

Public Works (1898) Department.

G.O., No.

917 E

DATED

4 April 1898

[Despatch Abstract.]

Central Jail, Combarne, Pro: Judicial Dept
passing orders on the suggestions made by
certain officers in regard to improvement of
the - , *recorder*.

B. W. S.

Indexed.

6/11

GOVERNMENT OF MADRAS.

JUDICIAL DEPARTMENT.

READ—the following papers :—

From Surgeon-Lieutenant-Colonel W. G. KING, M.B., C.M., D.P.H., Sanitary Commissioner for Madras, to the Chief Secretary to Government, dated Fort St. George, 1st October 1897, No. 1992-S.

With reference to G.O., No. 906, dated 28th June 1897, paragraph 26, I have the honour to state that up to the 18th April reports that had reached me irregularly as to the extent of prevalence of cholera from the Medical officer of the jail did not call for special alarm. On that date, however, I received a report showing the outbreak was of a serious character, and I therefore wired for arrears of returns. As the reply showed no improvement had occurred, I left for Coimbatore on the 20th evening. I found on arrival that the epidemic had practically ceased. I stayed at Coimbatore three days, but only one fresh attack occurred amongst the prisoners—although an outbreak commenced amongst the warders. Consequently, my advice had reference to possible errors that had occurred and measures for prevention of their recurrence. It did not, in the absence of special orders from Government to inspect the jail, occur to me that a formal report would be required of me. I therefore contented myself with placing on record the advice given in this office letter, No. T-21, dated 22nd April 1897—copy attached. I give this explanation, as although I am still in a position to state broad facts from my rough notes, it is possible that details showing the order of attacks may be wanting in accuracy.

2. A total of 280 attacks and 111 deaths occurred in this epidemic. The first attack occurred on the 5th April in the case of a Mappilla, who had been transferred direct from Palghat on the 22nd March. Cholera prevailed in Palghat at the time, but there is no evidence to show that this man had special opportunities of contracting infection. Transfers of Mappillas had also been received on the 16th and on the 27th March from Calicut, where cholera prevailed. The latter date would allow of an incubation period of nine days which is within a reasonable period; but the other dates stated whilst possible may at least be regarded as unlikely factors. The impression both on the part of the Medical officer and of the Superintendent was that the disease had in some manner been introduced by the Mappillas, as the first two attacks had occurred amongst them. I do not pretend to be able to solve the problem as to introduction. No proof of infection of the gangs transferred or even of opportunities for infection were demonstrable, beyond the fact that the towns in Malabar whence they had come were suffering from the disease, whilst it must not be forgotten that cholera was prevailing nearer the jail than Malabar, namely, in the Coimbatore municipality. Cholera appeared there on the 25th July 1896 and had been met with very poor efforts by the municipal council, notwithstanding my drawing attention to the matter supported by the Collector. Up to date of invasion 351 cases had occurred. Within the jail some twenty coolies were employed from the town daily, besides five warders, who, because they are classed as "temporary," are allowed to remain in the town, though they have, I believe, really been employed some years. The convicts transferred from Calicut, and the coolies and warders, *though themselves healthy*, could have conveyed the cholera microbe in their intestines to the jail, and whilst arrangements remain as they are in our jails as to water-supply and protection of food, I do not know that it matters much to trace the method of introduction. If the cholera microbe can be introduced into a jail with imperfect protection of its water-supply, the chances afforded for spread are innumerable. Putting aside then

this question, it is found that on the 5th April the first case was attacked in the district jail. The symptoms first found were colic; for this complaint the man was sent to the hospital, received a dose of medicine, and was sent back to the district jail block. He then had a fluid motion, and segregation was ordered by the Superintendent in person. As far as I remember details given me, disinfection of the faecal matter was carried out, but the resulting mixture was removed by the ordinary conservancy agency. There is, however, no reason to believe that the disease obtained its foothold at this point. Segregation was directed by the Superintendent both of the attacked man and two orderlies, who were placed in the outside quarantine. As the after history showed, what may have been an important matter in the question of subsequent spread occurred before this order was fully effected. Before he went to the quarantine, the attacked prisoner had a motion immediately outside the jail hospital. This motion a hospital toty removed; but the precaution of subsequently requiring disinfection of this toty's hands or even segregating him does not seem to have occurred to the hospital staff. Now within the hospital compound is an open bathing cistern; the hospital yard opens upon block No. 2, where there is also an unlocked drinking-water cistern. Within the hospital compound are the observation cells; adjoining the hospital compound is the kitchen with the usual arrangements. At the time of my visit, the hospital was crowded with cholera cases. The attendants upon these were seen to proceed direct to the bathing cistern in the hospital compound, wash their hands that had recently handled the sick, and their mouths. It seems to me that it is more than probable that this behaviour was merely a repetition of what occurred at the outset of the epidemic. Where did, or could, the hospital toty go who cleaned the ground infected by the motion of the Mappilla (first case) on his way to quarantine? The chances are fifty to one that the toty proceeded to the cistern, and cleansed his hands and feet there. This theory receives colour from the fact that the next two attacks were within the hospital compound, namely, in the case of a convalescent who inhabited No. 2 block, but took his meals in the hospital compound; whilst the next was in the case of a man within the hospital "observation" cells. The fourth case was in No. 7 block on the 7th. By the 9th, a further case had occurred amongst the convalescents, as well as one in hospital; one in No. 4 block, one in outside quarantine (in the case of the orderly attached to the first case that had been segregated) and one in the close prison. By the 10th, the disease had become general—noticeable features being two attacks in the hospital again and three cases in No. 4 block. The district jail and No. 2 ward were vacated and whitewashed on the 9th, but no other method of disinfection was practised; on the 10th, the men in No. 4 ward were sent into No. 2. The disease seems to have clung to convicts that had as convalescents or patients been in connection with the hospital compound. Thus the chances of the inhabitants of No. 2 block being attacked were considerable, as the cistern supplying water was open, and they had direct communication with the hospital compound where the cistern was also open to contamination. In the case of the kitchen placed in this undesirable position, there certainly was plenty of chance of infection by the cholera microbe being carried by flies, which simply swarmed within it on date of my inspection. On the 13th, three cases occurred in the hospital besides cases in other blocks. A State prisoner was also attacked who, if I remember rightly, was temporarily placed in connection with the hospital under observation.

3. The precaution of boiling water was introduced, and the jail well water was hankinized at the outset, although it does not seem that the quantity requisite for the amount of water was correctly reckoned. Temporarily, the water source was changed, but this change was not maintained.

4. The convicts were in the first instance camped outside the jail without producing any impression upon the disease. This camping outside was a mistake in policy, as it is impossible to rely upon all sources of infection being cut off with respect to the temptation to use old chat'ies, the same water source, &c. The absence of efficacy of this procedure being shortly recognized, the camp was shifted to a suitable site about three miles off, but not till 18 cases in one day had been reported. The Superintendent's action in this as in other matters throughout seems to have been prompt as all suggestions given to him by the Medical officer were rapidly effected.

5. The result of shifting of camp, and with it the adoption of new water sources, was the gradual extinction of the disease as follows:—

14th to 15th in camp 316—15 attacks; 15th to 16th in camp 466—25 attacks; 16th to 17th in camp 697—25 attacks; 17th to 18th in camp 716—22 attacks; 18th to 19th in camp 795—12 attacks; 19th to 20th in camp 692—8 attacks; 20th to 21st no cases.

6. After the 21st no cases occurred in camp; but on the 22nd April a case was brought in from No. 2 block in the jail. My inquiries from this man elicited from him that he had used water from the cistern in No. 2 block. Both the water from this No. 2 block open cistern and from the hospital block proved on cultivation by the peptone process to contain cholera bacilli. I subsequently examined water from both the wells in use, but failed to find any cholera bacilli in them. The latter fact is probably of more value than the finding of the bacilli in the situations stated, as it showed that contamination of water had occurred during distribution and not at the source. I have already shown that in connection with the hospital cistern and the No. 2 block there was ample opportunity for the contamination which was thus proved to have actually occurred. In short the initial error seems to me to have taken place in respect to the absence of care as to segregation or disinfection of the hospital toty who undertook removal of the cholera motion of the first case.

7. This jail affords another instance of the danger there exists in retaining open bathing cisterns in jails, or other public institutions, and the undesirability of trusting to the antiquated arrangements which exist here and in other jails in this Presidency for guarding the purity of water. In this jail there is a pump of probably the cheapest pattern that could be secured. It is so arranged that prisoners using it stand in such a position that the "spill water" passing over their feet finds its way back into the well. The water then passes into a cistern and, theoretically, should be thenceforward free of chances of contamination; but, in practice, the water passes from this storage cistern into another delivery cistern within the jail, and this is so arranged that water is withdrawn by dipping chatties into the bulk of the water. This practice shows a distrust in the most common principles of water protection.

8. Before I left Coimbatore a case of cholera occurred amongst the warders. By the time I inspected the case the cholera excreta had been washed by the side of the house towards the well which adjoined the house—this being the natural line of drainage.

9. The matters that seem to me to require urgent attention in this jail are—

(1) the alteration of the arrangements for lifting and distributing water for all purposes in the jail and in the warders' lines in a manner that shall secure full sanitary protection;

(2) the modification of the quarantine wards on a system that shall enable the full possible strength to be correctly segregated during the whole period of quarantine, special regard being had to separation of conservancy and water-supply arrangements;

(3) the abolition of the system of "temporary" warders residing in the town in favour of residence in the warders' lines;

(4) the protection of the kitchen from the inroads of flies;

(5) the forbidding of any attempt to camp in the immediate neighbourhood of the jail in any future outbreak,* it being essential for success of camping that a water-supply beyond suspicion of having been contaminated specifically shall be obtained.

ENCLOSURE.

From Surgeon-Lieutenant-Colonel W. G. KING, M.B., C.M., D.P.H., Sanitary Commissioner for Madras, to the Superintendent, Central Jail, Coimbatore, dated Fort St. George, 22nd April 1897, No. T-21.

With reference to my inspection of your jail as to the existence of cholera, I have the honour to forward herewith a memorandum showing the recommendations made by me. I do this, lest in the course of our consultation anything may have escaped your own or my memory.

* The Medical officer informed me that this method had been adopted on a former occasion with good results.—W.G.K.

2. As pointing to the necessity of recommendations Nos. 5, 6, 7, 8, 14 and 18, I have to state that examination of a peptone cultivation of the water in cistern of No. 2 block and of the bathing cistern in the hospital block were rich in characteristic cholera bacilli. The last man attacked just before this water was taken informed me that he used it and obtained it by "dipping" in common with the other criminals—the cover being, as seen by me, permanently open. In this water the most common bacilli were found. In the open bathing cistern both you and myself saw the men bathing who had been in attendance on cholera cases. The bacilli in the hospital chatty were not sufficiently characteristic to enable me to pronounce a definite opinion, but in our presence a man in attendance on a cholera case was seen to dip a lotah with his hand into the chatty. Whatever the source of these various waters and whether originally boiled or not, it is evident by the risks to which they have been exposed that infection has occurred. As you did not supply the well waters these have not been examined,* and I am therefore unable to state their condition.

* Subsequently found free of cholera bacilli.
(Intld.) W.G.K.

Memorandum of Suggestions.

I understand the main-gate well has been abandoned on account of failure of the pump, and that consequently the well in the district jail which was shut on the appearance of the first case is now perforce used. I see no objection to this, provided the water is carefully disinfected, first, by the permanganate of potash process followed by the alum process. This could be easily effected in one night.

2. Arrangements should at once be made to abandon the method of lifting water from this well by means of a leather dole stuffed with rags and so arranged that the current of water passes over the men's feet and then into the cistern. Metal buckets should be provided for lifting, and these should be arranged so as not to bring the hands or feet of the men working them in contact with the water. Selected men living in one barrack, and having no other work should perform this important duty. Their health condition should be carefully watched.

3. Not only water used for drinking, but all water used for washing of vessels, for cooking or eating or drinking should be boiled.

4. The earthen lotahs and mullies of all prisoners should be destroyed, and new ones be issued.

5. All carts for conveying water should be disinfected with milk of lime.

6. No rags should be employed in them. Correct taps only should be used.

7. All drinking-water cisterns should at once be disinfected with milk of lime. All bathing cisterns should be closed at once and not again be used till all fear of cholera has passed. Pending other possibilities, bathing must be conducted by prisoners being marched to any of the hydrants and thence supplied, or till the main-gate pump is in order by the use of carts and the taking of water thence by the tap. I regard the bathing cistern in the hospital compound as particularly inimical to safety having regard to its use by sick orderlies and possibly by convalescents.

8. All orderlies and toties in attendance on the sick, or taking part in removal of excreta (healthy or otherwise) or in the disinfection of any ward of building, should be required the moment the duty is over to disinfect their hands and feet by means of perchloride of mercury lotion, coloured with fuschine and given an odour by means of carbolic acid.

9. When a case occurs in a building with an earthen floor, there should be no waiting for general disinfection; but the stained flooring and pyals should be at once disinfected and dug up. When straw is used for sleeping in a camp on the floor, the whole should be burnt on the occurrence of a case of cholera.

10. In all wards still inhabited the earth in the corners where according to custom the night-soil receptacles have been placed should be disinfected and dug up, removed and then be replaced by clean earth.

11. All receptacles for night-soil—healthy or otherwise—should after being emptied be thoroughly washed with perchloride of mercury solution, before being brought from the place of deposit of night-soil.
12. All wooden receptacles for night-soil and urine in use during the epidemic should be destroyed by burning. All metal receptacles should be washed with perchloride solution, and then be tarred or still better, where feasible, should be placed over a fire till too hot to touch.
13. All new night-soil receptacles should be distinctly numbered and be returned always to the same place.
14. All drinking-water receptacles after disinfection should be kept locked.
15. No. 2 block in the jail should at once be vacated, in favour of any block that has undergone complete disinfection, and which is situated further from the kitchen and hospital.
16. Either the kitchen now in use in the jail should be removed, or all the patients at present in the hospital, the proximity of No. 2 block, kitchen and hospital being undesirable.
17. An effort should be made to serve the rice hot, and not cold as at present.
18. In the hospital, it is desirable that patients should be supplied with water by a special orderly and that he should alone take it from a cask or other receptacle provided with a tap. If the provision of a tap be impossible, at least a "Burmese spoon" should be provided for removing water.
19. In certain receptacles for vomit and faeces plain saw dust is employed. This should always be in the form of carbolie saw dust or perchloride solution should be used made with the precaution given in paragraph 8.
20. All warders should be required to strictly live in their lines.

Cholera Camp.

1. Paragraphs 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 18 and 20 are applicable to the condition of the jail camp.
2. The graveyard here is too near the bank of the river (50 yards) having regard to the interests of the village lower down.
3. In drawing water from the temporary well, care must be taken that no one enters the water for purposes of drawing it. The simplest way of arranging this would be to employ a small hand picottah, emptying direct in the water-carts. The water should not be transported by chatties, as each man carrying it thrusts his fingers into the water thereby offering a real danger of infection.
4. The amount of water boiled per day should be definitely settled.
5. Water should not be removed from the fire-place till a competent person has declared the water really boiled—not warmed.
6. All cumbies and mats should be so laid out for airing that the maximum amount of sun exposure is secured.
7. Trenches should be provided round each shed lest a further rain storm occur.
8. Bathing should not be allowed promiscuously in the stream. Men should be drawn up in line on the bank, and one or more men be detailed to hand them chatties. The waste water should be guided where it can be absorbed, or be allowed to pass lower down the stream.

From Surgeon-Major-General C. SIBTHORPE, F.R.C.P.I., Surgeon-General with the Government of Madras, to the Chief Secretary to Government, dated Ootacamund, 10th October 1896, No. T-5—28.

With reference to G.O., No. 1339, dated 3rd September 1897, I have the honour to report that I made no special inspection of the Central Jail, Coimbatore, during my visit there on the 6th and 7th of May as the jail was empty. I inspected the camp

at Singanellore with the District Medical and Sanitary officer and the Superintendent of the Central Jail and verified the facts which the Sanitary Commissioner had communicated to me while we were together at Rajahmundry and on the journey back between the 29th April and the 4th of May. I had intended inspecting Coimbatore in the middle of April, but the orders of Government directing me to go to Rajahmundry prevented my doing so.

2. The Sanitary Commissioner has at my request furnished me with a copy of his report to you—letter No. 1992-S, dated 1st October 1897—which contains all the facts above alluded to, and the figures given by him correspond with those sent to me by the Medical officer.

3. I concur in the suggestions he has made in paragraph 9 of his report.

Endt. No. 2324.

Referred to the Inspector-General of Prisons for remarks.

(By order.)

(Signed) A. R. KNAPP,
Acting Under Secretary.

8th November 1897.

From A. G. CARDEW, Esq., M.A., I.C.S., Inspector-General of Prisons, to the Chief Secretary to Government, dated Cannanore, 22nd November 1897, No. C. 2849.

In returning the papers received under Mr. Knapp's endorsement No. 2324, dated 8th November 1897, I have the honour to state that most of the Sanitary Commissioner's remarks and conclusions coincide with those contained in Mr. Gadsden's letter No. 1627, dated 26th May 1897, printed in G.O., No. 1095, Judicial, dated 3rd August 1897, and that therefore no lengthy remarks seem to be called for. I, therefore, note only the following points:—

(1) *Theory of causation.*—The Sanitary Commissioner does not state to what extent cholera was prevalent in Coimbatore town in March 1897, but 351 cases in eight months does not point to a very extensive epidemic, and it certainly seems most probable that the infection came from the West Coast prisoners.

(2) *Diffusion of infection.*—The fact that the drinking water in the wells was free from bacilli of cholera, while that in the bathing cistern and drinking-water cistern contained bacilli, seems conclusive proof that infection occurred in the processes of distribution.

(3) *Camping of prisoners on jail grounds.*—The point involved here seems to be merely this. If prisoners are placed in tents and huts close to the jail, subordinates, who neither believe in nor care for the advice of sanitarians, are nearly sure to retain in use water-barrels, chatties, and other implements which may be contaminated; whereas if the prisoners are taken out to a camp two or more miles from the jail, these sources of re-infection can be better guarded against. If sources of infection were rigidly cut off, it would be as useful to move prisoners 200 yards as to move them two miles.

(4) *Position of kitchen.*—It is misleading, if not positively incorrect, to say that kitchen "is adjoining the hospital compound." The hospital yard is a large enclosure shut in by iron railings. The kitchen stands in the next yard, fully thirty yards from the railings. Its position may not be the best possible, but it is free from all serious objection, and it has to be reckoned with, as it cannot be changed.

(5) *Recommendations (paragraph 9).*—

1st—*Water-supply.*—A scheme for placing the arrangements for lifting and distributing water, as well as bathing, on a satisfactory footing is before Government—vide my letter No. C. 2719 dated 18th November 1897.

2nd—*Quarantine.*—*Vide* clause (5), paragraph 4, of my letter No. 2879, dated 2nd July 1897. I shall welcome increase of quarantine accommodation if Government can find the money.

3rd—*Temporary warders.*—Huts are not provided for such warders, nor do I think it essential to provide them, for it is impossible entirely to cut off communication with the town. Still some additional huts would furnish a small additional security.

4th—*Protection of food from flies.*—I invite reference to clause (4), paragraph 4, of my letter No. 2879, dated 2nd July 1897.

5th—*Camping in jail compound.*—I have no objection to this being prohibited at the Coimbatore Central Jail. There is undoubtedly force in the contention that it is very difficult to ensure the exclusion of all sources of infection from a camp quite close to the jail.

ORDER—No. 248, Judicial, dated 11th February 1898.

Recorded.

2. The Inspector-General's scheme for improving the water-supply in the Coimbatore Jail has been sanctioned in G.O., No. 1654, Judicial, dated 26th November 1897. The proposal to increase the quarantine accommodation must, for financial reasons, be postponed.

3. With reference to the Sanitary Commissioner's remarks on the subject of temporary warders, the Inspector-General will be requested to report whether there is sufficient space in the jail for the erection of huts for all such warders, and if so, what it would cost to provide them with quarters.

4. The method suggested for the protection of food in the kitchens from flies is approved and may be introduced.

5. The proposal to forbid camping in the neighbourhood of the jail on any future outbreak of cholera appears to be a good one, and should be adopted.

(True Extract.)

[Signature]

for Chief Secretary.

To the Inspector-General of Prisons.

„ Surgeon-General.

„ Sanitary Commissioner.

„ Accountant-General.

„ Public Works Department. ✓