisfactory. Usine Ste. Madeleine has now added a modern pasteurising plant.

The hygiene of the small dairies round Port-of-Spain and San Fernando is still unsatisfactory. The provision of pipe-borne water from the central supply has, however, helped already in this respect. There is still a lack of provision for regular removal of manure which is apt to cause dangerous fly breeding in certain areas.

Tuberculin testing of dairy cows in the St. Joseph and St. Ann's districts and at Jerningham Junction gave the following results during 1937 and 1938:

Year.	Cowsheds.	Cows and Heifers.	Reactors.
1937	495	1,044	3
1938	442	1,217	4

A survey of all dairies in the Southern Division was completed with a view to extending this in 1939.

MEASURES TAKEN TO SPREAD THE KNOWLEDGE OF HYGIENE AND SANITATION.

Education in Hygiene.—The teaching of hygiene and the practical details of its application in towns, rural areas and villages formed one of the principal duties of the Medical Officers of Health, Sanitary Inspectors and Nurses.

Schools.

- Special lectures and classes by the teachers.
- Sanitary squads for each school.
- Demonstration of the planting of food crops in kitchen gardens attached to the schools.
- Special visits by school children to the Health Week Exhibition in Port-of-Spain.
- Special lectures to school children by medical practitioners during Health Week.

Villages and Towns.

- Lecturers during Health Week at Arima.
- Talks by Hookworm Units.
- Open air demonstration of health films.

Health Week in Port-of-Spain.—This was observed from November 12 to November 19. It included:—

- Church sermons referring to objects of Health Week ;
- Lectures by medical practitioners to 4,300 children over 12 years from the Elementary and Intermediate schools on health subjects ;
- Lectures to clubs and associations ;
- Special lectures to men and women separately on venereal diseases ;
- Free open air exhibition of health films ;
- Public inspection of public institutions such as Abattoir, Stephens' Clinic, Tuberculosis Dispensary ;
- Physical drill displays by the Police and school girls ;
- Theatrical performance of play "Romance without Sanitation" ;
- Sanitary Inspectors' Conference.

The Health Exhibition was the principal feature of the observance and was very largely attended by crowds from the City and country districts.

New features were added to the usual annual exhibition in the nature of a model dairy pen and a clean food campaign.

The exhibition comprised the following sections:—

- (a) Nutrition ;
- (b) Detection of unsound food ;
- (c) Clean Food Campaign ;
- (d) Pure milk production and marketing ;
- (e) Child Welfare ;
- (f) Rôle of insect pests, bats, &c., in communicable diseases ;
- (g) Vital statistics, charts and diagrams ;
- (h) Tuberculosis prevention ;
- (i) Bacteriological ;
- (j) Sanitary appliances ;
- (k) Meteorology.

TRAINING OF SANITARY PERSONNEL.

The annual examination of the Royal Sanitary Institute, which was scheduled to take place in Georgetown, Demerara, during November, was postponed to May, 1939.

SECTION IV.—PORT HEALTH WORK AND ADMINISTRATION.

The duties associated with quarantine continued to be performed as in recent years, port health work being performed by medical officers on the staff of the department and medical formalities in connection with air traffic being carried out by a panel of three private practitioners. In the case of air traffic, any special measures required are undertaken by the Port Health Officer.

There were in Trinidad no cases of infectious disease to which the International Sanitary Convention applies. The majority of arrivals in the Colony come from districts where such diseases are absent or of rare occurrence. Careful supervision, however, is necessary in the case of the constant arrival of small sloops from the mainland of South America.

Persons arriving by and crews of such vessels are required to show evidence of recent vaccination or to submit to vaccination prior to being permitted to land:—

Steamships visited	...	...	...	...	...	398
Sailing vessels visited	...	...	...	...	...	945
Persons inspected on arrival (including crews)	...	...	...	...	...	26,005
Persons placed under surveillance	...	...	...	...	...	2,040
Vaccinations performed (small-pox)	...	...	...	...	...	940
Ships fumigated	...	...	...	...	...	14

PORT HEALTH OFFICER'S REPORT FOR THE YEAR ENDING 31ST DECEMBER, 1938.

ARRIVALS.		Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Steamers from Convention Ports—A. Infected Ports ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. —B. Non-Infected Ports ...	...	1	...	2	3	6	11	2	1	2	1	2	3	...
Total Number of Steamers from Convention Ports ...	...	1	...	2	3	6	11	2	1	2	1	2	3	34
Steamers from Non-Convention Ports—A. Infected Ports ...	...	33	25	50	48	42	31	29	34	27	31	21	27	...
Do. —B. Non-Infected Ports ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Number of Steamers from Non-Convention Ports ...	...	33	25	50	48	42	31	29	34	27	31	21	27	308
TOTAL NUMBER OF STEAMERS FROM ALL PORTS ...	...	34	25	52	51	48	42	31	35	29	32	23	30	432
Sailing vessels from Convention Ports—A. Infected Ports ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. —B. Non-Infected Ports ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total number of Sailing Vessels from Convention Ports ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sailing Vessels from Non-Convention Ports—A. Infected Ports ...	...	65	56	69	74	79	64	89	112	90	84	103	60	...
Do. —B. Non-Infected Ports ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total number of Sailing Vessels from Non-Convention Ports ...	...	65	56	69	74	79	64	89	112	90	84	103	60	945
TOTAL NUMBER OF SAILING VESSELS FROM ALL PORTS ...	...	65	56	69	74	79	64	89	112	90	84	103	60	945
TOTAL NUMBER OF ARRIVALS FROM ALL PORTS ...	...	99	81	121	125	127	106	120	147	119	116	126	90	1,377
PASSENGERS AND CREWS.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Number of persons inspected on Steamships—A. Passengers ...	...	164	198	401	340	315	291	219	369	330	275	243	241	3,386
Do. —B. Crew ...	...	1,546	1,327	4,016	2,972	2,341	2,142	1,388	1,370	1,510	1,333	1,440	1,555	22,940
Total number of persons inspected on Steamships ...	...	1,710	1,525	4,417	3,312	2,656	2,433	1,607	1,739	1,840	1,608	1,683	1,796	26,326
Number of persons inspected on Sailing Vessels—A. Passengers ...	...	66	52	42	34	76	100	121	90	35	34	37	69	756
Do. —B. Crew ...	...	255	256	352	336	361	291	436	554	448	357	411	346	4,493
Total number of persons inspected on Sailing Vessels ...	...	321	308	394	370	437	391	557	644	483	391	448	415	5,159
TOTAL NUMBER OF PERSONS INSPECTED ON ARRIVAL ...	...	2,031	1,833	4,811	3,682	3,093	2,824	2,164	2,383	2,323	1,999	2,131	2,211	31,485
FUMIGATION, DISINFECTION, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Number of Vessels fumigated ...	...	1	1	...	2	1	2	1	1	1	1	1	2	14
Number of persons placed under Surveillance—A. Yellow Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. —B. Bubonic Plague ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. —C. Small Pox ...	...	43	20	576	733	485	18	24	22	17	20	23	37	2,018
Do. —D. Cholera ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. —E. Typhus ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL NUMBER OF PERSONS PLACED UNDER SURVEILLANCE ...	...	43	20	576	733	485	40	24	22	17	20	23	37	2,040
Total number of presentations for Medical Supervision ...	...	153	75	2,034	4,054	3,428	342	102	75	77	85	124	197	11,346
Number of persons allowed to proceed to Country under D.M.O.'s supervision ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Number of persons vaccinated on arrival ...	...	44	47	122	74	90	75	68	114	106	63	74	63	940

SECTION V.—MATERNITY AND CHILD WELFARE.

The training of midwives is undertaken at the Colonial Hospitals in Port-of-Spain and San Fernando. The course of training is undertaken in the fourth year of a nurse's probationary period. From these schools 18 candidates were successful in the examination of the Medical Board of Trinidad and Tobago and became eligible for registration as midwives. The training is given in the maternity sections of these hospitals and in the districts served thereby.

Maternity sections are provided at the following hospitals:—

Colonial Hospital, Port-of-Spain	...	...	...	20 beds (+ 12 ante-natal).
Colonial Hospital, San Fernando	...	...	...	12 beds.
Colonial Hospital, Tobago	...	...	...	9 do.
District Hospital, Couva	...	...	...	8 do.
District Hospital, Princes Town	...	...	...	3 do.

Admissions to the Colonial Hospital, Port-of-Spain, numbered 1,310 of which 49 were after confinement. In San Fernando they numbered 477 (11 after delivery) whilst in Tobago the number admitted was 232. 877 deliveries were conducted at the Colonial Hospital, Port-of-Spain, and 431 at San Fernando.

The District Maternity service in Port-of-Spain dealt with 392 deliveries of women in their homes. 15 abnormal cases were referred to hospital before delivery. 1,160 house visits were paid by the staff. The corresponding figures in San Fernando were 51, 4 and 500.

The following table shows the principal abnormalities met with in pregnancy cases dealt with—deaths shown in brackets:—

COLONIAL HOSPITALS.						
		Port-of-Spain.	San Fernando.	Tobago.	Others.	
Eclampsia	...	51 (7)	42 (13)	6	31	(5)
Abortion	...	167 (2)	53	28	24	
Ectopic Gestation	...	14 (3)	4 (1)	1	—	
Other accidents of pregnancy	...	292 (1)	53 (1)	6	43	
Puerperal Fever	...	35 (4)	32 (10)	2	11	(1)
Other accidents of parturition	...	76 (3)	5	12	10	(1)
Phlegmasia alba dolens	...	2	—	—	—	

In districts other than those to which reference has been made the district maternity service is limited to the work of district nurses and of nurses of the Child Welfare League. The need for a considerable extension of the district nursing service is great but this is of necessity limited by the number of nurses available for this work.

Mention must be made of a small maternity hospital of four beds maintained by the branch of the Child Welfare League at Point Fortin. This hospital supplies a great need. 153 deliveries were carried out in this institution in 1938.

Child Welfare services are carried out under the auspices of the Child Welfare League of Trinidad and Tobago. This voluntary organisation was founded in 1921 and has now 14 branches with 23 clinic centres distributed throughout Trinidad and Tobago. Two new clinic centres were opened at Debe and Jerningham Junction.

The severe and prolonged wet season had the effect of reducing attendances at the clinics, but this was temporary and with improved weather conditions in the later months attendances reached average.

The Government grant in aid included a sum of \$2,480 for the provision of milk to necessitous infants.

Courses of lectures and demonstrations in mothercraft were given at schools in Port-of-Spain, San Fernando and Tunapuna. The interest of girls in the senior classes was evident from the popularity of the practical demonstrations at the clinics.

At the central clinic in Port-of-Spain cooking demonstrations were given each week to a group of clinic mothers. The course comprised ten demonstrations on the preparation of everyday meals for infants and young children. Constituents of the meal with quantities and costs were given and the uses and values of each were explained in simple language.

At this clinic there was also instituted a mothers' club which meets at monthly intervals. The meetings occupy about two hours and comprise demonstrations of cutting out and sewing garments and knitting, serving of a cup of tea or a "sweet drink" with a bun or cake, a talk on some subject of interest by a Voluntary Worker, and generally end up with community singing. Each member contributes two cents per month.

A satisfactory feature is the growth of the ante-natal and maternity work. The establishment of the League's Nurse-midwife in a country district, with gratuitous service to poor mothers, is a powerful measure for combating unskilled midwifery practice, and is also a valuable contribution to the public health of the Colony.

The statistics of infant welfare work are given in tabular form and indicate the large amount of work carried out by the League.

Industrial and agricultural concerns are taking a gradually increasing part in infant and child welfare work.

Four creches have been provided by the Usine Ste. Madeleine and the Reform sugar estates for the children of labourers in their employ and a private clinic with a similar purpose is conducted by Bonne Aventure Estate. Periodic visits are paid by Government Medical Officers in an advisory capacity. Medicines and in some cases free milk are distributed to the children.

The infantile mortality rate for the Colony was 98.4.

Reference has already been made to the ante-natal work performed under the auspices of the Child Welfare League. Ante-natal clinics are also conducted at the Colonial Hospital, Port-of-Spain, where 1,418 new cases attended, total attendances being 6,083. At the Colonial Hospital, San Fernando, 700 new cases attended, total attendances being 1,926. Cases of toxæmias of pregnancy, &c., admitted to hospital from country districts reveal the urgent need for extending facilities for ante-natal care.

CHILD WELFARE LEAGUE—1937.

<i>Location of Clinic.</i>	<i>No. of new children registered during the year.</i>	<i>Attendances of children at centre.</i>	<i>Visits by nurses to children at home.</i>
Port-of-Spain (4) ...	1,255	23,550	20,653
San Fernando ...	534	5,164	5,645
Debé ...	333	1,367	
Arima ...	178	3,051	3,344
St. James ...	292	7,145	4,634
San Juan ...	77	1,362	1,544
Tunapuna ...	137	2,049	2,098
Tacarigua ...	131	1,752	1,786
Sangre Grande ...	111	2,899	2,965
Toco ...	68	2,219	3,056
Couva ...	115	1,687	2,969
Princes Town ...	82	1,237	1,889
Point Fortin ...	132	4,673	803
Chaguanas (2) ...	177	1,587	2,630
La Brea ...	89	2,773	3,040
Tobago (4) ...	254	3,088	2,658
Total ...	3,965	65,603	59,714

SECTION VI.—HOSPITALS AND DISPENSARIES.

(a) *Personnel :*

One addition was made to the staff of medical officers in the hospital service. The specialist services continued to be served by physicians and surgeons employed on a part time basis.

The superintendent nursing staff was increased by the appointment of a Home-Sister-Tutor in the Colonial Hospital, Port-of-Spain.

The staffing of the colonial hospitals with nurses develops each year into a more acute problem. No difficulty is experienced in obtaining probationer nurses but it is no easy matter to retain the services of the best of those who complete their training and obtain their certificates. The attractions of private practice and the comparative independence associated with this doubtless exercise a considerable influence in the nurses' decision to forsake institutional life but there is little doubt that the main factors at issue are the unsatisfactory conditions under which nurses are required to live and the comparatively low scale of salary paid to a nurse who has completed her training and the long hours she is required to work. The remedy for the former is the provision of adequate hostels and provision for this is included in the plans for hospital reconstruction to be carried out under the five-year plan. As regards salaries and hours of work, proposals were submitted to Government early in the year.

(b) *Hospital Buildings and Accommodation :*

Reference has been made in previous reports to the inadequacy and unsuitability to modern requirements of the larger hospitals in the Colony. A sum of \$480,000.00 from loan funds was provided in 1935 but it was evident that this amount was quite inadequate to meet even the minimum requirements. A programme of hospital construction works to be carried out in a period of five years was prepared and a sum which, together with the unexpended balance of the \$480,000, amounted to \$2,455,078 was voted for this purpose from a loan to be raised. This provides for alterations and additions to the Colonial Hospital, Port-of-Spain, Mental Hospital, St. Ann's, Leper Settlement, Chacachacare, Colonial Hospital, Tobago, and for a new hospital at San Fernando. It is estimated that when this work is completed the hospital accommodation will be increased from 1,006 to 1,450 (excluding mental patients and leprosy). In addition, modern buildings will replace the present old and dilapidated constructions many of which are in a more or less ruinous condition.

COLONIAL HOSPITALS.

Port-of-Spain.—Four additional modern hospital wards became available when on the 26th August, His Excellency Sir Hubert Young declared two new buildings open.

At the same time two wards were vacated so that the bed strength was increased from 403 to 459.

A new venereal diseases clinic was opened at the hospital on 5th September.

Four (4) wards were repaired and painted as were the quarters provided for unmarried medical officers.

Sanitary annexes in two old wards were painted while in two other wards trough closets were replaced by modern water closets; urinals and wash hand basins were also provided.

In view of the proposals under the five year plan, the construction of the new kitchen and laundry and administrative section and the additions to the nurses hostel, for which funds had been provided in 1937, was postponed.

San Fernando.—Two army huts were erected providing temporary accommodation for 36 additional patients. The bed strength for adults was thus increased to 230.

In addition there were 36 children's cots and cribs.

Further investigation of the site on Paradise Pasture of this hospital showed that with considerable earthworks the site could be made suitable for the purpose. Levelling of the site was in progress at the close of the year.

Preliminary work in connection with the erection of the new hospital necessitated the demolition of the nurses' quarters and also of the quarters occupied by one medical officer.

The quarters formerly occupied by Matron were converted into a nurses' hostel while the medical officer's quarters were rebuilt on a new site.

The operating theatre was enlarged and modernised and a small laboratory provided.

Training of Nurses.—Each of the colonial hospitals is provided with a matron and is recognised as a training school in which nurses after completion of training may qualify for the Government Nursing Certificate. In the case of Tobago nurses, the third and fourth years are spent at the Colonial Hospital, Port-of-Spain. The course of general training extends over three years but a fourth year is added for training in midwifery. Thus at the end of four years a nurse obtains the Government Nursing Certificate and is entitled to be registered as a midwife. Before being accepted for training, candidates are examined by a Board whose members include a representative of the Department of Education.

A nurses' chart, similar to that in use in the United Kingdom was introduced to ensure that each nurse is proficient in the main nursing methods before presenting herself for examination.

As anticipated in the report for 1937, a uniform syllabus of training and a uniform standard of examinations for nurses in all three schools were instituted.

Thirty-two nurses passed the first year, 23 the second, and 19 the third year examinations. As stated elsewhere, 18 nurses passed the midwifery examination.

The Princess Mary Nursing Medals, awarded to the nurses taking first and second places in the third year and midwifery examinations were won by the following:—

Gold Medal —Miss Irma Daniel, Colonial Hospital, San Fernando.

Silver Medal —Miss Edith Kong, Colonial Hospital, San Fernando.

SUMMARY OF DISEASES TREATED:

Enteric Group.—479 cases were admitted to Government hospitals the case mortality being 20 per cent. While 130 fewer cases were treated in hospital than in 1937, the case mortality remained high.

Malaria.—1,381 cases received treatment at Government hospitals. Of the 490 cases admitted to the Colonial Hospital, Port-of-Spain, 263 were diagnosed microscopically as aestivo-autumnal fever. The malarial cases dealt with at the Colonial Hospital, San Fernando, were mostly of the benign tertian variety.

That the most prevalent form of malaria in the northern part of the island is aestivo-autumnal fever is borne out by the figures of the Government laboratory. Of 350 positive smears 307 showed ring or crescent forms of *P. falciparum*.

Diphtheria.—While there were fewer cases of diphtheria the case-mortality exceeded that of 1937, being almost 27 per cent. in the 41 cases treated.

Influenza.—One death occurred among the 162 cases, the disease being of a mild uncomplicated variety.

Dysentery.—In all, 131 hospital cases were diagnosed as dysentery, there being 15 deaths.

In marked contrast is the incidence of "diarrhoea and enteritis" there being 364 such cases, with 58 deaths.

Erysipelas.—Although there were no cases of scarlet fever, 16 cases of erysipelas occurred, two ending fatally.

Yaws.—That 101 cases required hospitalisation indicates that much remains to be done in educating public as to the benefits to be derived from early treatment in the disease.

Tuberculosis.—Whereas 505 cases of pulmonary tuberculosis were dealt with in hospital, only 38 cases of non-pulmonary tuberculosis received attention.

The assumption is that infection is with the human rather than with the bovine strain of tubercle bacillus. This may be partly explained by the tendency among the general public to prefer condensed to fresh cow's milk and to boil cow's milk when such is used.

Veneral Diseases.—Some years will probably elapse before the effect of the anti-venereal disease programme is reflected in the annual return of diseases treated.

Veneral diseases are among the most prevalent and lethal of diseases met with in the Colony. Thus the combined deaths from frank syphilis, aortic valvular disease and aneurysm treated at Government hospitals total 74; the corresponding number of deaths from malaria being 77, and from hookworm 25.

The unnecessary morbidity resulting from failure to obtain treatment of gonorrhoea becomes evident when it is appreciated that 245 cases of urethral stricture sought in-patient treatment.

One promising feature is that the number of attendances at the venereal diseases clinics is high; at Port-of-Spain 2,395 new cases registered during the year; the total attendances being 19,436.

With effective control of venereal diseases, it is to be anticipated that the incidence of cardiovascular diseases will be greatly reduced and that in some other general diseases the present unduly high mortality rates will be diminished.

Cancer and other malignant Tumours.—In all, 225 cases of cancer and other malignant tumours were treated at Government hospitals. In 97 the disease occurred either in the breast or female genital organs and in 46 in the stomach or liver.

Respiratory Diseases.—Excluding pulmonary tuberculosis, pneumonia heads the list of respiratory diseases both as regards total number of admissions and of deaths.

Indeed, apart from pulmonary phthisis, pneumonia accounted for more deaths than any other single disease treated; the case-mortality being over 31 per cent.

Peptic Ulcers.—126 cases of gastric and duodenal ulcer were treated as compared with 85 in 1937.

The increased incidence is probably an apparent rather than an actual one, and may be explained by the more frequent resort to X-ray examination in the elucidation of obscure dyspepsias.

BLOOD TRANSFUSION SERVICE:

An appeal to Boy Scouts in Port-of-Spain brought ready volunteers as blood donors and the value of the services rendered by the Scouts cannot be over-estimated.

Unfortunately, there are, so far, no East Indians or Chinese among the donors and it is hoped that this defect in the service may soon be remedied.

CASUALTY DEPARTMENT:

At the Colonial Hospital, Port-of-Spain, 8,457 cases were treated in the casualty department, while at the Colonial Hospital, San Fernando, the number was 3,598.

OUT-PATIENT CLINICS:

The various out-patient clinics were well attended. Large numbers attended the surgical and gynaecological clinics.

A clinic to allow of the investigation and treatment of non-venereal diseases of the genito-urinary system was started at the Colonial Hospital, Port-of-Spain, during the last quarter of the year. Cystoscopic and pyelographic examinations were made in 25 instances.

Medical Clinic, Port-of-Spain.—There were 204 new cases and 997 attendances.

Sick Children's Clinic, Colonial Hospital, Port-of-Spain.—There were 819 new cases and 1,921 attendances.

Sick Children's Clinic, Colonial Hospital, San Fernando.—There were 1,040 new cases and 2,136 attendances.

Dental Clinic, Colonial Hospital, Port-of-Spain.—There were 2,524 extractions and 221 fillings performed.

Dental Clinic, Colonial Hospital, San Fernando.—There were 3,740 extractions performed. Particulars of other out-patient clinics are noted under appropriate headings.

ELECTRO THERAPEUTIC AND X-RAY DEPARTMENTS:

Radiography.—There were 4,684 cases submitted to X-ray examination at the Colonial Hospital, Port-of-Spain, and 2,376 such cases at the Colonial Hospital, San Fernando.

X-ray Therapy.—36 cases received deep, and 88 superficial therapy at the Colonial Hospital, Port-of-Spain.

Massage.—577 new cases were treated at the massage department of the Colonial Hospital, Port-of-Spain.

6,807 treatments were given in all.

OPHTHALMIC DEPARTMENTS:

As in other departments the work done at the ophthalmic departments has greatly increased within recent years.

At Port-of-Spain, glasses were prescribed for 134 cases.

At San Fernando, glasses were prescribed for 302 cases.

At Port-of-Spain, cataract glasses were supplied to 45 cases.

At San Fernando, cataract glasses were supplied to 56 cases.

Out-Patient Clinics.—At Port-of-Spain, 1,425 new cases attended, total attendances being 4,124.

At San Fernando, 1,440 new cases attended, total attendances being 4,597.

Ophthalmic Operations.—At Colonial Hospital, Port-of-Spain, 253 major and 104 minor ophthalmic operations were performed.

At Colonial Hospital, San Fernando, 224 major and 81 minor ophthalmic operations were performed.

A table is given below showing the major ophthalmic operations performed:—

<i>Operations.</i>	<i>Colonial Hospital, Port-of-Spain.</i>	<i>Colonial Hospital, San Fernando.</i>
Cataract extraction	65	70
Zeigler's needling for cataract	11	10
Capsulotomy	18	19
Curette evacuation	1	3
Pterygium transplantation	37	37
Trephine for glaucoma	35	7
Enucleation ; Evisceration	24	18
Abcission of prolapsed iris	10	9
Iridectomy ; Iridotomy	5	8
Excision of tear sac	12	6
Tenotomy and Advancement	3	2
Giant Magnet extractions	—	5
Paracentesis of A.C.	6	4
Exenteration of orbit	1	1
For Ectropion ; Entropion	3	2
Drainage of Orbital abscess	2	1
Plastic operations	3	—
Excision of Conjunctival growth	1	5
For Retinal detachment	1	—
Electrolyses	6	—
Incision of Perisaccular abscess	1	—
For Symblepharon	1	—
Conjunctival flap	1	1
Probing tear duct	1	2
Irrigation of A.C.	1	—
Saemisch section	1	3
Curettage of Follicles	2	2
Excision of Orbital tumour	1	1
Excision of Tarsal plate	—	2
Peridectomy	—	3
For Corneo-scleral wound	—	2
For band-shaped opacity	—	1

The following table indicates the development of the Ophthalmic Services in Port-of-Spain and San Fernando during the past five years:

<i>Place.</i>	<i>Year.</i>	<i>Total operations.</i>	<i>Major operations.</i>	<i>Minor operations.</i>	<i>New cases.</i>	<i>Total attend- ances.</i>	<i>Refrac- tions.</i>
PORT-OF-SPAIN	1934	210	176	34	1,037	...	182
Do.	1935	206	152	54	979	...	177
Do.	1936	320	179	141	1,061	3,152	220
Do.	1937	252	143	109	1,543	4,271	208
Do.	1938	305	224	81	1,440	4,597	302
SAN FERNANDO	1934	93	...	...	908	...	...
Do.	1935	132	31	6	921	...	...
Do.	1936	189	105	28	1,069	...	...
Do.	1937	158	118	40	470	1,344	65
Do.	1938	357	253	104	1,425	4,124	134

EAR, NOSE AND THROAT DEPARTMENTS:

Out-Patient Clinics.—At the Colonial Hospital, Port-of-Spain, there were 1,145 new cases, the total attendances being 3,764. At the Colonial Hospital, San Fernando, there were 202 new cases, the total attendances being 505.

The table given below indicates the principal operations performed in these departments:—

Operation.	Colonial Hospital, Port-of-Spain.	Colonial Hospital, San Fernando.
Mastoid operations	18	16
Myringotomy	2	—
Removal of Tonsils and Adenoids	275	129
Removal of Adenoids	7	—
Removal of Nasal Polypi	11	6
Removal of Aural Polypi	8	—
Reconstruction of nasal bone	5	—
Tracheotomy	3	6
Removal of coin from Oesophagus	1	—
Curettage of Ethmoid Sinus	11	—
Puncture of Maxillary Antrum	239	6
Oesophagoscopy	2	—

VENEREAL DISEASES DEPARTMENT:

Port-of-Spain.—403 in-patients received attention, the daily average number of in-patients being 24, of whom 13 were males and 11 females.

San Fernando.—949 new cases of venereal diseases were treated at the colonial hospital, the total attendances being 5,841.

Venereal Diseases Clinics.—There were 2,395 new cases registered during the year as follows:—

	Males.	Females.
Syphilis	757	549
Gonorrhoea	444	64
Yaws	28	15
Other diseases	340	198

4,447 patients attended the new clinic, of whom 3,719 were males.

The total attendances at the venereal diseases clinic, Colonial Hospital, Port-of-Spain, numbered 19,436.

MATERNITY DEPARTMENTS:

Reference has been made in Section V of this report to the maternity service. The majority of women confined in hospital are unmarried and have to earn their own living. The result is that though able to nurse their infants they resort to artificial feeding and depend for this on old women devoid of knowledge as to how this ought to be done. The occurrence of marasmus and the evidence of malnutrition among these infants is not therefore a matter for surprise.

The following table shows the obstretical operations performed:

Operations.	Colonial Hospital, Port-of-Spain.	Colonial Hospital, San Fernando
Forceps	17	4
Version	15	3
Perforation	2	2
Decapitation	1	—
Evisceration	1	1
Manual removal of placenta	19	7
Suturing of perineum	33	7
Rupturing of membranes	9	—
Plugging of vagina	5	5
Induction of labour	—	11
Incision of breast abscess	2	—
Incision of leg abscess	1	—
Suturing of vaginal wound	1	—
Curettage	41	—
Removal of supernumerary digits	11	—
Underpinning of cord	10	3
Caesarean section	—	1
Laparotomy	—	1

Surgery.—The table given below indicated the principal major operations performed during the year:—

<i>Operations.</i>	COLONIAL HOSPITALS:		
	<i>Port-of-Spain.</i>	<i>San Fernando.</i>	<i>Tobago.</i>
Appendicectomy	58	20	—
Cholecystectomy	—	1	—
Colostomy	6	—	—
Volvulus	—	2	—
Intestinal Obstruction	—	2	—
Gastro-enterostomy	4	—	—
Suture of perforated gastric ulcer...	1	2	—
Suture of perforated duodenal ulcer...	—	4	—
Herniotomy simple inguinal	123	142	11
Herniotomy simple femoral	2	—	—
Herniotomy simple umbilical	8	4	—
Herniotomy strangulated	6	20	—
General peritonitis	—	2	—
Laparotomy	35	—	3
Intussusception	—	3	1
Haemorrhoidectomy	11	30	2
Removal of Rectal Polypi	—	1	—
Ruptured Urinary bladder	1	—	—
Prostatectomy	3	4	—
Cystoscopy	31	15	—
Suprapubic cystotomy	13	4	—
Orchidectomy	3	2	—
Radical Hydrocele operation	13	26	1
Varicocele	3	1	—
Hysterectomy—Subtotal	46	28	—
Hysterectomy—Total	2	—	—
Hysterectomy—Pan	2	2	—
Hysterectomy—Vaginal	1	—	—
Removal of Uterine Polyp	—	6	—
Marsupialisation of Omental cyst	2	—	—
Marsupialisation of Pancreatic cyst	—	1	—
Phrenic Avulsion	5	—	—
Resection of ribs	1	1	—
Dissection of Cervical glands	1	—	—
Excision of growths	66	30	—
Excision of Fistulae	12	8	—
Amputation of Penis	4	1	—
Radical breast operation	9	7	—
Oophorectomy	49	3	—
Salpingectomy	43	1	—
Salpingo-oophorectomy	—	27	—
Ruptured Ectopic Gestation	4	3	—
Colporrhaphy	1	3	—
Perinaeorrhaphy	4	2	—
Shortening Round Ligament	1	1	—
Reposition of Uterus	3	—	—
Dilatation and Curettage	28	16	—
Amputation of Cervix	2	16	—
Amputation of lower limb	11	10	—
Amputation of upper limb	5	2	—
Open reduction of fracture	1	—	—
Excision of semilunar cartilage	1	—	—
Excision of head of radius	—	1	—
Plastic operation on fingers	1	—	—
Skin grafting	—	2	—
Hare lip operation	4	1	—
Osteotomy	21	4	—
Arthrodesis	—	1	—
Sequestrotomy	21	11	—
Ligature of Arteries	3	2	—
Suture of Nerves	1	5	—
Spina Bifida	1	—	—
Wiring of Mandible	6	—	—
Wiring of Olecranon	2	—	—
Operation for imperforate anus	2	—	—
Partial Thyroidectomy	2	1	—
Tenotomy	1	—	—
Resection of Carcinoma of Rectum	1	—	—
Closure of artificial anus	1	—	—
Plastic operation on Scrotum and Penis	1	2	—
Removal of Salivary Calculus	—	1	—
Introduction of Kirschner's wires	4	25	—

OUT-PATIENT DEPARTMENTS.

Summary of Attendances.

	CASUALTY	OPHTHALMIC.		EAR, NOSE AND THROAT		ANTE-NATAL		SICK CHILDREN		MEDICAL		DENTAL		VENEREAL DISEASES.	
		New cases.	Total Attendances.	New cases.	Total Attendances.	New cases.	Total Attendances.	New cases.	Total Attendances.	New cases.	Total Attendances.	Extractions.	Fillings.	New cases.	Total Attendances.
Colonial Hospital, Port-of-Spain	8,457	1,425	4,124	1,145	3,764	1,418	6,083	819	1,921	204	997	2,524	221	2,395	19,436
Colonial Hospital, San Fernando	3,598	1,440	4,597	202	505	700	1,926	1,040	2,136	...	...	3,740	...	949	5,841
Totals ...	12,055	2,865	8,721	1,347	4,269	2,118	8,009	1,859	4,057	204	997	6,264	221	3,344	25,277

TABLE V.

Summary of Diseases and Deaths (In-patients) Colonial and District Hospitals for the year 1938.

DISEASES.	Remaining in Hospital at end of 1937.	YEARLY TOTAL.		Total Cases Treated.	Remaining in Hospital at end of 1938.	REMARKS.
		Admissions.	Deaths.			
I.—EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES.						
1 Enteric Group—						
(a) Typhoid Fever	33	408	83	441	21	
(b) Paratyphoid A.						
(c) Paratyphoid B.						
(d) Type not defined		38	12	38	5	
2. Typhus						
3. Relapsing Fever						
4. Undulant Fever						
5. Malaria—						
(a) Tertian	29	969	26	998	19	
(b) Quartan	1	96	22	97		
(c) Aestivo-autumnal	9	268	29	277		
(d) Cachexia		2		2		
(e) Blackwater		7	1	7		
6. Smallpox—	39	1342	78	1381		
Alastrim						
7. Measles						
8. Scarlet Fever						
9. Whooping Cough		1		1		
10. Diphtheria	1	40	11	41		
11. Influenza	2	160	1	162		
12. Miliary Fever						
13. Mumps						
14. Cholera						
15. Epidemic diarrhoea						
16. Dysentery—						
(a) Amoebic	5	48	5	53	2	
(b) Bacillary		62	9	62	2	
(c) Undefined or due to other causes	1	15	1	16		
17. Plague		125	15	131		
(a) Bubonic						
(b) Pneumonic						
(c) Septicaemic						
(d) Undefined						
18. Yellow Fever						
19. Spirochaetosis ictero-haemorrhagica						
20. Leprosy	1	16		17	1	
21. Erysipelas		16	2	16		
22. Acute Poliomyelitis		9	1	9		
23. Encephalitis Lethargica		1		1		
24. Epidemic Cerebro-Spinal Fever		1	1	1		
25. Other Epidemic Diseases—						
(a) Rubella (German Measles)						
(b) Varicella (Chicken pox)		6		6		
(c) Kala-azar						
(d) Phlebotomus Fever						
(e) Dengue						
(f) Epidemic Dropsy						
(g) Yaws	2	99		101	10	
(h) Filaria		5		5		
26. Glanders						
27. Anthrax		1		1		
28. Rabies						
29. Tetanus		45	26	45	2	
30. Mycosis		3		3		
31. Tuberculosis, Pulmonary and Laryngeal	83	422	205	505	88	
32. Tuberculosis of the Meninges or Central Nervous System		5	3	5		
33. Tuberculosis of the Intestines or Peritoneum		8	4	8		
34. Tuberculosis of the Vertebral Column	1	2		3	3	
35. Tuberculosis of Bones and Joints		7	1	7	2	

Summary of Diseases and Deaths (In-patients) in the Colonial and District Hospitals.—Continued.

DISEASES.	Remaining in Hospital at end of 1937.	YEARLY TOTAL.		Total Cases Treated.	Remaining in Hospital at end of 1938.	REMARKS.
		Admissions.	Deaths.			
Diseases brought forward ...						
I.—EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES.—CONTD.						
36. Tuberculosis of other organs—						
(a) Skin or Subcutaneous Tissue (Lupus) ...	...	1	...	1	...	
(b) Bones ...	1	3	1	4	...	
(c) Lymphatic System ...	1	6	1	7	...	
(d) Genito-urinary ...	...	...	...	...	...
(e) Other organs ...	...	...	...	...	...
37. Tuberculosis disseminated—						
(a) Acute ...	...	1	1	1	...	
(b) Chronic ...	...	2	2	2	...	
Venereal Warts ...	...	1	...	1	1	
38. Syphilis—						
(a) Primary ...	6	163	...	169	5	
(b) Secondary ...	1	61	4	62	2	
(c) Tertiary ...	25	303	15	328	14	
(d) Hereditary ...	2	19	5	21	1	
(e) Period not indicated ...	1	31	...	32	...	
39. Soft Chancre ...	1	39	...	40	...	
39A. Bubos ...	...	20	...	20	...	
40. A.—Gonorrhoea and its compli- cations ...	2	293	...	295	7	
B.—Gonorrhoeal Ophthalmia ...	2	90	...	92	2	
C.—Gonorrhoeal Arthritis ...	2	59	...	61	1	
D.—Granuloma Venereum ...	9	81	2	90	8	
E.—Rectal Stricture ...	2	104	15	106	...	
41. Septicaemia ...	...	35	23	35	...	
42. Other Infectious Diseases—						
Trypanosomiasis ...	...	...	...	...	...
II.—GENERAL DISEASES NOT MENTIONED ABOVE.						
Sarcoma ...	...	5	...	5	1	
43. Cancer or other malignant Tumours of the Buccal Cavity ...	1	8	2	9	1	
44. Cancer or other malignant Tumours of the Stomach or Liver ...	1	45	15	46	2	
45. Cancer or other malignant Tumours of the Peritoneum Intestines, Rectum ...	...	17	6	17	2	
46. Cancer or other malignant Tumours of the Female Genital Organs ...	2	57	10	59	6	
47. Cancer or other malignant Tumours of the Breast ...	...	38	5	38	2	
48. Cancer or other malignant Tumours of the Skin... ...	2	10	2	12	3	
49. Cancer or other malignant Tumours of Organs not specified ...	2	37	8	39	...	
50. Tumours non-Malignant... ...	2	100	2	102	...	
51. Acute Rheumatism ...	3	33	...	36	...	
52. Chronic Rheumatism ...	5	55	2	60	1	
53. Scurvy including (Barlow's Disease) ...	...	3	1	3	...	
54. Pellagra ...	2	9	...	11	...	
55. Beri-Beri ...	...	17	2	17	1	
56. Rickets ...	...	2	1	2	...	
57. Diabetes (not including Insipidus) ...	4	133	21	137	6	
58. Anaemia—						
(a) Pernicious ...	1	8	2	9	...	
(b) Other Anaemias and Chlorosis ...	2	87	11	89	8	
59. Diseases of the Pituitary Body ...	...	...	...	...	...
60. Diseases of the Thyroid Gland—						
(a) Exophthalmic Goitre ...	...	21	1	21	1	
(b) Other Diseases of the Thy- roid Glands, Myxoedema ...	...	5	...	5	...	
61. Diseases of the Para-Thyroid Glands ...	...	...	...	...	...
62. Diseases of the Thymus ...	...	...	...	...	...
63. Diseases of the Supra-Renal Glands ...	...	...	...	...	...
Diseases carried forward ...						

Summary of Diseases and Deaths (In-patients) in the Colonial and District Hospitals.—Continued.

DISEASES,	Remaining in Hospital at end of 1937.	YEARLY TOTAL.		Total Cases Treated.	Remaining in Hospital at end of 1938	REMARKS.
		Admissions.	Deaths.			
Diseases brought forward ...						
II.—GENERAL DISEASES NOT MENTIONED ABOVE.—CONTD.						
64. Diseases of the Spleen ...	...	4	1	4	...	
65. Leukaemia—						
(a) Leukaemia ...	...	1	1	1	...	
(b) Hodgkin's Disease ...	...	4	...	4	...	
66. Alcoholism ...	3	40	...	43	...	
67. Chronic poisoning by mineral substances (lead, mercury, &c.) ...	...	13	...	13	1	
68. Chronic poisoning by organic substances (Morphia, Cocaine, &c.) ...	...	15	...	15	...	
69. Other General Diseases—						
Auto-intoxication ...	...	7	1	7	...	
Purpura Haemorrhagica ...	...	...	...	...	...
Haemophilia ...	...	3	1	3	...	
Diabetes Insipidus ...	...	...	...	...	...
Concussion ...	...	32	...	32	...	
III.—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES.						
70. Encephalitis (not including Encephalitis Lethargica) ...	...	3	1	3	1	
71. Meningitis (not including Tuberculous Meningitis or Cerebro-spinal Meningitis) ...	...	25	18	25	...	
72. Locomotor Ataxia ...	1	16	...	17	...	
73. Other affections of the Spinal Cord ...	2	21	5	23	1	
74. Apoplexy—(a) Haemorrhage ...	...	79	63	79	...	
(b) Embolism ...	...	...	...	...	...
(c) Thrombosis ...	...	79	17	79	4	
75. Paralysis—(a) Hemiplegia ...	5	78	8	83	7	
(b) Other Paralysis ...	1	17	3	18	1	
76. General Paralysis of the Insane ...	1	8	...	9	...	
77. Other forms of Mental Alienation... ..	2	165	...	167	...	
78. Epilepsy ...	1	50	1	51	2	
79. Eclampsia, Convulsions (non-puerperal) 5 years or over ...	2	12	...	14	...	
80. Infantile Convulsions ...	...	15	2	15	...	
81. Chorea ...	...	2	...	2	1	
82. A.—Hysteria ...	...	46	...	46	...	
B.—Neuritis ...	...	20	...	20	2	
C.—Neurasthenia ...	...	18	...	18	...	
83. Cerebral Softening ...	...	2	...	2	...	
84. Other affections of the Nervous System, such as Paralysis Agitans ...	1	11	1	12	1	
85. Affections of the Organs of Vision—						
(a) Diseases of the Eye ...	15	362	1	377	19	
(b) Conjunctivitis ...	2	52	...	54	2	
(c) Trachoma ...	...	6	...	6	1	
(d) Tumours of the Eye ...	...	8	...	8	...	
(e) Other affections of the Eye ...	20	380	...	400	7	
86. Affections of the Ear or Mastoid Sinus ...	6	128	2	134	3	
IV.—AFFECTIONS OF THE CIRCULATORY SYSTEM.						
87. Pericarditis ...	...	9	6	9	1	
88. Acute Endocarditis or Myocarditis ...	...	26	5	26	3	
89. Angina Pectoris ...	...	36	15	36	1	
90. Other Diseases of the Heart—						
(a) Valvular—Mitral ...	3	74	17	77	7	
Aortic ...	3	74	32	77	1	
Tricuspid ...	...	2	...	2	...	
Pulmonary ...	...	...	...	...	...
(b) Myocarditis ...	22	217	75	239	5	
Diseases carried forward ...						

Summary of Diseases and Deaths (In-patients) in the Colonial and District Hospitals.—Continued.

DISEASES.	Remaining in Hospital at end of 1937.	YEARLY TOTAL.		Total Cases Treated.	Remaining in Hospital at end of 1938.	REMARKS.
		Admissions.	Deaths.			
Diseases brought forward ...						
IV.—AFFECTIONS OF THE CIRCULATORY SYSTEM.—CONTD.						
91. Diseases of the Arteries—						
(a) Aneurism ...	2	66	18	68	3	
(b) Arterio-Sclerosis ...	4	82	9	86	...	
(c) Other diseases ...	...	33	5	33	...	
92. Embolism or Thrombosis (non-cerebral) ...	...	7	...	7	...	
93. Diseases of the Veins—						
Haemorrhoids ...	4	105	1	109	1	
Varicose Veins ...	...	7	...	7	...	
Phlebitis ...	...	11	1	11	2	
94. Diseases of the Lymphatic System—						
Lymphangitis ...	...	5	...	5	...	
Lymphadenitis, Bubo (non-specific) ...	1	28	...	29	1	
95. Haemorrhage of undetermined cause ...	1	28	2	29	...	
96. Other affections of the Circulatory System ...	1	26	2	27	1	
V.—AFFECTIONS OF THE RESPIRATORY SYSTEM.						
97. Diseases of the Nasal Passages ...						
Adenoids ...	...	138	1	138	...	
Polypus ...	...	13	...	13	1	
Rhinitis ...	...	16	1	16	1	
Coryza ...	...	9	...	9	1	
98. Affections of the Larynx—						
Laryngitis ...	...	4	...	4	...	
99. Bronchitis—(a) Acute ...	6	129	6	135	7	
(b) Chronic ...	13	266	50	279	13	
100. Broncho-Pneumonia ...	5	159	73	164	6	
101. Pneumonia—(a) Lobar ...	20	316	105	336	11	
(b) Unclassified ...	8	14	11	22	1	
102. Pleurisy, Empyema ...	2	64	8	66	6	
103. Congestion of the Lungs ...	...	8	6	8	...	
104. Gangrene of the Lungs ...	1	12	4	13	4	
105. Asthma ...	1	87	4	88	2	
106. Pulmonary Emphysema ...	1	28	5	29	1	
107. Other affections of the Lungs—						
Pulmonary Spirochaetosis ...	...	10	3	10	...	
VI.—DISEASES OF THE DIGESTIVE SYSTEM.						
108. A.—Diseases of Teeth or Gums—						
Caries, Pyorrhoea, &c. ...	...	31	...	31	...	
B.—Other affections of the Mouth						
—Stomatitis ...	...	27	...	27	1	
Glossitis, &c. ...	...	...	...	...	...
109. Affections of the Pharynx or Tonsils						
—Tonsillitis ...	...	395	1	395	1	
Pharyngitis ...	...	13	...	13	...	
110. Affections of the Oesophagus ...	2	1	1	3	...	
111. A.—Ulcer of the Stomach ...	4	44	4	48	2	
B.—Ulcer of the Duodenum ...	1	77	5	78	8	
112. Other affections of the Stomach—						
Gastritis ...	3	120	5	123	2	
Dyspepsia, &c. ...	...	88	...	88	8	
113. Diarrhoea and Enteritis—						
Under two years ...	4	49	22	53	...	
Diseases carried forward ...						

Summary of Diseases and Deaths (In-patients) in the Colonial and District Hospitals.—Continued.

DISEASES.	Remaining in Hospital at end of 1937.	YEARLY TOTAL.		Total Cases Treated.	Remaining in Hospital at end of 1938.	REMARKS.
		Admissions.	Deaths.			
Diseases brought forward ...						
VI.—DISEASES OF THE DIGESTIVE SYSTEM.—CONTINUED.						
114. Diarrhoea and Enteritis—						
Two years and over ...	4	123	16	127	10	
Colitis ...	4	76	20	80	3	
Ulceration ...	10	94		104	8	
115. Ankylostomiasis ...	19	325	25	344	14	
116. Diseases due to Intestinal Para- sites—						
(a) Cestoda (Taenia) ...	...	...	...	...	...
(b) Trematoda (Flukes) ...	...	...	...	...	...
(c) Nematoda (other than Ankylostoma)—						
Ascaris ...	1	16	1	17	1	
Trichocephalus dispar ...	...	...	...	...	...
Trichina ...	...	...	...	...	...
Dracunculus ...	...	...	...	...	...
Strongylus ...	...	...	...	...	...
Oxyuris ...	...	...	...	...	...
(d) Coccidia ...	...	...	...	...	...
(e) Other parasites ...	...	...	...	...	...
(f) Unclassified ...	1	...	...	1	...	
117. Appendicitis ...	...	157	13	157	4	
118. Hernia ...	2	365	13	367	5	
119. A.—Affections of the Anus, Fistula, &c. ...	4	106	10	110	8	
B.—Other affections of the Intestines—Enteroptosis ...	...	53	4	53	2	
Constipation... 1	1	100	...	101	1	
120. Acute Yellow Atrophy of the Liver ...	...	1	1	1	...	
121. Hydatid of the Liver ...	...	...	...	...	...
122. Cirrhosis of the Liver—						
(a) Alcoholic ...	...	24	2	24	1	
(b) Other forms ...	2	41	12	43	2	
123. Biliary Calculus ...	1	23	1	24	3	
124. Other affections of the Liver—						
Abscess ...	...	3	...	3	1	
Hepatitis ...	2	15	...	17	...	
Cholecystitis ...	...	47	1	47	...	
Jaundice ...	1	28	4	29	...	
125. Diseases of the Pancreas ...	...	10	...	10	1	
126. Peritonitis (of unknown cause) ...	...	17	13	17	...	
127. Other affections of the Digestive System ...	3	42	4	45	1	
VII.—DISEASES OF THE GENITO- URINARY SYSTEM (NON-VENEREAL).						
128. Acute Nephritis ...	4	88	28	92	2	
129. Chronic ...	10	269	82	279	21	
130. A.—Haematuria ...	...	5	...	5	...	
B.—Schistosomiasis ...	...	...	...	...	...
131. Other affections of the Kidneys—						
Pyelitis, &c. ...	4	53	3	57	10	
132. Urinary Calculus ...	...	43	3	43	...	
133. Diseases of the Bladder—Cystitis... 1	1	67	5	68	3	
134. Disease of the Urethra—						
(a) Stricture ...	1	244	14	245	10	
(b) Other ...	2	48	5	50	3	
135. Disease of the Prostate—						
Hypertrophy ...	8	80	17	88	4	
Prostatitis... ...	...	21	1	21	...	
Diseases carried forward ...						

Summary of Diseases and Deaths (In-patients) in the Colonial and District Hospitals.—Continued.

DISEASES.	Remaining in Hospital at end of 1937.	YEARLY TOTAL.		Total Cases Treated	Remaining in Hospital at end of 1938	REMARKS.
		Admissions.	Deaths.			
Brought forward ...						
VII.—DISEASES OF THE GENITO- URINARY SYSTEM (NON-VENEREAL)—CONTINUED.						
136. Diseases (non-Venerae) of the Genital Organs of Man—						
Epididymitis ...	1	17	...	18	...	
Orchitis ...	...	18	...	18	1	
Hydrocele ...	3	61	1	64	3	
Ulcer of Penis ...	2	88	...	90	2	
Phimosis ...	...	59	...	59	...	
137. Cysts or other non-malignant Tumours of the Ovaries ...	4	45	2	49	2	
138. Salpingitis ...	4	116	...	120	3	
Abscess of the Pelvis ...	3	107	...	110	...	
139. Uterine Tumours (non-malignant)						
140. Uterine Haemorrhage (non-puer- peral) ...	2	50	4	52	...	
141. A.—Metritis ...	1	75	1	76	...	
B.—Other affections of the Female Genital Organs—	...	33	...	33	...	
Displacements of the Uterus ...	...	13	...	13	...	
Amenorrhoea ...	...	12	...	12	1	
Dysmenorrhoea ...	4	19	...	23	1	
Leucorrhoea ...	...	12	...	12	...	
142. Diseases of the Breast (non-puer- peral)—						
Mastitis ...	...	7	...	7	...	
Abscess of Breast ...	...	33	...	33	...	
VIII.—PUERPERAL STATE.						
143. A.—Normal Labour ...	51	1,708	...	1,759	21	
B.—Accidents of Pregnancy ...	3	44	...	47	1	
(a) Abortion ...	4	268	2	272	7	
(b) Ectopic Gestation ...	1	18	5	19	...	
(c) Other accidents of Pregnancy ...	11	383	2	394	2	
144. Puerperal Haemorrhage ...	1	42	11	43	...	
145. Other accidents of Parturition ...	2	101	4	103	2	
146. Puerperal Septicaemia ...	...	80	15	80	...	
147. Phlegmasia Dolens ...	...	2	...	2	...	
148. Puerperal Eclampsia ...	2	128	25	130	3	
149. Sequelae of Labour ...	3	10	1	13	...	
150. Puerperal affections of the Breast	1	3	...	4	1	
150. A.—Hyperemesis ...	...	5	...	5	...	
IX.—AFFECTIONS OF THE SKIN AND CELLULAR TISSUES.						
151. A.—Ulcers ...	25	344	4	369	17	
151. B.—Gangrene ...	2	59	14	61	3	
152. Boil ...	...	...	...	...	...
Carbuncle ...	1	56	1	57	2	
153. Abscess ...	10	540	14	550	11	
Whitlow ...	11	277	2	288	11	
Cellulitis ...	10	274	8	284	3	
154. A.—Tinea ...	...	...	...	...	...
B.—Scabies ...	...	6	...	6	...	
155. Other Diseases of the Skin ...	...	37	...	37	...	
Erythema ...	...	40	...	40	...	
Urticaria ...	...	11	...	11	...	
Eczema ...	12	77	...	89	5	
Herpes ...	...	...	...	...	...
Psoriasis ...	...	...	...	...	...
Elephantiasis ...	...	5	...	5	...	
Myiasis ...	1	20	1	21	...	
Chigoes ...	3	8	...	11	1	
Cutaneous Leishmaniasis ...	...	2	...	2	...	
Carried forward ...						

Summary of Diseases and Deaths (In-patients) in the Colonial and District Hospitals.—Continued.

DISEASES.	Remaining in Hospital at end of 1937.	YEARLY TOTAL.		Total Cases Treated.	Remaining in Hospital at end of 1938.	REMARKS.
		Admissions.	Deaths.			
Brought forward	...					
X.—DISEASES OF BONES AND ORGANS OF LOCOMOTION (OTHER THAN TUBERCULOUS).						
156. Diseases of Bones—						
Osteitis	6	105	2	111	5	
157. Diseases of Joints—						
Arthritis	6	151	...	157	8	
Synovitis ... ..	...	34	...	34	1	
158. Other Diseases of Bones or Organs of Locomotion ... ..	...	44	2	44	3	
XI.—MALFORMATIONS.						
159. Malformations—						
Hydrocephalus ... ..	...	3	1	3	...	
Hypospadias ... ..	...	...	...	...	...
Spina-Bifida, &c.	1	35	6	36	3	
XII.—DISEASES OF INFANCY.						
160. Congenital Debility	2	62	43	64	1	
161. Premature Birth ... ..	...	70	53	70	...	
162. Other affections of Infancy ... ..	...	68	32	68	1	
163. Infant neglect (infants of three months or over)	2	18	5	20	3	
XIII.—AFFECTIONS OF OLD AGE.						
164. Senility	6	114	16	120	10	
Senile Dementia	3	31	2	34	18	
XIV.—AFFECTIONS PRODUCED BY EXTERNAL CAUSES.						
165. Suicide by Poisoning ... ..	...	...	...	...	...
166. Corrosive poisoning (intentional) ... ..	...	5	1	5	...	
167. Suicide by Gas Poisoning ... ..	...	...	...	...	...
168. Suicide by Hanging or Strangula- tion ... ..	...	...	...	...	...
169. Suicide by Drowning ... ..	...	...	...	...	...
170. Suicide by Firearms ... ..	...	...	...	...	...
171. Suicide by cutting or stabbing Instruments ... ..	...	1	1	1	...	
172. Suicide by jumping from a height ... ..	...	...	...	...	...
173. Suicide by crushing ... ..	...	...	...	...	...
174. Other Suicides ... ..	...	...	...	...	...
175. Food Poisoning—Botulism ... ..	...	10	...	10	...	
176. Attacks of poisonous animals—	...	...	...	...	...
Snake Bite ... ..	...	21	1	21	...	
Insect Bite	1	684	8	685	1	
Carried forward	...					

Summary of Diseases and Deaths (In-patients) in the Colonial and District Hospitals.—Continued.

DISEASES.	Remaining in Hospital at end of 1937.	YEARLY TOTAL.		Total Cases Treated.	Remaining in Hospital at end of 1938.	REMARKS.
		Admissions.	Deaths.			
Brought forward ...						
XIV.—AFFECTIONS PRODUCED BY EXTERNAL CAUSES—CONT'D.						
177. Other accidental Poisonings ...	...	36	1	36	...	
178. Burns (by Fire)... ..	4	166	12	170	4	
179. Burns (other than by Fire) ...	3	48	5	51	1	
180. Suffocation (accidental) ...	...	...	...	...	...
181. Poisoning by Gas (accidental) ...	...	...	...	...	...
182. Drowning (accidental) ...	...	1	...	1	...	
183. Wounds (by Firearms, war excepted) ... ..	...	14	...	14	3	
184. Wounds (by cutting or stabbing Instruments)	4	374	2	378	15	
185. Wounds (by Fall)	4	248	2	252	...	
186. Wounds (in Mines or Quarries) ...	...	9	...	9	...	
187. Wounds (by Machinery)... ..	...	12	...	12	...	
188. Wounds (crushing, e.g., Railway accidents, &c.)	1	273	5	274	6	
189. Injuries inflicted by Animals, Bites, Kicks, &c. ... ..	...	18	...	18	...	
190. Wounds inflicted on active service	1	90	1	91	2	
191. Menorrhagia ... ..	...	8	...	8	...	
192. A.—Over Fatigue ... ..	...	...	...	...	...
B.—Hunger or Thirst ... ..	...	1	...	1	...	
193. Exposure to Cold, Frost bite, &c.	...	...	...	...	...
194. Exposure to Heat—Heatstroke Sunstroke ... ..	...	1	...	1	...	
195. Lightning Stroke ... ..	...	...	...	...	...
196. Electric Shock ... ..	...	2	...	2	...	
197. Murder by Firearms ... ..	...	...	...	...	...
198. Murder by cutting or stabbing Instruments ... ..	...	...	...	...	...
199. Murder by other means ... ..	...	...	...	...	...
200. Infanticide (murder of an infant under one year) ... ..	...	...	...	...	...
201. A.—Dislocation ... ..	...	27	...	27	3	
B.—Sprain	2	46	...	48	1	
C.—Fracture	62	707	19	769	37	
202. Other external Injuries	9	173	8	182	8	
203. Foreign Bodies... ..	1	85	2	86	2	
* N.A.D.	9	416	...	425	18	
XV.—ILL-DEFINED DISEASES.						
204. Sudden death (cause unknown) ...	...	...	...	...	...
205. A.—Diseases not already specified or ill-defined ... ..	...	10	...	10	...	
Ascites ... ..	...	16	...	16	...	
Oedema ... ..	...	1	...	1	...	
Asthenia and debility	6	82	33	88	8	
Shock ... ..	...	51	4	51	...	
Hyperpyrexia ... ..	...	3	...	3	...	
B.—Malingering ... ..	...	9	3	9	...	
XVI.—DISEASES, THE TOTAL OF WHICH HAVE NOT CAUSED TEN DEATHS						
Total	820	21,718	1,917	22,538	764	

* No abnormality determinable

Admissions, Discharges and Deaths of Patients during the year 1938, at the Colonial and District Hospitals.

Deaths occurring within the undermentioned periods after admission.

Number remaining in Hospitals on 31st December, 1937	.....	821
Number admitted during the year ended 31st December, 1938	.....	22,126
Total number treated during the year 1938	.....	22,947
Number discharged during the year 1938	.....	20,147
Number died during the year 1938	.....	1,945
Number remaining in Hospitals on 31st December, 1938	.....	855
Daily average number in Hospitals	.....	904
Percentage of deaths on number treated during 1938	.....	8.5

Number remaining in Hospitals on 31st December, 1938	855
Daily average number in Hospitals	904
Percentage of deaths on number treated during 1938	85

DISTRICT HOSPITALS.

4,573 patients were admitted to these institutions in the course of the year, the daily average number of beds occupied being 172. At Couva, 95 patients were admitted to the maternity section.

Further particulars of these hospitals and of health offices (dispensaries) are given in the accompanying table.

TABLE IV.
Return of the number of Health Offices and Attendances of Paupers and Poor Persons in Medical Districts during the year 1938.

Medical Districts.	Pauper Certificate		Poverty Certificate.		Total.		GRAND TOTAL.	CERTIFICATE FOR						Total.		GRAND TOTAL.		
	M.	F.	M.	F.	M.	F.		Treated as Out-patients.		Colonial Hospital.		House of Refuge.		Leper Asylum.				
								M.	F.	M.	F.	M.	F.		M.		F.	
Port-of-Spain, N.-Eastern	3,147	3,755	825	1,404	3,972	5,159	9,131	3,930	5,119	36	29	6	11	...	...	3,972	5,159	9,131
Port-of-Spain, S.-Eastern	5,131	6,774	3,775	7,205	8,906	13,979	22,885	8,771	13,868	133	94	2	17	...	...	8,906	13,979	22,885
Port-of-Spain, West	2,012	3,406	1,739	3,667	3,751	7,073	10,824	3,691	7,024	60	49	...	...	...	...	3,751	7,073	10,824
Diego Martin-Bocas	2,336	3,516	1,073	5,592	3,409	5,108	8,517	3,226	4,855	172	234	11	19	...	...	3,409	5,108	8,517
St. Joseph	4,869	8,124	565	931	5,374	9,055	14,429	5,374	9,055	...	...	...	...	...	...	5,374	9,055	14,429
Tacarigua	7,721	9,997	598	921	8,319	10,918	19,237	8,236	10,837	75	71	...	7	8	3	8,319	10,918	19,237
Arima	4,240	4,805	360	392	4,600	5,197	9,797	4,575	5,182	13	14	11	1	...	...	4,600	5,197	9,797
Manzanilla	2,257	2,931	1,532	2,072	3,807	5,003	8,810	3,807	5,003	...	...	...	...	...	...	3,807	5,003	8,810
Toco	447	408	145	351	592	759	1,351	567	728	23	30	2	...	...	1	592	759	1,351
Chaguanas	1,543	2,178	628	932	2,171	3,110	5,281	2,167	3,110	...	...	4	...	...	...	2,171	3,110	5,281
Couva	1,418	1,695	6	3	1,424	1,698	3,122	1,424	1,698	...	...	...	...	...	...	1,424	1,698	3,122
Guaracara	484	403	4	12	488	415	903	413	382	75	30	...	1	...	2	488	415	903
Gran Couva	635	668	296	438	931	1,066	2,037	855	1,048	72	56	2	1	2	1	931	1,066	2,037
San Fernando	4,202	7,187	2,028	2,518	6,230	9,705	15,935	5,696	9,354	530	345	...	...	4	6	6,230	9,705	15,935
Princes Town	7,562	8,916	...	...	7,562	8,916	16,478	7,546	8,906	14	6	1	4	...	...	7,562	8,916	16,478
Ortoire-Moruga	832	1,063	5	...	837	1,063	1,900	810	1,042	27	21	...	...	...	...	837	1,063	1,900
La Brea-Point Fortin	1,457	1,494	585	1,011	2,942	2,505	4,547	2,002	2,475	36	28	2	2	...	...	2,942	2,505	4,547
Cedros	760	539	238	294	998	833	1,831	998	833	...	...	...	...	...	...	998	833	1,831
Mayaro	2,440	3,092	293	427	2,733	3,519	6,252	2,675	3,481	56	37	2	1	...	...	2,733	3,519	6,252
Total Trinidad	53,451	70,951	14,695	24,170	68,146	95,121	163,267	66,763	94,000	1,322	1,014	43	64	18	13	68,146	95,121	163,267
Scarborough	664	1,089	100	200	764	1,289	2,053	764	1,289	...	...	...	...	...	...	764	1,289	2,053
Roxborough	393	502	8	...	401	502	903	393	498	7	4	1	...	...	...	401	502	903
Plymouth	807	1,294	...	4	807	1,298	2,105	793	1,268	14	30	...	...	...	...	807	1,298	2,105
Total Tobago	1,864	2,885	108	204	1,972	3,089	5,061	1,950	3,055	21	34	1	...	...	...	1,972	3,089	5,061
Total Trinidad and Tobago	55,315	73,836	14,803	24,374	70,118	98,210	168,328	68,713	97,055	1,343	1,078	44	64	18	13	70,118	98,210	168,328

CHACACHACARE LEPROSY SETTLEMENT.

The Medical Superintendent reports as follows:—

In reviewing the work of the past year, the outstanding feature has been the general improvement in the health, happiness, and morale of all the inmates of both sexes. The innovations introduced last year and briefly referred to in my report for the year 1937 have certainly borne fruit. In the latter part of the year several cases of leprosy from the mainland sought voluntary admission to the settlement, a significant testimony to the improved conditions of life on the settlement; the latter may have far reaching effects in assisting the control of leprosy on the mainland.

The experience of the past 18 months and the results obtained have justified the policy adopted which is in keeping with modern ideas and conception of the care, treatment, and control of leprosy. It is gratifying to note that the main lines of this policy carried out during this period are in keeping with the recommendation laid down by the International Leprosy Conference held in Cairo, March 21, 1938.

Remunerative occupational therapy has been encouraged as much as possible among lepers physically capable of carrying out work. Such occupations include clearing of vegetation, cutting firewood, bootmaking, gardening, poultry farming, yard and laundry work, sewing, &c.

Occupation not only improves the physical condition, but has also a favourable psychological effect on the leper. The system of issuing raw rations enabling the lepers to carry out their own methods of cooking in their cottages has proved a most popular one; apart from providing occupation it enables the lepers to enjoy their meals with a certain degree of privacy in their cottages instead of in a public dining hall; it is a system that can be recommended for other leper institutions where a routine diet is cooked in an empirical manner and publicly served.

The monotony of life on an island has been counteracted by a system of "passes" to the mainland. These passes are issued from time to time to suitable cases for periods of one to fourteen days and enable the patients to visit their relatives on the mainland. In no instance has this privilege been abused and it would appear has been the means of initial propaganda on the mainland that should prove useful in the future control of leprosy.

The system of passes has certainly added to the happiness of the lepers; it is of interest to note that this system was embodied in the recommendation issued by the International Congress of Leprosy in March, 1938.

The vegetable garden established last year and managed by the lepers has provided a continuous supply of vegetables, and the apiary a good quality of honey.

There were no epidemics; a few cases of a 5- to 7-day fever clinically simulating Dengue occurred in the autumn and co-incided with a breed out of *Aedes* mosquitoes.

Routine examinations of newly admitted lepers for hookworm infestation have been carried out. The last 117 admissions showed that 104 were infested, the majority of them heavy infestations.

The past year has further confirmed the necessity for a well equipped laboratory for investigating:—

- (a) numerous pyrexias that are loosely termed leprotic reactions.
- (b) the bacterial flora present in the leprotic ulcerations of the skin, and in the numerous distressing eye lesions.
- (c) biochemical problems associated with leprosy as well as problems concerned with the transmission of the disease.

Chacachacare undoubtedly presents an ideal site for the establishment of a British Empire Leprosy Research Station. It is hoped that this will be considered when the proposed electricity scheme for the island has materialised.

Early in the year the Government approved of the old leper settlement at Cocorite on the mainland being taken over as a suitable site for a dairy, vegetable and fruit farm, for the purpose of supplying the lepers at Chacachacare with cow's milk, fresh vegetables and fruit. This farm with extensive land will provide occupation for discharged cured cases and "burnt out" nerve cases of leprosy.

Buildings.—There is little to record as regards building activities. Two additional concrete tanks have been erected for conserving rain water supply, and a bath house for fresh water baths has been erected for the children.

New quarters have also been erected for the members of the Public Works Department.

Sea Transport.—An outboard boat for the use of the medical superintendent, and two new Kelvin engines fitted to the launches "Cocos" and "Atrice" have improved considerably transport facilities.

An order has been placed for a new launch to replace the broken down "Crown".

Public Health.—Abnormal heavy rains necessitated continuous cutlassing of the grass and undergrowth in the settlement, as well as the oiling and draining of standing collections of water. Measures were also adopted to prevent breeding out of flies.

There were no epidemics of malaria or dysentery. Zinc covered tables and the use of enamelled pails for carrying food have improved the sanitary state of the kitchens.

Amusements.—Various in-door games, draughts, card games, table tennis, &c., have been provided by funds obtained from friends and the recreation fund.

Cricket has also been enjoyed by the men and boys. A large consignment of books kindly sent by Captain Littleton has proved a welcome addition to the library.

Concert parties, kindly organised on the mainland by Mr. Macdonald Chambers, have been much appreciated by the patients. His interest in the lepers was further shown in a practical manner by the presentation of musical instruments purchased by subscriptions he raised on the mainland. The inmates' band, now well equipped with instruments, provides suitable music for dances and other social gatherings that assist in relieving the monotony of life on an island.

Acknowledgment is also due to Father Kelly, O.P., and members of the Anglican Church, who apart from their spiritual duties, have taken a personal interest in the social welfare of the lepers and staff in the settlement.

Thanks are also due to the matron and assistant matron for their kindly interest in the welfare and happiness of the children.

The establishment of a children's primary school with suitably selected teachers from the male and female inmates meets the mental needs of the children.

One boat has been built which enables the lepers to indulge in sea fishing in the bay; apart from the sport it enables the lepers to add fresh fish to their dietary.

Treatment.—As already mentioned new cases are examined first for hookworm infestation or other infections prior to specific treatment for leprosy. Treatment is entirely voluntary, and is carried out on the lines mentioned in last year's report using hydnicarpus and hydrestnyl injections with such adjuvants as cod liver oil and calcium lactate, &c.

For so-called leprotic reactions calomel has definitely proved "a sheet anchor" in fact a sovereign remedy judging by its popularity with the patients. Salol and urotropin have also proved of therapeutic value in leprotic reactions.

Benzedrine as an inhalant has proved beneficial in nasal ulcerations containing lepra bacilli.

Hydnicarpus combined with eucalyptus oil proved useful in the treatment of leprotic ulcerations of the skin, and eucalyptus and iodoform emulsion continues to be the most suitable dressing for trophic ulcers.

Whatever therapeutic remedies are employed it is of primary importance that the general health and happiness of the patient be maintained.

The diet must be liberal and varied and rich in vitamins, and occupational therapy and outdoor exercise encouraged, in fact everything that will render conditions of life on a remote island as happy as possible, and approximating those of voluntary isolation.

Periodical visits to the settlement have been made by the Medical Superintendent of the Colonial Hospital, Port-of-Spain; these have been much appreciated by the patients who have valued his surgical skill.

Admissions.—There were 92 cases admitted during the past 12 months.

Discharges.—There were 54 cases discharged as cured. One case was discharged for voluntary isolation and treatment.

Deaths.—24 occurred.

ADMISSIONS, DISCHARGES AND DEATHS—PATIENTS DURING THE YEAR 1938, AT THE CHACACHACARE LEPER SETTLEMENT.

Months.	Admitted.	Discharged.	Died.
January	6	1	6
February	5	12	1
March	9	2	1
April	5	2*	1
May	2	4	3
June	14	1	1
July	5	1	2
August	16	4	2
September	13	1	2
October	8	13	—
November	5	1†	1
December	4	12	4
Total	92	54	24

*1 Absconded.

†Absconded.

Number remaining in Settlement on 31st December, 1937	...	381
Do. admitted during the year ended 31st December, 1938	...	92
Total number treated during the year 1938	...	473
Number discharged during the year 1938	...	54
Do. died during the year 1938	...	24
Do. remaining in Settlement on 31st December, 1938	...	395
Daily average number in Settlement during 1938	...	385.95
Largest daily number in Settlement	...	411
Smallest do. do.	...	368
Percentage of deaths on number treated during 1938	...	5.07

DEATHS OCCURRING WITHIN THE UNDERMENTIONED PERIOD AFTER ADMISSION.

24 Hours.	2 Days.	3 Days.	1 Week.	2 Weeks.	1 Month.	3 Months.	Over 3 Months.	Total.
—	1	—	—	—	1	1	21	24

MENTAL HOSPITAL, ST. ANN'S.

The problem of overcrowding in this hospital continued. The programme of works in the five year plan includes this institution and, from the proposed loan, a sum of \$192,950 has been earmarked for this hospital.

The admissions totalled 297 of whom 251 were first admissions and 46 were re-admissions. This figure is the highest recorded in the history of the institution. The average number of patients was 756, the total number under care being 1,029.

116 patients were discharged of whom 108 were recoveries giving a recovery rate of 36.36.

The deaths numbered 115, the disease causing the largest number (20) being pulmonary tuberculosis. Pneumonia and pleurisy accounted for 12 and dysentery and diarrhoea for 7 deaths.

The chief form of mental disorder among the admissions was confusional insanity, followed by senile dementia and dementia praecox. The number of cases of general paralysis of the insane was ten compared with four in the previous year.

Therapeutic Measures.—Anti-syphilitic treatment was continued. Specimens of blood examined for the Wasserman reaction numbered 315 of which 167 were positive. Specimens of cerebro spinal fluid numbered 244 with 64 positive results. 243 patients received anti-syphilitic injections, such injections numbering in all 2,507.

Occupational therapy has been continued with the usual workshops—sewing room and upholstery, laundry, carpentry, blacksmith, shoemaker, tinsmith. A largely increased number is engaged in vegetable and fruit cultivation. Land has been opened up where pakchoy, tomato, spinach, artichoke, beans, peas, corn, &c., have been planted. Fruit trees have been cleared of parasites and creepers and pruned.

Female patients in suitable cases are employed in gardening.

TABLE I.

Showing Admissions, Discharges and Deaths at the Mental Hospital during 1938.

	Male.	Female.	Total.	Male.	Female.	Total.
In Hospital on 1st January, 1938	...	...	...	381	339	720
Admitted						
First Admission	136	115	251	...	...	...
Not First Admission	26	20	46	...	...	...
Total Cases Admitted	...	...	...	162	135	297
Total Cases under care	...	...	...	543	474	1,017
Cases Discharged :						
Recovered during 1938	58	50	108	...	...	...
Relieved during 1938	4	4	8	...	...	...
Not Improved during 1938	...	...	...	...	...	...
Died during 1938	55	60	115	...	...	...
Total Cases Discharged and Died	...	...	...	117	114	231
Remaining in Hospital on 31st December, 1938	...	...	...	426	360	786
Average number Resident during 1938	410	346	756	...	...	...
Persons under care during 1938	543	474	1,017	...	...	...
Persons admitted during 1938	162	135	297	...	...	...
Persons recovered during 1938	58	49	107	...	...	...

TABLE II.

I. Previous attacks among persons admitted during 1938.

II. The number of times they had previously recovered in this Hospital.

	Male.	Female.	Total.
1. Have had 1 attack	22	14	36
Do. 2 attacks	3	6	9
Do. 3 do. ... ..	...	3	3
Do. 4 do. ... ..	...	...	...
Do. 5 do.	1	...	1
Do. 6 do. ... ..	...	...	...
Do. 7 do. ... ..	...	1	1
2. Number of times recorded in this Hospital :			
Once	19	14	33
Twice	2	5	7
Thrice ... ..	...	2	2
Four times ... ..	...	...	...
Five times	1	...	1
Six times ... ..	...	...	...
Seven times... ..	...	1	1

TABLE III.

Showing Admissions, Re-admissions, Discharges and Deaths from opening of the Mental Hospital in 1858 to the 31st December, 1938.

	Male.	Female.	Total.	Male.	Female.	Total.
Persons admitted since opening of the Institution	4,742	4,148	8,890	...	...	...
Re-admissions do. do. do. ...	489	428	917	...	...	...
Total Cases admitted ... ..	...	...	...	5,231	4,576	9,807
Discharged :—						
Recovered	1,850	1,470	3,320			
Relieved	375	267	642			
Not Improved	121	81	202			
Died	2,459	2,398	4,857			
Total cases discharged and died since opening of Institution ... ..	...	...	...	4,805	4,216	9,021
Remaining on 31st December, 1938				426	360	786

TABLE IV.

Showing the Admissions and Recoveries of Persons from 1881 to 31st December, 1938.

	Male.	Female.	Total.
Persons* admitted during the years 1881 to 31st Dec., 1938 ...	4,225	3,803	8,028
Of whom were discharged recovered during the same period— being 35.17 per cent. of persons admitted	1,541	1,283	2,824
Of whom were re-admitted relapsed†	446	399	845
Persons who have not relapsed	1,095	884	1,979
Relapsed persons discharged recovered‡	185	171	356
Net recovered persons§ being 29.08 per cent. of persons admitted	1,280	1,055	2,335

TABLE V.
Showing the Admissions, Discharges and Deaths, with mean Annual Mortality and Proportion of Recoveries per cent. on the Admissions for each year.

Years.	Admitted.			Discharged.						Died.			Remaining on 31st December.			Average Number Resident.			Percentage of Recoveries on Admissions.			Percentage of Deaths on Average Number Resident.		
				Recovered.			Relieved.																	
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
1911-1912	51	62	113	24	18	42	2	1	3	4	2	6	401	256	657	397	252	649	47.09	29.50	37.50	6.45	9.47	17.20
1912-1913	69	58	127	24	15	39	4	2	6	4	2	3	408	264	672	412	264	676	34.78	25.86	30.70	8.00	11.74	9.46
1913-1914	85	70	155	25	14	39	5	4	9	7	2	9	441	275	716	412	271	683	29.41	20.00	25.61	10.19	14.39	11.85
1914-1915	98	77	175	26	22	48	4	12	16	8	2	10	417	263	680	421	273	694	26.33	28.85	27.42	13.53	19.41	17.20
1915	67	48	115	13	20	33	6	12	18	5	5	5	19	243	684	435	251	686	19.40	41.64	28.69	4.36	14.74	8.15
1916	98	83	181	30	17	47	8	5	13	4	3	7	46	259	710	445	255	700	30.61	20.48	25.96	10.33	16.47	12.57
1917	81	60	141	29	27	56	13	11	24	5	2	7	41	234	678	457	249	706	36.00	45.00	39.72	8.97	18.47	12.57
1918	76	91	167	25	18	43	13	8	21	1	1	1	71	236	645	440	248	688	34.00	5.00	38.37	10.61	20.05	19.33
1919	87	82	169	23	29	52	14	9	23	1	2	3	405	247	652	406	248	654	26.43	33.26	30.76	12.56	13.30	12.84
1920	100	93	193	34	35	69	6	2	8	4	2	6	406	255	661	411	251	662	34.00	37.63	35.77	13.35	18.32	14.50
1921	95	81	176	29	24	53	9	3	12	4	2	6	401	251	652	409	247	656	30.52	29.62	30.11	13.69	19.83	16.00
1922	63	66	129	29	28	57	8	5	13	...	...	...	396	237	633	399	247	646	46.03	42.42	44.18	8.02	19.02	12.22
1923	81	81	162	25	20	45	15	7	22	...	...	...	394	248	642	401	240	641	30.86	24.69	27.77	10.72	17.91	13.41
1924	76	82	158	27	31	58	21	17	38	...	...	...	389	235	624	392	257	649	35.52	37.80	36.70	8.41	18.28	12.32
1925	79	86	165	31	31	62	19	4	23	4	3	7	377	241	618	390	248	638	39.24	36.04	37.57	9.48	16.93	12.38
1926	69	63	132	27	21	48	9	10	19	2	...	2	367	248	615	382	251	633	39.13	33.33	36.36	12.04	13.94	12.79
1927	85	87	172	27	25	52	9	13	22	...	...	...	360	255	615	379	260	639	31.76	30.86	30.23	14.77	16.15	15.33
1928	88	93	181	27	26	53	12	2	14	...	3	3	364	285	649	370	270	640	30.68	27.95	29.28	12.16	11.85	12.03
1929	88	86	174	34	47	81	10	5	15	1	...	1	365	283	648	377	285	662	38.63	54.65	46.55	11.14	12.63	11.78
1930	75	106	181	38	31	69	10	4	14	...	...	...	356	307	663	366	295	661	50.66	29.24	38.12	9.83	15.93	12.55
1931	72	44	116	25	19	44	14	3	17	2	1	3	354	281	635	360	294	654	34.72	43.18	37.93	9.16	15.98	12.23
1932	79	66	145	24	16	40	6	1	7	...	...	...	363	291	654	356	278	634	30.38	24.24	27.58	11.23	14.02	12.46
1933	74	86	160	17	21	38	4	4	8	...	...	...	371	311	682	370	282	672	22.97	24.42	23.75	12.16	13.57	12.80
1934	113	114	227	28	37	65	6	2	8	...	...	...	399	326	725	390	319	709	24.77	32.45	28.63	13.07	18.81	15.65
1935	102	121	223	36	39	75	4	6	10	1	...	1	398	345	743	401	337	738	35.29	32.23	33.63	15.46	16.91	16.12
1936	82	106	188	15	31	46	14	6	20	...	2	2	394	353	747	394	353	747	18.29	29.24	24.46	14.47	16.71	15.52
1937	123	139	262	62	61	123	20	19	39	1	2	3	388	344	732	397	354	751	50.40	43.88	46.94	11.58	18.64	14.91
1938	162	135	297	58	50	108	4	4	8	...	...	...	426	360	786	410	346	756	35.80	37.03	36.36	13.41	17.35	15.21

TABLE VI.
Showing Causes of Death during the year 1938, with the Ages at Death.

	Under 20		20 and under 25		25 and under 30		30 and under 35		35 and under 40		40 and under 45		45 and under 50		50 and under 55		55 and under 60		60 and upwards		Total.			
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	T.	
CEREBRAL AND SPINAL DISEASES:—																								
Epilepsy and Convulsions																								
General Paralysis																								
Maniacal and Melancholic Exhaustion																								
Other Diseases of the Brain																								
Apoplexy and Paralysis																								
THORACIC DISEASES:—																								
Inflammation of the Lungs, Pleura and Bronchiae	1	1	3	3	2	2			1	1	1	1	2	1	1									
Pulmonary Tuberculosis			2	2	2	4	3	4	7	2	3	5	2											
Disease of the Heart...					1	1	1	1	2	1	1	1	2	3	1		1	1	2	2	4	7	13	
ABDOMINAL DISEASES:—																								
Dysentery and Diarrhoea					1	1					1	1	1					1	2	1	3	4	7	
Bright's Disease					1	1	1	1	1					1	1						1	2	3	
INFLAMMATION OF STOMACH, INTESTINES AND PERITONEUM					1	1	1	1	1		1	1	1								3	3	3	
OLD AGE																			3	4	7	4	7	
GENERAL DEBILITY											1	1	2	2							3	1	4	
ENTERIC FEVER			1	1				1	1													2	2	
CARCINOMA																								
TERTIARY SYPHILIS					1	1	2	1	1	2	1	2	3	1	1	1	1	1			6	6	12	
TOXAEMIA	1	1																				5	5	
SHOCK AND HAEMORRHAGE											1	1										1	1	
																					Total...	55	60	115

HOUSE OF REFUGE—TRINIDAD.

This institution provides accommodation for 700 infirm and destitute persons. The total number of persons in the institution on 1st January, 1938, was 681. 190 males and 227 females were admitted during the year. 104 were discharged and 323 died. The cause of death in 53.4 per cent. of the cases was senility; the other principal causes were cerebral haemorrhage and cardiac disease. Malignant disease accounted for nine deaths. The daily average number accommodated was 691 (382 males and 309 females).

To the mental wards there were three admissions (female), the average number in these wards being 59.3.

The general condition of the institution and of the inmates continued to be satisfactory.

In the corresponding institution in Tobago there were 49 inmates on the 1st January. There were 37 admissions and 14 discharges. The deaths numbered 17. The daily average number of inmates was 51.

The daily cost per inmate calculated on the gross expenditure during the year was 31 cents in Trinidad and 19 cents in Tobago. The costs of maintenance per day (exclusive of salaries of staff of the institutions) were respectively, 22.3 and 14.25 cents.

SECTION VII.—PRISONS.

Conditions at the various institutions in the Colony were satisfactory. Buildings and sanitary arrangements were maintained in a satisfactory condition and the health of the inmates was on the whole good.

Apart from a number of cases of dysentery at the Young Offenders' Detention Institution there was no outbreak of infectious disease. Recommendations were made for various sanitary improvements to be made at this institution.

Medical attendance was provided at all prisons by medical officers of the department.

SECTION VIII.—METEOROLOGY.

The following readings were taken at the St. Clair Experimental Station, Port-of-Spain, longitude 61° 31' W. latitude 10° 40' N. The barometer being 72 feet above mean sea level.

METEOROLOGICAL RETURN FOR THE YEAR 1938—PORT OF SPAIN.

				TEMPERATURE				RAINFALL	
				Shade Maximum °F.	Shade Minimum °F.	Range °F.	Mean °F.	Amount in inches.	Degree of Humidity Mean%
January	...	...	...	95	67	28	81.0	3.50	84.0
February	...	...	...	95	67	28	81.0	2.63	77.0
March	...	...	...	96	67	29	81.5	3.95	78.0
April	...	...	...	93	68	25	80.5	6.45	80.5
May	...	...	...	93	70	23	81.5	6.79	81.5
June	...	...	...	95	70	25	82.5	5.87	79.5
July	...	...	...	93	68	25	80.5	9.65	82.5
August	...	...	...	93	69	24	81.0	10.15	81.5
September	...	...	...	94	70	24	82.0	11.61	86.5
October	...	...	...	96	73	23	84.5	7.49	83.0
November	...	...	...	96	73	23	84.5	10.32	87.5
December	...	...	...	97	71	26	79.0	11.73	85.0
								90.14	

SECTION IX.—LABORATORY SERVICES.

The account given below by the bacteriologist and the pathologist summarises the work done by the laboratory section during the year.

BACTERIOLOGY.

Routine Examination.—26,579 separate specimens were submitted to 32,073 examinations during the year, in addition to 710 samples of water collected from various parts of the island. 2,601 bats were also examined for Negri bodies. The nature of some of these specimens is here given in tabulated form.

BLOOD FOR AGGLUTINATION AGAINST *B. Typhosus*.

Months.	Total.	Positive.	Negative.
January	147	32	115
February	121	28	93
March	122	32	90
April	97	28	69
May	90	19	71
June	147	27	120
July	193	41	152
August	161	40	121
September	148	36	112
October	137	24	113
November	126	24	102
December	73	13	60
	<u>1,584</u>	<u>351</u>	<u>1,233</u>

Blood Smears for Malarial Parasites.

Months.	Total.	Positive.	Negative.	P. Falciparum (Rings)	P. Falciparum (Crescents)	P. Vivax.
January	179	30	149	28	...	2
February	145	16	129	13	1	2
March	161	27	134	17	5	5
April	114	13	101	10	...	3
May	128	14	114	11	1	2
June	172	43	129	40	1	2
July	214	68	146	58	2	8
August	185	50	135	43	...	7
September	150	36	114	29	3	4
October	206	30	176	26	...	4
November	147	14	133	11	...	3
December	98	9	89	8	...	1
	<u>1,899</u>	<u>350</u>	<u>1,549</u>	<u>294</u>	<u>13</u>	<u>43</u>

The following table gives the routine bacteriological examinations made during the year:—

Sputum examinations for <i>B. tuberculosis</i>	—1,057 of which 269 were positive.
Throat swabs for Diphtheria Bacilli	— 297 do. 40 do.
Wasserman Reactions	10,523 do. 5,613 do.
Kahn Test	—3,723 do. 2,168 do.
Urethral and Prostatic discharges for Gonorrhoea—	429 do. 82 do.
Specimens for Ankylostomiasis	—1,508 do. 445 do.
Amoeba histolytica	—1,064 do. 126 do.
<i>B. typhosus</i> in Faeces and Urine	— 363 do. 19 do.
Scrapings and smears for <i>B. leprae</i>	— 96 do. 13 do.
Differential Blood Counts	— 740
Coagulation Tests	— 307 persons were examined to determine the blood coagulation rate.
Dark Ground Illumination for <i>Treponema pallidum</i> —	43 of which 33 were positive.

The laboratory prepared and issued the following quantities of vaccines during the year:—

Anti-typhoid—paratyphoid	... ..	65,760 c.c.
Gonococcal	... ..	12,610 c.c.
Anti-rabies (human)	... ..	2,880 c.c.
Autogenous	... ..	1,533 c.c.

DISCUSSION AND SPECIAL INVESTIGATION.

Wasserman, &c.—Syphilis presents itself as one of the major health problems of the Colony, affecting to a high degree both the morbidity and mortality rate of the population. The increasing demand on the part of the local medical profession for the diagnosis of the disease by serological means, and the establishment of a special venereal diseases clinic, made it urgently imperative to re-examine the technical methods employed locally in the light of recent laboratory developments. In Trinidad, as in other tropical countries, the standard complement fixation test (Wasserman) may occasionally yield false positive results, though the technique followed is, in every detail, identical with what obtains in temperate climates. In certain laboratories in the tropics such positives are considered due to some undetermined pathological condition not associated with syphilis, and non-specificity of the reaction, but the comparatively high standard of sensitivity and specificity attained in recent years—for which we are largely indebted to the efforts of American workers—is rapidly reducing the number of "false" positives and re-establishing the Wasserman as a very reliable means of detecting syphilitic infection.

Of the ingredients entering into the test the antigen demands the greatest care in preparation and control. Up till recently, circumstances compelled the use of a locally made antigen, tested and titrated locally; but the preparation on a commercial scale of a highly purified and standardized antigen has not only reduced the labour involved in the preliminaries for the test, but has allowed results to be obtained which show the minimum of discrepancies with clinical findings. Eagle's Wasserman antigen doubly fortified with cholesterol and sterol has been used during the year and was an eminently satisfactory product.

Variation in the activity of the haemolytic amboceptor is another disturbing factor. H.A. prepared and sealed locally, or imported, undergoes irregular fluctuation in haemolytic activity from day to day, and it is necessary to determine its haemolytic power on every occasion immediately before the test. A titre of 1 in 6,000 to-day may drop in two days' time to 1 in 3,000 and return in another two days to 1 in 5,000. It is to be feared that such irregular variations had not been appreciated in certain quarters in the past, and may be responsible for the opinion expressed that meteorological conditions may influence the Wasserman results.

In addition to the complement fixation method a flocculation test was begun towards the middle of the year on every blood serum submitted for the Wasserman. At first the standard Kahn with three tubes was employed, but later Eagle's modification, with his standard antigen, became the method of choice. Whenever there was a discrepancy between the complement fixation and the flocculation tests in the absence of clinical syphilis a repeat test was recommended.

Water.—The daily bacteriological examination of a representative mixed sample of the water supplies of the City of Port-of-Spain was continued throughout the year, the absence of fermentation in MacConkey's liquid medium in as high a quantity as 100 c.c. being the standard of purity and safety. This preliminary test enables a report to be given by telephone in 24 hours time should there be any departure from the normal standard. On four occasions this standard was not attained, and detailed examinations were immediately undertaken to determine the particular source at fault. The high standard of purity aimed at permits a margin of safety in the event of pollution.

A watchful control was kept over the Central Water Supply which caters to a large population and it was arranged that:

(a) weekly samples should be examined completely from the following sources:

- (1) Raw water at Hollis Reservoir.
- (2) Treated water at Hollis Reservoir.
- (3) A stand pipe in Sangre Grande area.
- (4) Water going into Knaggs Hill Reservoir.
- (5) Water going into old San Fernando Reservoir.
- (6) A stand pipe in Princes Town area.

(b) monthly samples be examined from stand pipes in

- | | |
|-----------------|-------------------|
| (1) Maturita. | (6) Freeport. |
| (2) Arouca. | (7) California. |
| (3) Tunapuna. | (8) San Fernando. |
| (4) St. Joseph. | (9) Diego Martin. |
| (5) Caroni. | (10) Carenage. |

The methods adopted by the Metropolitan Water Board in its bacteriological examination of the London water supplies continued to be followed here, the differentiation of *B. coli* into a fecal and non-fecal (*B. aerogenes*) group being a final test.

Typhoid Carriers.—The routine examination of the faeces and urine of patients who have recovered from typhoid fever at the Colonial Hospital, Port-of-Spain, and at certain district hospitals, with the object of determining the possible carrier state, was continued throughout the year. Wilson's bismuth medium gave satisfactory results, but it was found that the commercial, imported product was less suitable than the local, freshly made preparation. The colonies yielded by the former medium are less typical and cannot be so easily picked out. With Wilson's medium and Russell's double sugar agar a report can be given in 48 hours time.

Employees in certain dairies and water works were similarly examined. In the latter instance their blood agglutination was also done.

Work was begun on the value of the Vi. 1 agglutinins in the detection of the carrier state—the Bhatnagar strain serving as the emulsion.

Paralytic Rabies.—The examination for Negri bodies of vampire bats caught in the field in the course of the anti-rabies campaign was continued uninterruptedly during the year, the smear method being mainly used. 1,693 *Desmodus* were examined and 5.9 per cent. showed negri bodies. 908 fruit eating and insect eating bats were also examined, but with negative results.

EXAMINATION OF BATS FOR THE PRESENCE OF NEGRI BODIES DURING THE YEAR 1938.

Number of bats examined	...	...	...	...	2,601
Number of <i>Desmodus</i> examined	...	...	...	...	1,693
Number of non- <i>Desmodus</i> examined	...	...	...	...	908
Number of bats (<i>Desmodus</i>) with Negri bodies	...	...	...	...	101
Number of bats without Negri bodies	...	...	...	...	2,500
Percentage of <i>Desmodus</i> with Negri bodies	...	...	...	...	5.9

Further investigation was undertaken to determine the part, if any, played in nature by fruit eating bats in the spread of rabies. With rabbits and calves as experimental animals it was established that only in isolated instances do artibeus bats bite animals which subsequently develop rabies. These bats do not bite to obtain blood for their food as they are fruit eaters, but being rabid they depart from their normal habit and bite. The majority of artibeus bats, after artificial inoculation with rabies virus, fail to develop the clinical symptoms so frequently seen with the vampire. They usually prove refractory to infection.

Previous work had shown that vampire bats may fail to develop rabies even after repeated inoculation of virulent material. This resistance may be due either to immunity developing after a mild, sub-clinical attack, or from infection acquired before birth. The first hypothesis has been shown to be correct, and during the year an opportunity occurred for verifying the second. The foetus was extracted from a pregnant vampire and by animal inoculation it was shown that the virus of rabies was present in the brain of that foetus while still in utero. Congenital rabies does therefore exist among vampires.

By capturing fruit eating bats, tagging them, and then allowing them to fly, it was found that when released as far as two miles from their roosting places in the City of Port-of-Spain, they will find their way back to their roosting places.

Vampire bats have now been kept alive and well for over five years on feeds of defibrinated blood.

Experiments have been begun inquiring into the apparent immunity to rabies enjoyed by local dogs. So far no canine has developed the disease under natural conditions, though most other domestic mammals have been affected.

MORBID ANATOMY AND HISTOLOGY.

During 1938, 270 detailed post mortem examinations were made on patients dying in the Colonial Hospital, Port-of-Spain, and as in the two previous years an account is given in this report not only of the fatal conditions but of all evidence of disease which is recognisable *post mortem* in these patients.

Neo Natal Deaths.—As far as possible all infants dying in hospital soon after birth are examined. A high proportion of the deaths are due to cerebral haemorrhage, often with a visible tear in the membranes. Few of these were instrumental or difficult births.

Infants.—More than half of the deaths of infants up to one year were due to marasmus, wasting without evident cause, often with oedema. The cases classed as gastro-enteritis showed a smooth slimy mucosa with either atrophy or in some cases hypertrophy of the lymphoid tissue, but no injection or sign of an infective condition. This and marasmus with which it is often associated have been classed together as both apparently due to malnutrition. The next common cause of death was broncho-pneumonia and it is of interest to note that this was not common among the marasmic babies, but among the fat, well-fed ones.

Children.—Among the children broncho-pneumonia, sub-tertian malaria, and miliary tuberculosis were the commonest findings. Two cases of very rapid death following the onset of fever with "spasms" occurred. Post mortem examination showed degeneration of liver cells, early signs of broncho-pneumonia, and in some slight evidence of cerebral inflammation. These cases are being further investigated. There was little evidence of undernutrition as a factor in disease in children, the two found being infants just over the one year group.

Adults.—In reporting conditions found in adults the race incidence of some conditions, where there are significant differences, is included as in the last two reports. As seen in children, pneumonia ranks high as a cause of death, while this year several deaths were due to sub-tertian malaria and enteric fever. Several cases of stricture of the rectum were examined, the associated findings were extensive ulceration confined to the rectum, and extreme emaciation. The prevalence of syphilitic and atheromatous vascular changes is shown in the report, as also is the prevalence of chronic nephritis in all races.

During the year a very careful naked eye search for evidence of healed tuberculous lesions was made, the small fibrous nodule or calcareous nodule in lung or bronchial glands so commonly found *post mortem* in England. Such lesions were found in 13 per cent. of all adults, not including those with active tuberculosis. Although the number of cases is small it shows a much higher proportion of East Indians with signs of healed lesions than of Africans. It raises the interesting speculation as to the importance of the part played by racial immunity in addition to environmental factors in resistance to tuberculous infection.

During the early part of the year autopsies were carried out on several of the patients dying in the tuberculosis ward of the hospital. Many showed complete destruction of one or part of both lungs with no fibrosis, the picture of complete breakdown of resistance. One case of infection of the childhood type was seen in an adult.

Among maternal deaths the chief causes were anaemia, cases with severe ankylostome infestation and toxæmias. Deaths from eclampsia were few during the year.

Seven per cent. of the patients showed malignant new growths. The cases are few for analysis, but both this year and in 1937 the proportion of East Indians with such growths was very low.

Ankylostomes were found in 22 per cent. of all adults, while over 50 per cent. of East Indians were found to be infected. Nearly half of the East Indians infected showed a heavy infestation and severe anaemia.

Three cases of fever with severe jaundice, two with multiple haemorrhages, were seen. *Leptospira* or malaria parasites were not found, and there was no evidence of yellow fever.

One young East Indian woman had a large hair ball in the stomach, part of which had become detached and caused intestinal obstruction.

HISTOLOGY.

162 specimens of tissues were received for histological examination. 58 of these were malignant growths details of which are shown in the table following. District Medical Officers sent specimens from 12 post mortems for examination, while three tissues from animal sources were received.

In addition to the sections examined for diagnosis, many sections were examined from post mortem material removed during examinations at the Colonial Hospital to confirm or supplement naked eye appearances. These are not included in the total.

At the end of the year a small room in the laboratory was prepared to house specimens collected to form the nucleus of a pathological museum. A start has been made in classifying and cataloguing the specimens collected.

					Principal Results.	Total Examinations.
Total specimens examined	...	...	...	...	...	162
(a) Malignant new growths	...	...	...	...	57	
Carcinoma						
Cervix uteri	...	...	...	10		
Vulva and vagina	...	...	...	3		
Breast scirrhous	...	...	...	4		
Breast duct carcinoma	...	...	...	3		
Breast encephaloid (male—1)	...	...	...	4		
Tongue and Mouth	...	...	...	3		
Skin epithelioma	...	...	...	12		
Skin rodent ulcer	...	...	...	3		
Penis	...	...	...	5		
Anus	...	...	...	1		
Appendix	...	...	...	1		
Myeloma	...	...	...	1		
Sarcoma						
Subcutaneous tissues	...	...	...	4		
Uterus	...	...	...	1		
Lympho sarcoma	...	...	...	1		
Chorion Epithelioma	...	...	...	1		
(b) Non-malignant new growths	...	...	...	...	33	
Myoadenoma, uterus	...	...	...	5		
Fibro-adenoma, breast (male—1)	...	...	...	3		
Adenoma, thyroid	...	...	...	3		
Hyperplasia of prostate, various	...	...	...	5		
Various growths	...	...	...	17		
(c) Inflammatory tissues	...	...	...	...	43	
Ulcer cervix uteri	...	...	...	11		
Ulcer penis	...	...	...	5		
Ulcer skin, &c.	...	...	...	8		
Tuberculosis lymphatic glands	...	...	...	2		
Tuberculosis testes	...	...	...	1		
Various inflammatory tissues	...	...	...	16		
(d) Curettage (not malignant growths)	...	...	...	...	10	
Endometritis or hypertrophy	...	...	...	7		
Placental remains	...	...	...	3		
(e) Tissues from post mortem examinations	...	...	...	...	12	
(f) Animal tissues	...	...	...	...	3	

SUMMARY OF PATHOLOGICAL CONDITIONS FOUND IN POST MORTEM EXAMINATIONS DURING 1938.

Total examinations on infants (neo-natal deaths)	...	...	...	31
Total examinations on infants up to one year old	...	...	...	24
Total examinations on children	...	...	...	21
Total examinations on adults:				
	Male.	Female.		
Africans	74	42		
East Indians	23	18		
Mixed	19	13		
White	2	1		
Chinese	2	—		
Total	120	74		194
Total post mortem examinations for year	...	...	...	270

	Principal Results.	Total Examinations.
(1) Neo-natal deaths—Infants up to 3 weeks	...	31
Prematurity	9 or 29%	
Atelectasis	6 or 19%	
Asphyxia (mucous in trachea)	2	
Cerebral Haemorrhage	13 or 42%	
Tear in membranes	— 9	
No tear found	— 4	
Internal haemorrhage	— 2	
Haemorrhagic disease of new born	1	
Congenital abnormalities		
Meningocele	1	
Ectopic vesicae	1	
Infections	7 or 22%	
Haemorrhagic enteritis	— 5	
Omphalitis	— 1	
Pleurisy and peritonitis (streptococcal)	1	
(2) Infants up to one year	...	24
Marasmus and gastro-enteritis (non-haemorrhagic)	14 or 56%	
Acute infections—bronchitis and broncho-pneumonia	8 or 33%	
Haemorrhagic enteritis, dysentery	3	
Meningitis—meningococcal	1	
pneumococcal	1	
Pyæmia	2	
Diphtheria	1	
Congenital syphilis	1	
Diabetes	1	
(3) Children aged 1-14 years	...	21
Malnutrition, marasmus just over 1 year	2	
Acute Infections:		
Sub-tertian malaria	4 or 19%	
Broncho-pneumonia	5 or 25%	
Enteritis, infective	1	
Meningitis	1	
Pyæmia	1	
Pharyngitis (not diphtheria)	1	
Tuberculosis:		
Lungs and bronchial glands with miliary spread	3	
Mesenteric glands and miliary spread	1	4 or 19%
Fever and fits, undetermined	2	
Cerebral haemorrhage (congenital aneurism)	1	
(4) Adults	...	194
(1) Cardio vascular conditions, mesaortitis and severe atheroma:		
Total number of post mortems on adults	...	194
Total showing severe cardio vascular disease of all kinds	...	51 or 26%
Total showing severe atheroma, calcification, &c., only	...	19 or 9%
Total showing evidence of mesaortitis with and without atheroma	...	32 or 17%
Total showing aortic aneurisms	...	11 or 5.6%