

No. 1095 W. d/12 April/88

Cons? to the Supty. Engr
To be for information

(10) W. L. C. M.

Gobt. of (1888) Madras.

LOCAL AND MUNICIPAL.

Issued

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G.O., 19th March 1888, No. 255 M.

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MARCH.

Inspection Notes.

Communicating to the Chairman, Municipal Council, Ootacamund, with instructions, — by the Sanitary Commissioner on that Municipality.

S. ETC.

J. S. D. M.

8/4/88

67/4/88

W. L. C. M.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—the following paper :—

No. 286.

Inspection Notes of the Sanitary Commissioner for Madras.

OOTACAMUND MUNICIPALITY.

Inspected 10th, 11th and 12th October 1887.

Population per census of 1881—Males, 6,435 ; Females, 5,900 ; Total, 12,335.

This charming hill station situated on the western slopes of the Dodabetta Mountain range, is about 7,400 feet above the level of the sea. There are, besides Ootacamund Town proper, within municipal limits nine villages, viz., Kodappamund, Vannarapett, Bandy Shola, Pudumund, Old Ooty, Metoocherry, Kandal, Manjanacorai and Thallayattimund.

Roads.—The roads, with the exception of some in Kodappamund and Old Ooty, were clean and in good order.

There are 87 dust-bins, all movable ones, and they are emptied daily. These dust-bins should be daily moved and placed on a fresh spot, and this I explained to the sanitary inspectors. The street sweepings, &c., are disposed of in two ways; some are taken to the night-soil depôt and others used to fill up hollow places, &c. Only Rs. 11-14-0 were realized from the sale of this rubbish in 1886-87. The practice of filling up inequalities of ground with rubbish is certainly in many cases very objectionable, and should only be done under very strict supervision. The sweepings and refuse must be dry, and on no account should the work be begun unless it can be finished before the setting in of the rains. All water in the hollow should be baled out before the filling in is commenced, and no dead animals, slaughter-house garbage, or fœcal matter should be thrown into the place. A sufficient quantity of earth should be used in covering the deposit when finished or at any time should it become offensive. Ground so reclaimed should not be allowed to be used as building sites, but as gardens or grazing grounds.

Some of the villages within the Municipality are increasing in size, especially Kandal, also Metoocherry. It is therefore very important that the Municipal Council should regulate the construction of streets and buildings and that the people be not allowed to build as they like. One of the greatest hindrances to sanitary improvements in many of our older towns is the difficulty of dealing effectually with those areas on which the dwellings are unwholesomely aggregated and where no provision has been made for proper ventilation, thorough scavenging and sanitary supervision. In laying out a suburb, the streets should be wide and straight and as far as possible should run in parallel lines. The cross streets should intersect the others at right angles.

Another subject of great importance which requires the careful attention of the Municipal Council is the unrestricted planting of trees which has been going on within municipal limits. In some parts of the station the growth of trees and underwood is very thick, and the evils resulting from this are an obstructed ventilation and consequent protracted dampness of the atmosphere and an impeded conservancy, with its consequent contamination of soil, air and water.

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Drainage.—The parts of the Municipality which have been provided with drains are the native bazaar or town, the butcher's quarters, and the Agraharam. These drains discharge into a masonry main sewer which begins near Browne's stables and ends at the Willow Bund; the sewage is then conveyed by iron pipes along the northern margin of the lake and discharged into a stream some distance below Kandal. No use is made of the sewage, and this is, I think, an unnecessary waste of very valuable manure material. Irrigation is now generally conceded as the only process which fully meets all the requirements attaching to the disposal of sewage; in other words, it is the only one which, while it purifies the sewage efficiently, realises the highest profits and may be carried on without creating any nuisance or detriment to the health of the neighbouring inhabitants. I would suggest, therefore, that to turn the sewage to profitable use, a sewage farm be started by the Municipality and fodder crops, &c., be raised on it. If properly managed, it should not be a nuisance.

The drains, which are of stone, are not kept in a satisfactory condition and many were very filthy. In some places also, there was leakage between the stones. Unfortunately the drains are of the old angular pattern  and also the surface is not smooth throughout. The consequences are that it is almost impossible to keep the drains in a wholesome state owing to the sewage sticking in the angles, and the roughness of the interior of the drains prevents the liquid filth from freely flowing off. If it can be done, I would recommend that the drains be coated with cement and made smooth throughout, so that no frictional resistance will have to be overcome by the sewage, and also that the shape be altered to an oval; the section which is universally preferred is that of an egg-shaped oval with the small end pointing downwards, as it has been found that this form ensures the most rapid current.

The drains are flushed twice a week in some parts and in others only once. When the new water-works are completed, they will be flushed daily.

The house drains are in a few places connected with the street drains, but it is hoped that all will soon be. Care must, however, be taken that the house drains are of a proper shape and that they join the street drains in the direction of the main flow.

A scheme for the drainage of Kandal is much required and plans and estimate for this work are being prepared.

Water-supply.—The two great supplies of drinking water are the Marlimund and Dodabetta reservoirs.

The northern part of the station, as well as the native town and bazaar, receive their supply chiefly from the Marlimund reservoir, and the work of conveying and distributing the water of the Marlimund reservoir by iron pipes to the town is now in progress. No settling tanks or filtering beds have been provided in this north water-supply scheme, but I think arrangements should be made for their construction with the object of purifying the water before its distribution. In the native bazaar there are at present three small filters, but they were not working efficiently when I inspected them and they should at once be looked to. From the records in the municipal office, the water of the Marlimund reservoir would appear not to have been analysed for some time, but I would recommend that it be subjected to regular analysis from time to time, so that the purity and wholesomeness, &c., of the water be known.

The Dodabetta reservoir, which supplies water to the southern part of the Municipality, is far from satisfactory in respect to its safety from pollution. The catchment area, which should be the first care, is unsatisfactory, one part of it being formed of cultivated, manured land. According to the classification made by the Rivers Pollution Commissioners in their sixth report on the qualities of water founded upon their respective sources, surface water from cultivated land is entered as palatable but suspicious, and in this case the water must be regarded at least as such especially when manuring is going on. The water from this reservoir is conveyed along the southern part of the station by means of an open channel, and so is liable to pollution of various kinds. As the channel passes through some plantations, it is defiled by rain draining into it from over manure deposits. The Municipal Council is anxious to have the piping of the South or Dodabetta Water-supply undertaken, but before doing so, it will be necessary to place the catchment area in a satisfactory condition and see that it is not subjected to contaminating influences.

The water-supply of Old Ooty is obtained from a small open channel, which receives the washings, &c., from the houses and is also defiled in other ways. The people here complained to me regarding the pollution of their water-supply and requested that it be piped. The source—a spring—seems to be a good one, but to keep the water wholesome it should be distributed in pipes.

There are seven municipal and numerous private wells in the station from which drinking-water is obtained. All these wells should be provided with parapet walls, platforms and drains.

Conservancy.—The conservancy establishment is as follows:—

2 Sanitary inspectors.	1 Market serjeant.
4 " overseers.	80 Scavengers.
5 " maistries.	12 Sweepers.
1 Head cooly.	28 Cart-drivers.

There are forty-six public latrines besides nine office ones, which are also used by the public. A latrine is much required for the people who live in the upper part of Old Ooty. I visited all the latrines, and although they were on the whole fairly clean, still there was a very objectionable smell to be found in all. The space inside is very limited and the ventilation not as good as it should be. The floors of many of the latrines required repairing. What I would recommend is, that the latrines be made a little larger to give the people more room, also that a bucket be placed in the outside cistern to prevent any risk of leakage as well as to facilitate the process of emptying. The floors as well as seats, which frequently get out of order, should be



of stone; the floors might be paved with stone flags and the seats of blocks of stone shaped as shown in the margin simply placed on the floor. No doubt this would be expensive, but once done no further expenditure would be incurred in

annually repairing the floors and seats as is done with the present muster. In addition the latrines could be kept much cleaner, and the peculiar stench and effluvia of a privy which clings, as it were, to masonry and chunam, &c., would be got rid of. Some arrangements might also be made as was suggested by Dr. Farquhar to screen off those latrines situated in exposed places, such as those at the side of the lake, &c.

There are said to be about 161 private latrines of the same pattern as the public latrines, and nearly all are cleaned daily by the municipal toties on payment.

The night-soil depôts are two—a permanent one at Titticul, which is situated $3\frac{1}{2}$ miles from the town, and a temporary one at Old Ooty. They were clean on the dates I visited them. During 1886-87 the amount realised from the sale of the night-soil, &c., was Rs. 357-12-0.

Cremation and Burial Grounds.—There are one cremation and thirteen burial grounds situated within municipal limits. Only four of the burial-grounds are enclosed, but all should be.

Markets.—The large municipal market, which is in charge of the Market Serjeant, is kept clean. It is not enclosed, but should be. A strong hedge might be planted round it, if funds will not permit of a wall being built. The work of draining the market still requires to be done, and it is very necessary that this should receive early attention, as during the rains the site is in a very insanitary condition. For 1886-87 the income derived from this market was Rs. 7,186-8-2.

Cart-stand.—The work of metalling and draining the cart-stand was begun, and when finished will be a great improvement.

There is a "pound" close to the market, and this was not in a clean condition when I saw it. The floor was in a very unsatisfactory state and should be paved or metalled and drained.

Slaughter-houses.—There are two municipal slaughter-houses—one for sheep and one for beef.

The beef slaughter-house was not as clean as it should have been and there was a disagreeable smell about it. This was due to the floor being in bad repair; in some

parts of it there were hollows in which the blood, &c., lodged. At one corner there is a cistern which receives the drainage of the slaughter-houses. The liquid contents of this cistern are baled out into a pipe which runs to the main sewer or drain. I think it would be a much better and cleaner plan if the foul water ran directly into the pipe from the cistern, and to catch any solid matters, &c., a removable perforated zinc tray might be placed in the cistern below where the drainage enters the cistern.

The sheep slaughter-house is situated above the beef one and the floor of it was also in need of repair. The drainage runs to the beef slaughter-house. I would recommend that the floors be paved with stone flags, as they make the best floors for slaughter-houses and are much more durable than the ones at present in use.

On an average about sixty sheep and eight bullocks are daily killed, and the slaughtering of them is done under the supervision of the Market Serjeant. The offal, &c., is removed by the butchers themselves.

Cow-houses.—There are numerous cow-houses in this Municipality and I visited nearly all of them, but regret to state that not one of those I inspected could be said to be in a sanitary state. Those situated in Kodappamund were dark, foul-smelling dens, filthy beyond description, and did not appear to have been cleaned out for some time. Nearly all the cow-houses I saw were dark, badly-ventilated buildings. The floors, made of pieces of stone not carefully fitted, allowed the urine and liquid dung to pass through the interstices and soak into the earth beneath. No proper arrangements were made for drainage and in some a foul cesspool was situated close to the cow-house. The important question of the milk supply derived from cattle kept under these conditions is one of the highest importance, and there is no doubt that some preventible sickness is attributable to the unwholesomeness of the milk supply resulting from the filthiness of the cow-houses and their surroundings. The result of investigations has clearly shown that the health of animals kept in close cow-houses is largely affected by the keeping of dung in and about the stables. There is also the danger to the milk from the foul atmosphere of the sheds where it is drawn or often allowed to stand, for it is well known that milk is more easily tainted than any other liquid by smoke, gases and foul odours, and that "the great danger attaching to milk as a carrier of disease depends upon its remarkable powers of absorption and the rapid fermentive or zymotic changes it undergoes when mixed with putrefying matter or tainted with disease germs." It is therefore very necessary adequate measures should be taken for the cleanliness of the cow-sheds, the purity of the water supplied to the cows, and against adulteration of the milk. The cows should be housed in well-constructed, well-drained, and sufficiently-ventilated stables. The floors should be paved, the urine and dung regularly removed, and the houses systematically inspected.

Vaccination.—One first-class vaccinator is employed by this Municipality. First class vaccinator Manickum was appointed as a vaccinator on 15th January 1887, he having been the registrar of births and deaths before that. His knowledge of vaccination is very limited. His work is supervised by the District Medical and Sanitary Officer.

I examined his register and found it written up to date, but not correctly kept. His instruments were in good order, but his supply of preserved lymph (a few tubes) was quite unfit for use. He stated that he used lymph tubes two or three times to preserve lymph in, and this should never be done, as I explained to him. I saw many cases done by this vaccinator, but the quality of the work was not good, and this doubtless was due to the large number of cases done from preserved lymph. The following table will show the work done by this vaccinator from 1st January to 12th October 1887:—

Number vaccinated successfully	..	..	..	..	..	329
Do. inspected	..	..	..	..	..	Not known.
Do. vaccinated from arm to arm	..	..	..	..	..	131
Do. do. under one year of age	..	..	..	..	..	56
Do. of births registered	..	..	..	..	..	310

The man's work was very unsatisfactory, and in some villages very little work had been done. The Thallyattumund had never been visited by this vaccinator although there had been cases of small-pox in the village. On an average forty successful cases

were monthly done. The number of children under one year of age vaccinated was only 56, while the births registered for the same period were 310.

During 1887 up to 12th October there were 96 deaths registered from small-pox, and this shows the unprotected state of the population. Vaccination has now been made compulsory in this Municipality, and it is hoped that better work will be turned out in future.

Registration of Births and Deaths.—One registrar is employed on Rs. 12 per mensem. His knowledge of English was slight and he did not appear to me a very competent man for this post. His registers were not carefully kept, and with a few exceptions no entries were made in the column "How long resident in Ooty." From 1st January to 30th September 1887 there were 310 births and 281 deaths registered, or 33.4 and 30.3 per mille of population respectively. The returns are untrustworthy, and one case I knew which had died in hospital had never been entered. I would invite the attention of the Municipal Council to the registration of births and deaths, and would recommend that the registrar's work be systematically supervised.

MADRAS,
23rd January 1888.

(Signed) J. A. LAING, Surgeon-Major,
Offg. Sanitary Commissioner for Madras.

ORDER—dated 19th March 1888, No. 255 M., Local and Municipal.

Communicated to the Chairman, Municipal Council, Ootacamund, whose attention is drawn to the remarks and suggestions of the Sanitary Commissioner. The Chairman should consider the advisability of removing the present municipal vaccinator and the registrar of births and deaths and appointing better men in their places.

2. Steps should be taken to keep the cow-sheds in better condition and to provide drinking-water wells with parapet walls, platforms and drains.

(True Extract.)

H. E. STOKES,
Chief Secretary.

To the Chairman, Municipal Council, Ootacamund,
through the Collector of Nilgiris.
„ Sanitary Commissioner for Madras.
„ Public Works Department.

Exd. A. Raitt.