

APPENDIX I.

Extracts from the Special Malaria Officer's Report.

'PARA 22: Yet another evidence of malaria is to be gathered from vital statistics. This will be referred to later on under the description of individual circles or groups of villages as these figures are available only in some instances. Even so far as they are available, it is found that death rates have always been in excess of birth rates, a condition of affairs which requires very serious consideration.

'PARA 23: Although the description of one village serves for the general features of all the others visited by us, there is such an endless variety even in the picturesque likeness that deserves mention in its bearing on the problem of MALARIAL ENDEMICITY.

'PARA 24: SUBRAMANIA: The first group of villages examined is situated in and around Subramania at the South—eastern corner of the taluk. It is conspicuous for its gorgeous peak overlooking the Bisly Ghat and the well-known temple of Subramanya.....Reserve forests are more or less in contiguity with a row of houses which are built on the road which is the only thoroughfare leading to the temple.

NALKURU, GUTHIGAR are two villages lying on the road leading towards the west from Subramania. They are purely agricultural villages. It was represented that the growth of forests on three sides has led to the increased incidence of malaria. The hill streams are numerous and run on all sides of the villages.

HARIHARA—PALLATHADKA is near the foot of the Ghats on the South-east. The village side extends well into the reserve forest areas.....77 out of 95 children or 81% examined in this group of villages showed enlarged spleen.....

'PARA 25: KADABA, KODIMBALA ETC. The villages under this group are situated about 14 miles slightly about the North-west of Subramania. Except in the case of Nujibalthila and Renjaladi, the country side is much more open. No hill streams are found running in the vicinity.....Number with enlarged spleen 51%. It is noteworthy that the children amongst the Adi Dravida converts showed a smaller spleen rate than the caste boys and girls in the Board schools. This was apparently due to the fact that Revd. Lobo, the priest, looks after them and administers quinine from his own resources.

* * * * *

'PARA 28: GOLITHATTU: This is situated about 10 miles from Uppinangady on the main road to Shiradi.....There is a stream of moderate size and rather sluggish current flowing over a bed of gravel through dense vegetation on either side close to the P. W. D. Rest-house. A search was made for ANOPHELES LARVAE in this stream as well as in the numerous overflow channels from the rice fields; but the only species bred out from here were A. BARBIROSTRIS and A. HYRCANUS VARNIGERRIMUS. Not more than half a mile from the periphery of the village one meets with thick forest areas which are also to be found on either side of the main road. The population of the village as per 1921 census is 693 and the total number of deaths in 1928 were as many as 44 out of which 22 were from fevers, while the total number of births reported for the year was only 18.....

* * * * *

'PARA 29: The next group of villages visited were HATHIADKA, SISILA and SHIBAJE.....There were in this group 41 cases of enlarged spleen out of a total of 50 children examined and 6 infected blood smears out of 40, the spleen rate and the parasite index working out to be 87% and 15% respectively.

'PARA 30: The BANGADI group of villages is situated in a village close to the hills bordering Mysore and consequently abounds in a number of small channels all round..... The spleen rate is fairly high in this area. Out of 96 children in INDABETTU, BANGADI and KADIRUDYAVARA, 73 showed enlarged spleen (76%) and the parasite index was 16% (12 out of 76).

'PARA 31: * * * MALAVANTHIGE is at the foot of the hills and has a number of arecanut gardens interspersed with cocoanut groves.....The country around this group of villages is a little more open and commands better facilities for natural drainage than the BANGADI group. This possibly explains the slightly lower spleen rate which was only 64% (28 out of 44). * * *

'PARA 32: NERIYA is in the centre of a thick forest area interspersed with small valleys where rice is grown.....The record of births and deaths in Neriya speak for themselves as to the intensity of the disease in this area.

YEAR.	BIRTHS.	DEATHS.	DEATHS DUE TO FEVER.
1927	28	51	48
1928	22	53	46

The spleen rate was very high. As many as 72 children out of 80 or 90% showed enlarged spleen and 12 out of 80 or 15% blood smears were found infected.

'PARA 33: CHARMADI, KOKKINJI AND CHIBIDRE villages are all situated on the main road from Beltangadi. Charmadi is only 7 miles from the foot of the Ghat. There are no features of distinctive interest in this group except the spleen rate is among the highest being 86% (52 out of 60) although the parasite index is comparatively low, 8% (4 out of 52)

'PARA 34: MUNDAJE is about 5 miles from Charmadi and the village is situated on the slope of two ridges in the hollow between which the Mundaje HOLE (river) winds its way on a bed of rock. There are about 24 streams running down the ridge on either side and draining into the central stream. These streams run through thick vegetation and were found to breed A. LISTONI, A. KARWARI in no inconsiderable numbers. The main stream has as many as 8 bunds in its course so as to divert the water on the arecanut gardens.....The physical features of this area, such as, its dense forests, numerous hill streams and thick vegetation are most favourable for a high Malarial ENDEMICITY. But some of the people are alive to their own peculiar conditions and without entirely giving way to a feeling of general helplessness, are taking to quinine as a means of remedy. This has had some definite influence on the spleen rate in the children. Mr. Bhide, an influential landlord in the village and a Taluk Board Member, has been stocking quinine with him every year for the use of his tenants and relations. The Brahmin School children who were resorting to the use of quinine in case of need had a much lower spleen rate than the children of other castes.....96 children were examined in this area out of whom 68 had enlarged spleen (71%) and the parasite index was 10% (6 out of 60).

'PARA 35: DHARMASTALA is an important place of pilgrimage attracting about 12,000 pilgrims during the annual festival in the month of December. The country around is thrown into a series of ridges thick with forests and rice fields into the narrow valleys between the ridges. In one such valley the temple of Dharmastala is built and there is a well formed row of houses to the east of the temple. Here are extensive lands mostly belonging to the temple which are left fallow for want of cultivators who can live on the land and prevent depredations from wild animals.....It is obvious from the above table that the fever season commences some time in February and lasts till August. * * * The total number of deaths in 1926 was 81 out of which 68 were due to fevers; in 1927, 32 deaths out of a total of 50 were due to fevers; whereas in 1928 as many as 75 out of 92 deaths were attributed to fevers. The births recorded for this period were 36, 46 and 38 respectively. Out of 106 children examined in this group of villages, 96 had enlarged spleen (91%) and slides 12 out of 90 were found infected (parasite index 13%).

* * * * *

'PARA 37:—LAILA, NADA, KANYADI, AND NAVUR serve to exemplify the peculiar conditions prevailing in parts which are strictly rural in contrast to those obtaining in areas which are more or less urbanised. LAILA in particular is but 2 miles distant from the town of Beltangadi and shows a high spleen rate; whereas in the rural parts the spleen rate and the parasite index were 72% and 16% respectively. The corresponding figures for the adjoining town of Belthangadi were 16% and 1%. Possibly the greater extent of open country around Belthangadi accounts for the difference.

* * * * *

'PARA 43: The last group of villages visited consists of ARANTHODE, THODIKANA AND SAMPAJE..... Dense forests and rising hills come into view as one proceeds from Sullia to Sampaje which is on the border line between Puttur and Coorg. Aranthode is on the main road midway between Sullia and Sampaje while Todikana is about 5 miles to the west of Aranthode and could only be reached by a foot path through thick forest. Rice is largely cultivated in the valleys between the hills and arecanut gardens are also in abundance. The groups are however subject to a great deal of denudation by wild animals that haunt the neighbouring Ghats. * * * * This group of villages is fairly highly malarious the spleen rate being 64% (167 out of 262) and the parasite index 11% (9 out of 84).

'PARA 44: DISCUSSION AND RECOMMENDATION. In the first place malaria is claimed to be comparatively of recent prevalence and coeval with the overgrowth of forests too close to human habitations. Indeed wherever one went one heard from all quarters, educated or otherwise, that malaria was due to the foul air that emanated from the decaying shrubs and leaves in the dense forests during the dry weather. The more enlightened among the public who lay faith in the connection of mosquitoes with malaria contend that the foul air so depresses the vitality that the people fall an easy and ready prey to the disease. Such prejudices and beliefs exist everywhere with respect to every other disease; and although they may not merit serious consideration by themselves, the facts on which they are based, namely, that the disease is of recent prevalence, as also the extension of reserve forests deserve attention. * * *

'PARA 47: These explanations notwithstanding, the growth of forests can by no means be considered to play an unimportant role in the increase in the intensity of the disease. They, more especially the jungle and low shrub in the proximity of human dwellings, afford nice shade and shelter for mosquitoes which breed in small collections of water in the adjoining streams and seepage channels. In any case the extension of forests right into the village sites is no doubt to be regarded as an enemy to be got rid of and it follows obviously that claim should be encouraged and stimulated in every possible way, in so far at least as the said rank jungle and bush do not encroach right on to the dwelling areas. They are certainly responsible for the denudation of crops and deprivation of cattle by wild animals besides being a not insignificant factor in the spread of malaria.

'PARA 48: PUTTUR Taluk can be divided into two well-marked areas as already stated, by a line drawn from north to south and passing through Puttur. The areas lying to the east of this line are malarious, its extent and severity varying in direct relation to the proximity of villages to the Ghats in the first place, the hill streams and seepage channels in the next place and to the density of forests and forest growths in the third; whereas parts lying to the west of this line are comparatively healthy. The most plausible explanation for this is to be found in the comparative dryness due to the small number of water courses and better drainage and again in the absence of forest or other jungle growths. The amount of malaria is thus determined to be in inverse proportion to the extent of open country present around any area.

'PARA 56: SUMMARY: The salient features in this report and the opinions expressed therein are based upon an enquiry carried out in 50 villages and the inspection of water places in almost all of them for the presence of ANOPHELE LARVE and on the examination of 2748 children for evidences of malaria in them.

(1) Puttur Taluk can be divided into two areas one lying to the East of the line passing through Puttur from North to South and the other to the West of this line. The former area is highly malarious while the latter area is comparatively healthy.

(2) The larger Towns in the taluk which have a greater amount of open country around them and are removed further away from the reserved forests are also healthy, as for instance, Vittal, Uppinangady, Ujre and Beltangady.

(3) The submontaine regions and the places with dense reserved forests extending right into human habitations are the most highly endemic areas with a spleen rate of nearly 80% as in Darmasthala, Nidle, Neriya, Subramanya and Sampaje in the order of severity of the disease.

(4) The present season was afebrile as evidenced by the comparatively low parasite index and therefore a second and more intensive investigation in a few selected places is necessary.

(5) The predominant type of infection is the quartan variety of malarial parasite, which has so far been described (sic) in this Presidency only in Ennore and Cuddapah.

(6) The peculiar physical features of the country make it very difficult to devise and adopt permanent antimalarial measures.

(7) Greater reliance has therefore to be placed upon the free use of quinine, clearing of low jungle and of all marginal vegetation in the garden channels and oiling of all stagnant collections of water such as rock pools.

(8) Methods of personal prophylaxis have to be popularised.

(9) For all the above purposes, a malaria trained Second Class Health Officer may be appointed as assistant to the District Health Officer, South Kanara. He can also attend to the malarial problems of other Taluks of the District, but he should not be saddled with the general duties of a Health Officer.

(10) It is also necessary that the Government should arrange for and encourage and stimulate the clearance of forest areas, at least for a distance of two furlongs from human habitations.

(11) A large number of rural or other dispensaries especially in the interior and in the less easily accessible areas such as Mundaje, Neriya and Subramanya should be opened.

(12) The District Health Officer should arrange for some form of intelligence bureau for getting timely information of outbreaks of fever in the more important centres of population, so as to direct the energies of his assistant in useful directions.

