M.R.O. 1—27,056—6-6-37.

(1) Number of pages 12

(2) Date of repair 29-8

(3) Initials of the Reference

4

MADRAS RECORD OFFICE.

Government of Madras.

Financial DEPARTMENT.

G.O. No. 403	Press / Mis.
295-296	295-296
Dated 22-2-	1875.

11/12

Not to be folded or roughly handled

Local Funds.—Sanitary.

No. 295. Read Proceedings of Government, in the Revenue Department, dated 21st January 1875, No. 115.

ABSTRACT.—Communicating to the Board of Revenue and to the Sanitary Commissioner remarks of the Surgeon-General, Indian Medical Department, on the reports on the Water-drinking Disease in the Tinnevelly and Madura Districts. Observing that there is no urgent necessity for the medical relief suggested, and directing the attention of the Local Fund Boards to the alleged insanitary condition of the villages reported on.

No. 296. ORDER THEREON, 22nd February 1875, No. 403.

Copy of G.O., dated 5th January 1875, No. 9, will be communicated to the Surgeon-General, Indian Medical Department, who will observe that the sanitary matters referred to in his letter, dated 16th December 1874, have received attention in the proper quarter.

(True Extract.)

Acting Chief Secretary.

To the Surgeon-General, Indian Medical Department, with Public G.O., No. 9 of 1875.
" Board of Revenue.

Exd. J. Wright.

Govt. of 1875 Madras,

FINANCIAL.

To

The SURGEON-GENERAL, INDIAN MEDICAL DEPARTMENT,

&c., &c., &c.

Dated February, 22nd.

Read.

G.O., 22nd February 1875, No. 403.

FEBRUARY.
Nos. 295-296.

Water-drinking Disease.—Copy of G.O., dated 5th ultimo, No. 9, ordered to be communicated to the Surgeon-General, Indian Medical Department, from which he will see that his suggestions regarding the prevalence of this disease in the Tinnevelly and Madura Districts have been complied with.

37

Proceedings of the ~~Madras~~ Government, Revenue Department,
21st January 1875.

No. 234. Read the following letter from Surgeon-General EDWARD BALFOUR, Surgeon-General, Indian Medical Department, Fort St. George, to the Secretary to Government, Revenue Department, dated 16th December 1874, No. 567 :—

THE Proceedings of the Board of Revenue and the orders and correspondence as per margin related to the occurrence in the Tinnevelly District, during the early part of the current year, of a disease in which a prominent symptom was great thirst, from which the people had given it the name of "Tannir-kudi Novu."

1874, No.	1,034,	dated 4th May,	Proceedings of Revenue Board.
„ „	1,132,	„ 15th May,	do.
„ „	1,389,	„ 8th June,	do.
„ „	745,	„ 18th June,	Government Order.
„ „	363,	„ 11th August,	Surgeon-General.
„ „	1,029,	„ 17th August,	Government Order.
„ „	428,	„ 15th Sept.,	Surgeon-General.
„ „	1,271,	„ 6th October,	Government Order.

2. It was in the middle of April last that the Revenue-officers of the Tinnevelly District became aware of the occurrence there of that ailment. Mr. Boyle, Head Assistant Collector, writing on the 22nd of the month, mentions that it had originated in, and spread from, Ramnad, and that 67 deaths had occurred in the six villages named on the margin. The cause of the disease was variously surmised: the heat of the weather, a scant water-supply, and living on the new grain of the spiked millet, *Penicillaria spicata*, known to the Tamil people as "cumboo," which, when eaten before age has mellowed it, is heaty and unwholesome. Mr. Boyle mentioned that he had seen and given medicines to seven persons who had been suffering from the fever for four up to twenty days.

Pillayaynattum	18
Solamalayanpett	20
Sangurni	16
Vilatikulam...	3
Sengalpadi	7
Mandikulam	3

3. The Zillah Surgeon of Tinnevelly, Surgeon Rickard, visited five villages, and reported to the Collector that exposure to the sun, prolonged abstinence, and then eating the newly-reaped grain of the spiked millet, had given rise to disease. He saw several persons who were convalescing from or suffering from ailments stated to follow the alleged disease; but he had no opportunity of observing any patient really ill with it, and his inquiries only enabled him to give as an opinion that the disease was fever of a remittent character attended with diuresis, great thirst followed by severe vomitting, even water not being retained in the stomach, and early terminating in dysentery of a severe form, which rapidly carried off the patients. The persons attacked were all of the laboring poor engaged in cotton-picking and exposed from early morn till sunset, taking no food till their return from work at night, thus eating once in twenty four hours; and he attributed the great mortality from the disease to the erroneous treatment which the villagers adopt in this and all other diseases of starving the sick persons.

The Collector of Madura, however, when writing on the 27th May, mentioned that the report of its appearance at Ramnad was not correct, but that he had just heard of a serious outbreak of a similar disease which had caused 120 deaths in the neighborhood of Perumali on the Tinnevelly frontier, south of Moodoocolatur, in the Ramnad Zemindari, the villages affected being all built on the black cotton soil.

4. Subsequently, in the end of August, the Zillah Surgeon revisited the town of Ettiapuram in the Tinnevelly District, and furnished a statement of 52 cases that had occurred between the 9th July and 8th August, which the inhabitants considered to be of the water-drinking disease, and amongst which there had been 13 deaths. That town has a population of 6,446, and 13 deaths, from what the people believed to be one disease, in one month is a great number, and the rate of mortality, of one death in four attacks, shows a virulence only met with in the more fatal ailments. Writing on the 20th and 21st August, Surgeon Rickard recognised that there had been a large amount of sickness and an increased mortality in this town. He described its inhabitants as poor and dependent; their houses bad and ill-ventilated; the streets dirty, ill made; sanitation at a low ebb,—the wells something dreadful to behold, the thick, black, fetid mud being constantly stirred up and rendered more liquid by the crowds of persons frequenting them, facilitating its return into the wells, around which there are no precautions to prevent percolation, the water being impure and brackish in taste. The season, also, had been of an unusual character: there had been no rain for nearly a year; the whole place for some miles around had a withered and parched appearance, and the Penicillaria millet, which is the staple food of the people and the sole food of all the poorer classes, had, in consequence of the great drought, been reaped before being matured in the ear. He had not the slightest doubt but that this new, ill-ripened millet had caused the sickness, and the only remedy he could devise was better food.

5. My letter, No. 428, of the 15th September, which appeared, gave a summary Proceedings of Government, No. 1,271, of 6th October 1874, to the above, and on the same day, in anticipation of sanction, I requested the Deputy Surgeon-General, Southern Districts, to detail a warrant medical officer to visit the sickly localities in Tinnevelly and Madura, where, what the people had designated, the water-disease had been prevailing, to report on the sanitary condition of each village, and make all needed suggestions, taking all requisite medicines with him. I desired him to report fully on all subjects, and, on entering the district of any Collector, to report himself to the respective Collector, if possible personally, and receive any offered instructions. I indicated Apothecary Lincoln as a preferable officer for this duty, if he could be spared.

6. I have now the honor to furnish the reports from 9th October to 16th November, received from Apothecary Lincoln. That officer left Trichinopoly on the day following. He describes the sanitary condition of the villages on the road from Trichinopoly to Madura as good, and the health of the people satisfactory, water plentiful, and food-articles abundant and good; and he was informed by the Collector of Madura that the disease which had caused so much thirst never had existed in the district; but "the people in a few villages, from excessive drought and bad food (*i.e.*, unripe or new grain) succumbed to natural causes induced by partaking largely of newly-mown grain, particularly 'cumboo,' the staple article of diet of the poorer classes generally of the South." The Zillah Surgeon, Surgeon-Major Gamack, corroborated the above opinion of Mr. McQuhae, and added that "in the hot months of April, May, and June, a few people in some village, who were seen by 1st-class Hospital Assistant Brown and reported on by him, died from ordinary natural causes, to wit, fever and diarrhœa. The drought being excessive, the tanks, wells, and channels became gradually

dried up, and the people, instead of having pure water to drink, had to partake of mud and water, which, abounding in saline matter, necessarily induced thirst, and this thirst being aggravated by the undue consumption of new grain a diarrhœa was the result, and the individual case proving fatal."

7. First-class Hospital Assistant Brown, from whom Surgeon-Major Gamack had obtained information, stated to Apothecary Lincoln that the villages which he had visited in May last "had had no rain for eight months previously, the tanks and wells had all dried up, and spontaneous salt in large quantities covered the surface of the ground. The soil is black cotton, and the inhabitants cotton-pickers; the cultivation of cotton extending over twenty or twenty-five miles of arable land. The people are engaged in picking cotton from morning to night under a burning sun. The spontaneous salt (which is stolen by the villagers at night) is consumed by them in large quantities, together with the newly-harvested cumboo. Mr. Brown states that the patient complained, firstly, of a bitter taste in the mouth, then low fever came on, and necessarily thirst followed. If taken at the time of attack, the fever speedily yielded to treatment, but, as a rule, the constitutions of the people were shattered and debilitated from living purely on unwholesome vegetable food that it was necessary to supplement medicine with food, and the patient rapidly recovered. The people wanted water to drink, but no water was to be had. The disease, in my opinion, would come more under the head of water 'thirst' than 'drinking.'" Apothecary Lincoln remarks that "this subject of water is of vital importance;" and I beg to submit that it is one which the Local Fund Board should take up and provide water for the poor population of the district, situated miles away." He adds that "prior to Mr. Brown leaving heavy rain had fallen, and the inhabitants took a change for the better. The condition of these villages can easily be imagined when it is stated that there was no water for purposes of ablution. At present" (at the date of his report) "the district in its entirety is healthy; the rain-fall has been abundant, and the whole country, even on the most arid parts, wears a mantle of green."

8. On the 17th October, Deputy Surgeon-General Johnston was at Madura, and reported from there that he had been in communication with the Zillah Surgeon and Apothecary Lincoln, and had gathered from them "that the fever, which is never absent from these districts, is attended by heightened thirst, the symptom which has been employed to designate the disease as a new one; but this is easily explained from the fact that the season which has passed has been an exceptionally dry one, the water-supply being scanty and from surface evaporation, containing, in a concentrated form, large quantities of the salts with which the soil is impregnated. Then, again, the new supply of dry grain not matured sufficiently to make it wholesome had been largely used by the inhabitants. Hence, the gastro-intestinal irritability which has attended the usual endemic fever."

9. In my original orders of the 15th September, I had requested that Apothecary Lincoln should visit Tinnevelly and Madura, and finding him still at Madura town on the 14th October I desired that that officer might be requested to proceed to the districts to which he had been ordered to go. His next diary, accordingly, is dated the 25th October from Tiroomungalum, a town with 12,000 inhabitants, in the Madura District. Its sanitary condition he reports as good, and the health of its inhabitants very good, though fevers of an intermittent type are generally preva-

lent, in fact, endemic. On the following day, he found the sanitary condition of Virdooputty good. It is the boundary-village between Madura and Tinnevelly, with a population of 16,000; its sanitation was found to be well attended to, with good houses, and the inhabitants in good health. It is a well-regulated town, with good water-supply, and extensive cultivation.

10. Apothecary Lincoln entered the Tinnevelly District on the 27th October, and left it again to re-enter the Madura District on the 6th November. In that period, he passed through or near the towns and villages named on the margin. His reports on these towns indicate fever as the prevailing disease in the Tinnevelly and in parts of the Madura Districts, but the fevers of April and May of the current year had been of an unusually severe type, attended with great thirst and vomitting, and liable to end in the often-fatal sequetæ of bronchitis, diarrhœa, and dysentery. It was mentioned by the Tahsildar of Moodoocoolatoor that a similar outbreak had occurred in the year 1861; but the people generally attributed this year's outbreak to the Penicillaria millet; some of them merely indicating its unripe condition; others believing that the poverty of the people compelled them to eat the new millet; and it is known that, with many cereals and pulses, this is prejudicial to health; others were of opinion that some of the millet had become diseased. All of these are probable causes of sickness, and this particular millet is known occasionally to become diseased when growing. But sickness was likely to occur where such an unusual character in the season prevailed,—a great drought and great heat which had continued for eight months, drying up the wells, so that their muddy saline and fetid contents were alone available for drinking purposes; the people so poor that they were living on one of the poorest cereal grains of India, even using it when it was new and unwholesome. With their towns and villages and hamlets in such a condition that in the streets, even of Palamcottah, "inhabited by the lower classes of natives, to whom sanitation is a thing unknown, human ordure lies broad-cast in those black places, and the more the filth the more the people seem to enjoy it." Maniachee, with its "sanitation deplorable, refuse of all kinds, with human ordure, strewn about broad-cast," without

	Towns.	Population.
Tinnevelly.	Satur	.....
	Kovilputty	8,000
	Kytur	.....
	Palamcottah	.....
	Thoorthy	.....
	Kansipuram	.....
	Silvapuram	.....
	Maniachee	.....
	Parvaricolum	.....
	Pandivarum	.....
	Cundasundapuram	.....
	Cumbady	.....
	Ootipadaram	.....
	Yepothanvandran	.....
	Ramanjapuram	.....
	Chinnapuram	.....
	Eral	.....
	Ettiapuram	.....
Madura.	Mana-Madura	6,000
	Patheravanoor	.....
	Lutchmapuram	.....
	Moodoocoolatur	.....
	Kadavumboo	4,000
	Villamboor	.....
	Poodooccolum	.....
	Padanally	.....
	Paranalli	.....
	Tinnacondan, 11th November.	.....
	Parchelli	.....
	Tiruchelli	.....
	Oopur	.....
	Parputty	.....
	Cariaputty	.....
	Timbanoor	.....
	Veraputty	.....
	Madura, 14th November	.....
	Trichinopoly, 15th November	.....

drainage around its four wells, and the filth and dirt allowed to accumulate round the wells becoming black, stagnant, and fetid pools. The sanitation of Ootipadarum at a very low ebb, the town very dirty and ill drained, with the wells in such a state as to allow free percolation. That of Yepothanvandian, bad, with only one well containing brackish water. Ettiapuram, with 6,000 people, though its condition was reported on so late as May last, had its sanitation at a very low ebb, affording a vast scope for improvement, the sides of the streets forming latrines, and the fields around used as a general necessary. Paramalli, in the Madura District, was found with its sanitation in a deplorable state, with dung heaps and human ordure scattered over the place, and the Penicillaria millet of the village granary so loaded with weevils that of many of the seeds only the husks remained. Tinnaconden in Madura, a filthy disagreeable village, with a large, filthy morass, twenty yards distant, containing two feet of stinking water, forming a receptacle for all the filth of the town; and Parchelli, Oopur, Parputty, Cariaputty, Timbanoor, and Viraputty, all dirty, filthy villages, sadly wanting in sanitation.

11. Mr. Lincoln's diary of the 25th October to 12th November may all, with advantage, be printed. I consider it points to continuous sickness and frequent deaths as the causes of the poverty of the people dwelling on a fertile soil, engaged in cotton-planting and cotton-picking, two of the most profitable of the agricultural operations in India; the people ought, if blessed with health, to be a well-to-do race. Sickness alone can cause the poverty of the active, intelligent, energetic Tamil race.

12. The villages of Tinnevelly seem to be in a greatly worse sanitary condition; its people more sickly and poorer than those of Madura, greatly defective in sanitary arrangements, as many of the Madura villages are. The wells need immediate care. At first, a family or two form a township, dig a well, and throw down on the ground, though somewhat apart, the refuse substances so valuable to the agriculturalist as manure; but gradually the town gets larger and the wells and dung-heaps become surrounded by habitations. The condition of the wells as described and the vicinity of filthy fetid pools around them are deplorable, though these are quite the common conditions in every part of South India where the black soil prevails, and one of the greatest boons to the people and to the country would be to sink fresh wells outside the towns and villages in sites little liable to be polluted, providing them, at the same time, with a high coping, and forbidding the internal use of the water from the wells now existing amongst the habitations. That the laboring people are very poor is proved by the fact that the Penicillaria millet (cumboo) and the Eleusine cereal (raggi) are alone used by the laboring community. The present cold weather season might be taken advantage of to dig a few wells, and the return to the Government will be the improved health and with it the wealth of the people. And while care is being had over the drinking water, latrine-sites, apart from the habitations, should be marked out. Every village or town should have its scavenger or scavengers according to their size. That as regards cleanliness is the first step to be taken, and all other reforms would rapidly follow. This class of people are rapidly disappearing from the country; but



they are yet to be found, and the villages and towns should be compelled to retain them. Also, the scavengers must be allowed to traverse every street, and they must not be prevented entering the streets where Brahmins live. Whether there be latrines or no, one of the simplest plans is to erect around the village or hamlet small white-washed boundary-pillars, beyond which all should be required to resort, retaining latrines in the larger towns in suitable places.

13. * * * *

14. Mr. Apothecary Lincoln does not mention why he lingered so long in Madura, where there was no sickness, and staid so short a time as eleven days in the Tinnevelly Taluqs, where there had been so much ill-health. My order of the 15th September was that he should proceed to Tinnevelly and Madura, and take with him all needed medicines; but he turned back on the same route that he had entered Tinnevelly, in which he was only for eleven days, from 27th October to 6th November, and travelling at a speed which could not have given him leisure to treat any cases, and for which there was certainly not any necessity. The accounts which he gives of those two provinces, however, are so unfavorable that I recommend that one warrant and two Hospital Assistants, medical officers, be detailed to traverse them until the end of February, attending to all the sick people. In paragraph 7 of my letter, No. 115, dated 15th April* 1872, I made a similar suggestion regarding all the districts of this Presidency. For more than a year a commissioned and warrant medical officers traversed the Godavery Districts, and recently (G. O., No. 1,397, dated 4th November 1874, Revenue Department), Government has ordered me to arrange for the Kistna Districts being visited by medical men. Tinnevelly certainly, and with it Madura, stand even more in need of such care than the Kistna Districts, and I submit this for favorable consideration.

* To the address of the Chief Secretary to Government, Public Department.

* * * *

No. 235. ORDER THEREON, 21st January 1875, No. 115.

Miscellaneous.

COMMUNICATED to the Board of Revenue and to the Sanitary Commissioner.

2. The Government observe that Apothecary Lincoln reported favorably of the health of the people, and there seems, therefore, no urgent necessity for the special measures of medical relief suggested by the Surgeon-General.

3. The alleged insanitary condition of the villages reported on should receive the early attention of the Local Fund Boards of Madura and Tinnevelly.

(True Extract.)

Acting Secretary to Government.

To the Board of Revenue.
„ the Sanitary Commissioner.
„ the Surgeon-General, Indian Medical Department.
„ the Public Department, with ~~a copy of~~ the Hon. W. Robinson's Note.

Ed. F. R. Bantleman.

Para. 13. The reports that come to hand show that the subordinates of the Revenue Department are not well acquainted with sanitary rules, and one of the earliest of the changes to be made is the examination for entry and for promotion in that department, should be as to the laws of health. Recently I recommended that where the Superintendent of a prison was not a Medical man, he should be required to pass an examination in Hygiene, and such knowledge is certainly no less needed for the Revenue Officers who have the care of millions. The book on this branch of Medical science, which Dr. Dhanakoti Raju has published, has been printed in Tamil, Telugu, and Canarese, and every Revenue Officer might be examined on it.

No. 100, dated 6th March 1874, to Chief Secretary to Government, Judicial Department.

Continuation of Para. 14. When money was being subscribed in Madras for the famine-stricken people in Bengal at a time when dearth was threatening this Presidency, it was publicly announced that if famine prices prevailed here part of the money obtained would be made available for the wants of this country. And as the reports which I have above summarised and now attach leave no doubt as to scarcity having prevailed in 1873, I would point to the famine collection as a source whence funds may be obtained to improve the sanitary condition of Tinnevelly.

Financial Department

PROCEEDINGS of the MADRAS GOVERNMENT.

Read the following ~~letter~~ Proceedings of Govt in the Revenue Department dated 21st January 1875 No 115

Order thereon 22 Jan 75 No 403

Copy of G.O. dated 5th January 1875 No 9 will be communicated to the Surgeon General Indian Medical Department who will observe that the sanitary matters referred to in this letter dated 16th December 1874 have received attention in the proper quarter.

2 The opinion of the Board of Revenue will be obtained with reference to the expediency of amending the Local Fund Rules so as to provide that 1/16th of the Land Cess shall be assigned annually to Education and 1/16th to Sanitary Miscellaneous, the share of the cost of establishment now chargeable to the General

Govt. of {1875} Madras

REVENUE.

To

The BOARD OF REVENUE,

&c, &c, &c.

Dated January 21st.

Rec'd February 5.

Encl.

G. O., 21st January 1875, No. 115.

Sir,

JANUARY.

Nos. 234-235.

Communicating to the Board of Revenue and to the Sanitary Commissioner remarks of the Surgeon-General, Indian Medical Department, on the reports on the — in the Tinnevelly and Madura Districts. Observing that there is no urgent necessity for the medical relief suggested, and directing the attention of the Local Fund Boards to the alleged insanitary condition of the villages reported on.

General Fund being debited
pro rata between the two Funds
thus formed.

I do not think
it desirable to
lay down also
allotment, be-
yond what the
Law itself has
scribed. In some
Districts Sanita-
tation is the most
immediately pressing
want. in others
it is not. I think
but must leave
the final decision
as to the subdivision
of funds upon by
you. L D L 10/2

Medical, primary
education will come
by it: see it very
undesirable to defer
the Boards. Grace
Paddock declined
Letter of thanks
recorded?

The Surgeon General
Indian Med. Dept
with Public G.G. No. 9775
" Board of Revenue

25 Pumpost 10

I think that
Dr. Balfour goes out
of his way when he
offers so much advice
on Village Sanitation and
the hygiene Education
of Revenue Officers. He
is entitled to have a
moral (?) Endemic disease
Examined Scientifically
and Shown it traced
to its causes, but if
Local Fund Boards and
Municipalities are ble
billowed on one side
by Sanitary Commissioner
and on the other by the
Head of the Medical
Service

Service they will work
know where to turn
These matters belong
to the Local Boards and
Sanitary Commissioners
not to the Surgeon General
and Medical Service

The picture given
is not overdrawn as
an outline of existing
things in almost every
Village in the Country
and I believe that the
first step required in
order to raise the
Rates of life & health
is to set aside (as otherwise
undistinguishable from the
purpose) the one-sixth
of the land tax which
belongs to Sanitation
The Masters should
be required to layout

Say

Say 20 per cent of it in
taking up Village after
Village & urging the
people to put their Village
in a Sanitary condition
I believe that if this
course were pursued
for 10 years, vast improve-
ments would be found
to have been made

14

W.

17

Govt. of {187 } Madras.

Jud C

To

Dated 22 Feb

Recd. 1875, No. 405

Nos. 295-6

Water-drinking disease. Opns of Govt Surgeon Lt-Col Ogden to the Commr of the Neilgherry District for which he will see that his suggestions regarding the prevalence of this disease in the Tinnevelly & Madura Dists, have been attended to.