Local & Munl. (1898) Department.

PRINTED

G.O., No. 767P.

DATED 8. 8. 98

[Despatch Abstract.]

Preventive Measures

Passing orders on the Sanitary Commissioner's report on Plague ~~in~~ at Hospet and between Hubli and Hospet.

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.
G.O.	403	P mis	No. 39	[illegible]	[illegible]	P	778

Government {1898} of Madras.

LOCAL AND MUNICIPAL.

Recd. } 1898. *Enclosures*

Regd. *Spare copies*

G.O., No. 767 P., 8th August 1898.

AUGUST.

Plague Preventive Measures.

Passing orders on the Sanitary Commissioner's report on——at Hospet and between Hubli and Hospet.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—the following paper :—

From Surgeon-Major H. THOMSON, M.B., D.P.H., Acting Sanitary Commissioner for Madras, to the Secretary to Government, Local and Municipal Department, dated Fort St. George, 30th July 1898, No. 1692/S.

I have the honour to forward you herewith the Report on Hospet Plague preventive measures and of the precautions taken at Hubli and the line between Hubli and Hospet.

2. A plan of the disinfection, observation and Hospital Plague Camps at Hospet is also forwarded for information and favour of return.

REPORT.

With reference to your telegram of the 19th instant received here on the following morning, I have the honour to state that I started for Hospet by the mail train leaving Madras on the 21st July 1898.

2. I arrived at Bellary on 22nd July at 9 A.M. As I could not proceed further until evening 8 o'clock, I, in company with the District Medical and Sanitary Officer, inspected the Municipal arrangements for the detection of plague in the station. The following are the arrangements :—

(1) One Hospital Assistant is posted on the railway platform to inspect all arrivals by trains—

Hospet to Bellary	...	...4-30 A.M. arrival.
Guntakul to Bellary	...	...9- 0 A.M. ,,
,, ,,	...	...8- 0 P.M. ,,

The Municipality wish to remove this subordinate and to distribute his duties among the Medical Subordinates attached to the Municipal Hospital (2) and Branch dispensaries (2) or to discontinue medical inspection of arrivals by rail. I do not approve of the withdrawal of the Hospital Assistant detailed for special inspection duty.

(2) The Municipal Plague Staff—

Two Divisional Inspectors (Cantonment and Municipality).
Eight Circle Inspectors.
Ten Peons.
Eight Totties.

The Divisional Inspectors issue passports, attend the railway station on the arrival of trains and make a list of arrivals from infected areas. This list is checked with that received from the inspection station, Hospet. The list is divided among the various Circle Inspectors who see that the arrivals attend for observation daily. There are three observing stations, *viz.*, the Municipal Hospital, Cowl Bazaar Dispensary and Brucepet Dispensary. Inspection is here made by a Medical Subordinate; at the end of ten days' observation the passport is taken from the person and filed.

(3) Should a case be suspected, it is sent to the Plague Observation Shed near the Municipal Hospital. This shed is well designed for the detention of observation cases, but another shed with necessary outbuildings at some distance should be erected for the treatment of actual plague cases, to accommodate two females and four males, which could be added to if required. This is advisable because of the existence of plague at Hubli.

3. *Hospet Railway Station and Plague Camp.*—In company with the Acting Collector, Mr. Elwin, I reached Hospet at 11-15 P.M. The following preventive measures are in force at Hospet on arrival of train :—

(1) All passengers are counted in the carriages before being permitted to alight.

(2) Those alighting are made to pass out by one gate, are examined and again counted.

(3) Those remaining in the carriages are examined and again counted. In this way the number is checked.

(4) Those passengers going from Hospet are allowed admission to the platform by the entrance gate. They are examined as they pass on to the platform.

The train from Hubli to Hospet is due at 1-38 A.M. but is, as a rule, one hour late. On the day of my arrival here (22nd), I inspected the train from Hubli along with Surgeon-Captain Pereira.

Inspection Staff on the platform—

1 Commissioned Medical Officer.
1 Nurse.
2 Hospital Assistants.

Inspection of train occupied 1¼ hours. 16 passengers were detained on account of want of passes and unsatisfactory destination and one woman suffering from fever. They were sent to the observation camp under police escort. Their clothes and persons were disinfected at 8 A.M., and they were given passports and allowed to proceed by the next train. The examination was made as thorough as possible, but hindered on account of the darkness. The inspection would be much quicker and more thorough, were it performed in daylight. The inspection is made on the railway platform in the open. There is no shelter nor provision for privacy and, should it be necessary, it is not possible to examine any person thoroughly unless done in the open. The station building is not suitable for use as an examination room. One examination shed or enclosure should be erected on the platform for the use of the Medical Officer and Medical Subordinates during the inspection of passengers to ensure expedition, privacy and thorough examination.

I.—DISINFECTION CAMP.

The disinfection camp at Hospet consists of 4 round rooms (2 waiting and 2 bath rooms), 2 for males and 2 for females. Two latrines are also attached to these.

II.—SUSPECT CAMPS.

(*a*) *European Suspect Camp*—Consists of 2 sheds, the bigger of the two for 4 European males and the smaller for one European lady. There are 2 servants' rooms, 2 latrines, 1 kitchen, for both, attached to these. The bath rooms are attached to the main sheds.

(*b*) *Native Suspect Camp.*—A single shed containing 5 compartments on each side for males and females to admit 5 persons in each compartment is built next to European Suspect Camp. There are 2 police guard rooms, 2 bath rooms (one for males and one for females) and 2 kitchens. There are two latrines one for males and one for females.

(*c*) *Hospital Assistants' Quarters.*—A single building with partition in the middle for 2 Hospital Assistants under construction.

(*d*) *Nurse's Quarters.*—A single building just as above.

(*e*) *Well.*—A single well for the whole camp; eight feet water, not protected at present but will be shortly so; and provided with a pump.

III.—PLAGUE HOSPITALS.

(*a*) *Hospital Assistants' Quarters.*—A single shed with partition in the middle for 2 Hospital Assistants.

(*b*) *Nurse's Quarters.*—Just as above.

(*c*) *Assistant Surgeon's Quarters.*—A single shed.

No latrines for the above three quarters. One required for Hospital Assistants and one for nurses and commode for Assistant Surgeon's bath room.

(*d*) *Police guard rooms.*—Two in number.

(*e*) *Native Hospitals.*—Two in number, one for males and one for females. Each Hospital contains 5 compartments to accommodate 5 patients in each room.

(*f*) *Relatives' rooms.*—Two in number for the use of the relatives of the patients.

(*g*) *Store room.*—One single room for storing provisions, &c.

(*h*) *Dispensary.*—One single room for dispensing medicines, &c.

(*i*) *Duty room.*—One single room with partition in the middle for duty subordinates.

(*j*) *European Hospitals*—Two in number, one for males and the other for females. The floor cemented.

(*k*) *Servants' room.*—Two in number.

(*l*) *Well.*—A single deep well for the whole camp under construction, will be fitted with a pump and covered in.

The kitchens are attached to the above hospitals.

4. *Disinfection and observation.*—The passengers detained for observation are taken to the suspect camp under police escort and wait there until the next morning. All their clothes are taken from them, they previously being given Government clothes to wear. These clothes are then tied in loose bundles and are put in the disinfecting chamber and steamed till lb. 30 of pressure is obtained in the chamber, which is retained for *15 minutes. The clothes are then taken out from the chamber and are given to the passengers who have been previously bathed with hot water and disinfected. They are then allowed to go to the observation camp and are kept there till the arrival of the next train (24 hours after arrival) and then discharged. Those persons suffering from any illness or who are in any way suspicious are kept in the observation camp for a more or less prolonged period. The passengers so detained are provided with a disinfection pass in proof of their being detained and disinfected. The clothes given to the passengers for temporary use while they are being disinfected are afterwards thoroughly washed in *carbolic lotion*, dried and kept for use for the next day.

*Too little: would advise 30 minutes.

Requirements.

5. (1) Latrines in Plague camp for the use of medical subordinates and nurses.

(2) Bedding and furniture should be provided for the camp. There are no cots nor blankets.

(3) A dhooly, a night-soil cart, six washing tubs, six wooden buckets for cleaning soiled clothes and disinfecting with $HgCl_2$ in the camp enclosure instead of as at present in the irrigation channel.

(4) Two dhobies and one clerk.

(5) The disinfection chamber should have an open mesh wire platform instead of the present wooden platform which causes wetting of the articles introduced for disinfection.

(6) The articles to be disinfected should be kept in the chamber 30 minutes instead of as at present 15 minutes to ensure thorough disinfection.

(7) Phenyle or Lysol should be used for disinfection of persons instead of crude carbolic acid as it will not mix with water.

(8) Perchloride of mercury 1 to 1,000 to be used for disinfection of articles which cannot be placed in the disinfection chamber and for soiled articles before their being handed to the dhobie for the purpose of washing.

6. *Frontier precautions taken against the entrance of plague cases across the frontier into Bellary.*—The frontier of Bellary, formed by the river Tungabhadra is about 200 miles in extent. It is divided into 32 inspection circles arranged in a double row—19 circles in front and 13 behind. Each circle is 10 miles square and the two rows are supposed to protect a depth of 20 miles of country.

7. *Staff of the frontier Circles.*—One Supervisor over four Circle Inspectors, one Circle Inspector for each circle. In the 32 circles are 14 Unions, for each Union one Assistant Plague Inspector is appointed, who as far as possible works under the orders of the Union Chairman.

8. (1) *Duties.*—The District Medical and Sanitary Officer, Bellary, is given the Assistance of a Special Plague Medical Officer to allow of his being absent from Head Quarters for prolonged periods on plague supervision work. He is expected to visit and attend to the working of the various circles.

(2) The Supervisor itinerates the 4 circles. He sends weekly diaries to the District Medical and Sanitary Officer who enters any remarks he has to make and forwards them to the Collector. The Collector makes any remarks he has to make and returns the diary through the District Medical and Sanitary Officer to the Supervisor. Any part of the diary that calls for early action is extracted and attended to at once.

(3) Circle Inspectors itinerate their circle, observe all cases entering the circle without passport and produce them before a plague authority. With passports they see that they are observed for a period of 10 days, find and report cases of fever. They send their reports to the Supervisor. At the frequented ferries on the Tungabhadra, stations for inspection have been erected. There are 10 inspection stations.

(4) Establishment.

Hospital Assistant	...	Dispensary Quarters and Medicines.
Clerk	...	
Conservancy Maistry	...	
2 Peons	..	
1 Constable	...	
1 Toty	...	

Hospital with 3 wards 12×12 raised rammed floor.

Observation sheds—male and female.
Latrines—male and female.
Kitchen for observation shed.
Kitchen for Hospital shed.

The observation shed is well separated from the infected sheds. All the stations are supplied with articles as per Government list.

9. The Tungabhadra river being in flood and likely to continue at a high level until November will with the frontier stations guard the frontier most effectually, the only likely means of entrance being by rail.

10. I left Hospet on the night of the 23rd July and reached Hubli at 6 A.M. 24th July, where I was met by Surgeon-Captain Lenmann, I.M.S., Bombay, in charge of plague operations at Hubli. The plague precautions at Hubli are as follows:—

(1) Booking in any direction from railway stations near to Hubli is forbidden except under pass from Resident Plague Authority at Hubli or Patel of village outside Hubli.

(2) Booking from Hubli is prohibited except in the case of persons holding passes from Resident Plague Authority to travel by rail or certificate of having been twice inoculated by a Government Medical Officer or a special pass exempting from disinfection and detention.

(3) Passengers by all trains arriving and departing are inspected and unless holding passes, &c., are detained and disinfected.

(4) *Camps*—

1. Observation and segregation and Plague Hospital.
2. Health Camp.
3. Railway observation Camp.

These camps are capable of accommodating 250, 250 and 150 each.

11. The Municipality, population is about 60,000, is divided into divisions and wards for the detection of plague cases. On a case occurring, the infected and neighbouring houses are evacuated, the people being taken to the plague camp. The area in which the house is situated is evacuated and all the people disinfected and placed in the Health Camp. The houses are all disinfected and after 15 to 20 days the people are allowed to return to their houses.

12. The Railway employes live quite apart from the Municipality and have an observation camp and doctor of their own. They were the means of introducing plague into Hubli.

13. I was informed that plague in Hubli would have been stamped out or controlled, had sufficient police or military guard and disinfection staff been supplied but that the force of 36 policemen and a disinfection staff of 167 coolies was quite inadequate to segregate and keep the people under strict supervision together with thorough disinfection of evacuated houses. In consequence the epidemic spread and is now on the increase. To counteract the evil of insufficient staff the Medical Officer in charge is doing his utmost to inoculate the whole population and is, as far as I could judge, in a fair way to succeed.

14. Inoculation was commenced on the 10th May in Hubli. Up to the 19th July 11,500 persons had been inoculated twice and 5,500 persons once. On the day of my visiting Hubli, I was present and assisted at the inoculation of 583

cases. There were four inoculation centres and the following is the work done on the 24th July:—

583
330
250
500

1663

The people seem to have confidence in inoculation and a wish to be inoculated. The Medical Officer in charge, Surgeon-Captain Lenmann, has had considerable experience having been in charge of the Sholapur Plague Camp and his opinion is that the doses of serum prescribed by Professor Haffkine are much too small and accordingly he increases the dose by about 50 per cent.; also that the first inoculation only gives immunity for about 3 weeks. He accordingly re-inoculates all his cases, which re-inoculation confers protection for from 5 to 6 months.

15. The paucity of police guards allows of the departure from Hubli of numbers of people. However I was informed that a weekly census of the Municipality was regularly taken and that the census showed that very few people were leaving the station, the census taken the week previous to my visit being 53,000. Between Hubli and Gadag on the line to Hospet there are four railway stations. At these stations no tickets are allowed to be issued unless in accordance with the Regulations in force. I was informed that on the line from Hubli to Guntakul and Hubli to Bangalore, not more than 10—15 altogether were issued in one day since this order came into force 10th July 1898.

16. Gadag, a railway station about 30 miles from Hubli is made up of two villages Bitgiri and Gadag. There are two health camps and one observation camp and a plague Hospital situated about 600 yards from the station.

17. A Special Plague Medical Officer has charge with the Civil Hospital Assistant and a private medical man paid by the Municipality for plague duty and the Civil Hospital Compounder.

Under the orders of Mr. Vincent, Assistant Police Superintendent.

18. The trains arriving from Hubli and Hotgi are inspected—the one by the compounder, the other by the private medical practitioner. Departing trains are not inspected. People arriving by road are not checked nor inspected. Plague has not broken out in Gadag, but 14 days ago a plague case from Hubli died there. There have been no more cases. It is quite easy for any person from Hubli to travel by road to Gadag or any station between that and Hospet and there to book by rail into the Madras Presidency. The Tungabhadra river being in flood and the frontier Inspection stations being on the alert, I would recommend that all persons arriving by train from the Hubli side be detained and thoroughly disinfected whether they have a pass or not. I would also request the serious consideration of Government to detain at Hospet for 10 days all persons travelling from or near Hubli, as I find that persons although giving their name and address will proceed next day and book to some other place, their whereabouts not being known and no trace of them to be found.

19. Hubli is only about 6 hours' run from Hospet and the incubation period is noted as 10 days. It is therefore the most likely thing for a person affected with plague to pass under your inspection undetected and there is no doubt but that the numbers of ticket-holders from stations on the Hospet side of Gadag are greatly increased which suggests that people from the Hubli district travel to Gadag, &c., and "book" thence to the Madras Presidency.

20. Surgeon-Major Bannerman was lent to the Bengal Presidency about 3 months ago, and there seems little likelihood for some time yet of his return. As he is the only Medical Officer belonging to this Presidency who

has received a special training in plague work, I would advise Government to depute a Medical Officer for plague instruction to Bombay. This measure I consider necessary on account of the increasing hold plague has acquired on Hubli. Its situation and nearness to the lines of communication with this Presidency lays us open to infection at any moment notwithstanding the most careful preventive measures that can be adopted. It is therefore advisable that Surgeon-Major Bannerman be recalled or a medical officer be at once put in training to take his place during his absence.

Order—No. 767 P., dated 8th August 1898.

Para. 2 *of the report*.—The Government agrees with the Sanitary Commissioner that the special Hospital Assistant posted on the Bellary railway platform to inspect all arrivals by trains should not be withdrawn. The Municipal Council should be required to erect another shed with out-buildings for the treatment of plague cases, as recommended by the Sanitary Commissioner.

2. *Para.* 3 *of the report*.—Separate orders have been issued directing the Southern Mahratta Railway Company to construct an inspection shed at Hospet.

3. *Para.* 5 *of the report*.—The suggestions made in this paragraph should be carried out. The Government has already sanctioned in G.O , No. 717 P., dated 26th July 1898, the Collector's application for one clerk and one dhoby, as well as his indent for hospital furniture and equipment. For disinfection of persons permanganate of potash, chloride of lime or phenyle may be used in preference to lysol, which is costly. The use of carbolic acid should be discontinued, as it has been found to be a very weak germicide.

4. *Para.* 8 *of the report*.—The Collectors of Bellary and Kurnool are requested to satisfy themselves and report whether the several officers of the Observation Staff actually do the duties assigned them. It is only by constant personal inspection that their work can be properly checked, and the Government will, if possible, post a special gazetted officer to each district to help the Collector in the work of supervision. The Divisional Officers should also move about along the frontier as much as they can without neglecting other work.

5. *Paras.* 18 *and* 19 *of the report*.—In the opinion of the Government, the recommendations of the Sanitary Commissioner go too far and cannot be sanctioned. Detention of all railway passengers for ten days is a measure of quarantine, which is against the Venice Sanitary Convention and the orders of the Government of India, and its practical effect would be to drive people to roads and byepaths, and thus spread plague in directions where the Government control is less strict. Nor is universal disinfection desirable.

6. *Para.* 20 *of the report*.—Surgeon-Major Bannerman has been lent to the Government of Bengal on the condition that he must return when plague actually breaks out in this Presidency, and he cannot therefore be recalled at present. The Sanitary Commissioner's suggestion to depute a Medical officer to Bombay for plague instruction will be disposed of separately.

7. The plan is returned to the Sanitary Commissioner as requested. A copy should be forwarded for record in the Government office.

(True Extract.)

H. TREMENHEERE,
Secretary to Government.

To

The Collector of Bellary. (A. B. C. F. G. H. J. K.)
,, ,, Kurnool. (A. F. G. K.)
,, Sanitary Commissioner.
,, Surgeon-General.
Copy to all other Collectors. (A. F. G. H. K.)

Government {1898} of Madras.

LOCAL AND MUNICIPAL.

S.A

Proof submitted for approval.

9/8/98

Recd.	1898.	*Enclosures*	Correct & strike off 30 copies for signature
Regd.		*Spare copies*	19 spare copies

9/8/98

G.O., No. 767 P., 8th August 1898.

AUGUST.

Plague Preventive Measures ~~in Bellary Dt~~

Passing orders on the Sanitary Commissioner's report on ~~plague~~ at Hospet and between Hubli and Hospet.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—the following paper :—

From Surgeon-Major H. THOMSON, M.B., D.P.H., Acting Sanitary Commissioner for Madras, to the Secretary to Government, Local and Municipal Department, dated Fort St. George, 30th July 1898, No. 1692/S.

I have the honour to forward you herewith the Report on Hospet Plague preventive measures and of the precautions taken at Hubli and the line between Hubli and Hospet.

2. A plan of the disinfection, observation and Hospital Plague Camps at Hospet is also forwarded for information and favour of return.

REPORT.

With reference to your telegram of the 19th instant received here on the following morning, I have the honour to state that I started for Hospet by the mail train leaving Madras on the 21st July 1898.

2. I arrived at Bellary on 22nd July at 9 A.M. As I could not proceed further until evening 8 o'clock, I, in company with the District Medical and Sanitary Officer, inspected the Municipal arrangements for the detection of plague in the station. The following are the arrangements :—

(1) One Hospital Assistant is posted on the railway platform to inspect all arrivals by trains—

Hospet to Bellary	...	...4-30 A.M. arrival.
Guntakul to Bellary	...	...9- 0 A.M. „
„ „	...	...8- 0 P.M. „

The Municipality wish to remove this subordinate and to distribute his duties among the Medical Subordinates attached to the Municipal Hospital (2) and Branch dispensaries (2) or to discontinue medical inspection of arrivals by rail. I do not approve of the withdrawal of the Hospital Assistant detailed for special inspection duty.

(2) The Municipal Plague Staff—

Two Divisional Inspectors (Cantonment and Municipality).
Eight Circle Inspectors.
Ten Peons.
Eight Totties.

The Divisional Inspectors issue passports, attend the railway station on the arrival of trains and make a list of arrivals from infected areas. This list is checked with that received from the inspection station, Hospet. The list is divided among the various Circle Inspectors who see that the arrivals attend for observation daily. There are three observing stations, *viz.*, the Municipal Hospital, Cowl Bazaar Dispensary and Brucepet Dispensary. Inspection is here made by a Medical Subordinate; at the end of ten days' observation the passport is taken from the person and filed.

(3) Should a case be suspected, it is sent to the Plague Observation Shed near the Municipal Hospital. This shed is well designed for the detention of observation cases, but another shed with necessary outbuildings at some distance should be erected for the treatment of actual plague cases, to accommodate two females and four males, which could be added to if required. This is advisable because of the existence of plague at Hubli.

3. *Hospet Railway Station and Plague Camp.*—In company with the Acting Collector, Mr. Elwin, I reached Hospet at 11-15 P.M. The following preventive measures are in force at Hospet on arrival of train :—

(1) All passengers are counted in the carriages before being permitted to alight.

(2) Those alighting are made to pass out by one gate, are examined and again counted.

(3) Those remaining in the carriages are examined and again counted. In this way the number is checked.

(4) Those passengers going from Hospet are allowed admission to the platform by the entrance gate. They are examined as they pass on to the platform.

The train from Hubli to Hospet is due at 1-38 A.M. but is, as a rule, one hour late. On the day of my arrival here (22nd), I inspected the train from Hubli along with Surgeon-Captain Pereira.

Inspection Staff on the platform—

1 Commissioned Medical Officer.
1 Nurse.
2 Hospital Assistants.

Inspection of train occupied 1¼ hours. 16 passengers were detained on account of want of passes and unsatisfactory destination and one woman suffering from fever. They were sent to the observation camp under police escort; Their clothes and persons were disinfected at 8 A.M., and they were given passports and allowed to proceed by the next train. The examination was made as thorough as possible, but hindered on account of the darkness. The inspection would be much quicker and more thorough, were it performed in daylight. The inspection is made on the railway platform in the open. There is no shelter nor provision for privacy and, should it be necessary, it is not possible to examine any person thoroughly unless done in the open. The station building is not suitable for use as an examination room. One examination shed or enclosure should be erected on the platform for the use of the Medical Officer and Medical Subordinates during the inspection of passengers to ensure expedition, privacy and thorough examination.

I.—DISINFECTION CAMP.

The disinfection camp at Hospet consists of 4 round rooms (2 waiting and 2 bath rooms) 2 for males and 2 for females. Two latrines are also attached to these.

II.—SUSPECT CAMPS.

(a) *European ~~Observation~~ Camp*—Consists of 2 sheds, the bigger of the two for 4 European males and the smaller for one European lady. There are 2 servants' rooms, 2 latrines, 1 kitchen, for both, attached to these. The bath rooms are attached to the main sheds.

(b) *Native ~~observation~~ Camp.*—A single shed containing 5 compartments on each side for males and females to admit 5 persons in each compartment is built next to European ~~Observation~~ Camp. There are 2 police guard rooms, 2 bath rooms (one for males and one for females) and 2 kitchens. There are two latrines one for males and one for females.

(c) *Hospital Assistants' Quarters.*—A single building with partition in the middle for 2 Hospital Assistants under construction.

(d) *Nurse's Quarters.*—A single building just as above.

(e) *Well.*—A single well for the whole camp; eight feet water, not protected at present but will be shortly so; and provided with a pump.

III.—PLAGUE HOSPITALS.

(a) *Hospital Assistant's Quarters.*—A single shed with partition in the middle for 2 Hospital Assistants.

(b) *Nurse's Quarters.*—Just as above.

(c) *Assistant Surgeon's Quarters.*—A single shed.

No latrines for the above three quarters. One required for Hospital Assistants and one for nurses and commode for Assistant Surgeon's bath room.

(d) *Police guard rooms.*—Two in number.

(e) *Native Hospitals.*—Two in number, one for males and one for females. Each Hospital contains 5 compartments to accommodate 5 patients in each room.

(f) *Relatives' rooms.*—Two in number for the use of the relatives of the patients.

(g *Store room.*—One single room for storing provisions, &c.

(h) *Dispensary.*—One single room for dispensing medicines, &c.

(i) *Duty room.*—One single room with partition in the middle for duty subordinates.

(j) *European Hospitals*—Two in number, one for males and the other for females. The floor cemented.

(k) *Servants' room.*—Two in number.

(l) *Well.*—A single deep well for the whole camp under construction, will be fitted with a pump and covered in.

The kitchens are attached to the above hospitals.

4. *Disinfection and observation.*—The passengers detained for observation are taken to the ~~observation~~ camp under police escort and wait there until the next morning. All their clothes are taken from them, they previously being given Government clothes to wear. These clothes are then tied in loose bundles and are put in the disinfecting chamber and steamed till lb. 30 of pressure is obtained in the chamber, which is retained for *15 minutes. The clothes are then taken out from the chamber and are given to the passengers who have been previously bathed with hot water and disinfected. They are then allowed to go to the observation camp and are kept there till the arrival of the next train (24 hours after arrival) and then discharged. Those persons suffering from any illness or who are in any way suspicious are kept in the observation camp for a more or less prolonged period. The passengers so detained are provided with a disinfection pass in proof of their being detained and disinfected. The clothes given to the passengers for temporary use while they are being disinfected are afterwards thoroughly washed in *carbolic lotion*, dried and kept for use for the next day.

*Too little: would advise 30 minutes.

Requirements.

5. (1) Latrines in Plague camp for the use of medical subordinates and nurses.

(2) Bedding and furniture should be provided for the camp. There are no cots nor blankets.

(3) A dhooly, a night-soil cart, six washing tubs, six wooden buckets for cleaning soiled clothes and disinfecting with $HgCl_2$ in the camp enclosure instead of as at present in the irrigation channel.

(4) Two dhobies and one clerk.

(5) The disinfection chamber should have an open mesh wire platform instead of the present wooden platform which causes wetting of the articles introduced for disinfection.

(6) The articles to be disinfected should be kept in the chamber 30 minutes instead of as at present 15 minutes to ensure thorough disinfection.

(7) Phenyle or Lysol should be used for disinfection of persons instead of crude carbolic acid as it will not mix with water.

(8) Perchloride of mercury 1 to 1,000 to be used for disinfection of articles which cannot be placed in the disinfection chamber and for soiled articles before their being handed to the dhobie for the purpose of washing.

6. *Frontier precautions taken against the entrance of plague cases across the frontier into Bellary.*—The frontier of Bellary, formed by the river Tungabhadra is about 200 miles in extent. It is divided into 32 inspection circles arranged in a double row—19 circles in front and 13 behind. Each circle is 10 miles square and the two rows are supposed to protect a depth of 20 miles of country.

7. *Staff of the frontier Circles.*—One supervisor over four Circle Inspectors, one Circle Inspector for each circle. In the 32 circles are 14 Unions, for each Union one Assistant Plague Inspector is appointed, who as far as possible works under the orders of the Union Chairman.

8. (1) *Duties.*—The District Medical and Sanitary Officer, Bellary, is given the Assistance of a Special Plague Medical Officer to allow of his being absent from Head Quarters for prolonged periods on plague supervision work. He is expected to visit and attend to the working of the various circles.

(2) The Supervisor itinerates the 4 circles. He sends weekly diaries to the District Medical and Sanitary Officer who enters any remarks he has to make and forwards them to the Collector. The Collector makes any remarks he has to make and returns the diary through the District Medical and Sanitary Officer to the Supervisor. Any part of the diary that calls for early action is extracted and attended to at once.

(3) Circle Inspectors itinerate their circle, observe all cases entering the circle without passport and produce them before a plague authority. With passports they see that they are observed for a period of 10 days, find and report cases of fever. They send their reports to the Supervisor. At the frequented ferries on the Tungabhadra, stations for inspection have been erected. There are 10 inspection stations.

(4) Establishment.

Hospital Assistant	...	Dispensary Quarters and Medicines.
Clerk	...	
Conservancy Maistry	...	
2 Peons	...	
1 Constable	...	
1 Toty	...	

Hospital with 3 wards 12×12 raised rammed floor.

Observation sheds, male and female latrines, male and female kitchen for observation shed, kitchen for Hospital shed.

The observation shed is well separated from the infected sheds. All the stations are supplied with articles as per Government list.

9. The Tungabhadra river being in flood and likely to continue at a high level until November will with the frontier stations guard the frontier most effectually, the only likely means of entrance being by rail.

10. I left Hospet on the night of the 23rd July and reached Hubli at 6 A.M. 24th July, where I was met by Surgeon-Captain Lenmann, I.M.S., Bombay, in charge of plague operations at Hubli. The plague precautions at Hubli are as follows:—

(1) Booking in any direction from railway stations near to Hubli is forbidden except under pass from Resident Plague Authority at Hubli or Patel of village outside Hubli.

(2) Booking from Hubli is prohibited except ~~by~~ persons holding passes from Resident Plague Authority to travel by rail or certificate of having been twice inoculated by a Government Medical Officer or a special pass exempting from disinfection and detention.

(3) Passengers by all trains arriving and departing are inspected and unless holding passes, &c., are detained and disinfected.

(4) *Camps*—

1. Observation and segregation and Plague Hospital.
2. Health Camp.
3. Railway observation Camp.

These camps are capable of accommodating 250, 250 and 150 each.

11. The Municipality, population is about 60,000, is divided into divisions and wards for the detection of plague cases. On a case occurring the infected and neighbouring houses are evacuated, the people being taken to the plague camp. The area in which the house is situated is evacuated and all the people disinfected and placed in the Health Camp. The houses are all disinfected and after 15 to 20 days the people are allowed to return to their houses.

12. The Railway employes live quite apart from the Municipality and have an observation camp and doctor of their own. They were the means of introducing plague into Hubli.

13. I was informed that plague in Hubli would have been stamped out or controlled, had sufficient police or military guard and disinfection staff been supplied but that the force of ~~police 36~~ and a disinfection staff of 167 coolies was quite inadequate to segregate and keep the people under strict supervision together with thorough disinfection of evacuated houses. In consequence the epidemic spread and is now on the increase. To counteract the evil of insufficient staff the Medical Officer in charge is doing his utmost to inoculate the whole population and is, as far as I could judge, in a fair way to succeed.

14. Inoculation was commenced on the 10th May in Hubli. Up to the 19th July 11,500 persons had been inoculated twice and 5,500 persons once. On the day of my visiting Hubli, I was present and assisted at the inoculation of 583

cases. There were four inoculation centres and the following is the work done on the 24th July:—

	583
	330
	250
	500
	1663

The people seem to have confidence in inoculation and a wish to be inoculated. The Medical Officer in charge, Surgeon-Captain Lenmann, has had considerable experience having been in charge of the Sholapur Plague Camp and his opinion is that the doses of serum prescribed by Professor Haffkine are much too small and accordingly he increases the dose by about 50 per cent.; also that the first inoculation only gives immunity for about 3 weeks. He accordingly re-inoculates all his cases which re-inoculation confers protection for from 5 to 6 months.

15. The paucity of police guards allows of the departure from Hubli of numbers of people. However I was informed that a weekly census of the Municipality was regularly taken and that the census showed that very few people were leaving the station, the census taken the week previous to my visit being 53,000. Between Hubli and Gadag on the line to Hospet there are four railway stations. At these stations no tickets are allowed to be issued unless in accordance with the Regulations in force. I was informed that on the line from Hubli to Guntakul and Hubli to Bangalore, not more than 10—15 altogether were issued in one day since this order came into force 10th July 1898.

16. Gadag, a ~~rail~~ station about 30 miles from Hubli is made up of two villages Bitgiri and Gadag. There are two health camps and one observation camp and a plague Hospital situated about 600 yards from the station.

17. A Special Plague Medical Officer has charge with the Civil Hospital Assistant and a private medical man paid by the Municipality for plague duty and the Civil Hospital Compounder.

Under the orders of Mr. Vincent, Assistant Police Superintendent.

18. The trains arriving from Hubli and Hotgi are inspected—the one by the compounder, the other by the private medical practitioner. Departing trains are not inspected. People arriving by road are not checked nor inspected. Plague has not broken out in Gadag, but 14 days ago a plague case from Hubli died there. There have been no more cases. It is quite easy for any person from Hubli to travel by road to Gadag or any station between that and Hospet and there to book by rail into the Madras Presidency. The Tungabhadra river being in flood and the frontier Inspection stations being on the alert, I would recommend that all persons arriving by train from the Hubli side be detained and thoroughly disinfected whether they have a pass or not. I would also request the serious consideration of Government to detain at Hospet for 10 days all persons travelling from or near Hubli, as I find that persons although giving their name and address will proceed next day and book to some other place, their whereabouts not being known and no trace of them to be found.

19. Hubli is only about 6 hours' run from Hospet and the incubation period is noted as 10 days. It is therefore the most likely thing for a person affected with plague to pass under your inspection undetected and there is no doubt but that the numbers of ticket-holders from stations on the Hospet side of Gadag are greatly increased which suggests that people from the Hubli district travel to Gadag, &c., and "book" thence to the Madras Presidency.

20. Surgeon-Major Bannerman was lent to the Bengal Presidency about 3 months ago, and there seems little likelihood for some time yet of his return. As he is the only Medical Officer belonging to this Presidency who

has received a special training in plague work, I would advise Government to depute a Medical Officer for plague instruction to Bombay. This measure I consider necessary on account of the increasing hold plague has acquired on Hubli. Its situation and nearness to the lines of communication with this Presidency lays us open to infection at any moment notwithstanding the most careful preventive measures that can be adopted. It is therefore advisable that Surgeon-Major Bannerman be recalled or a medical officer be at once put in training to take his place during his absence.

ORDER—No. 767 P., dated 8th August 1898.

Para. 2 *of the report.*—The Government agrees with the Sanitary Commissioner that the special Hospital Assistant posted on the Bellary railway platform to inspect all arrivals by trains should not be withdrawn. The Municipal Council should be required to erect another shed with out-buildings for the treatment of plague cases, as recommended by the Sanitary Commissioner.

2. *Para.* 3 *of the report.*—Separate orders have been issued directing the Southern Mahratta Railway Company to construct an inspection shed at Hospet.

3. *Para.* 5 *of the report.*—The suggestions made in this paragraph should be carried out. The Government has already sanctioned in G.O , No. 717 P., dated 26th July 1898, the Collector's application for one clerk and one dhoby, as well as his indent for hospital furniture and equipment. For disinfection of persons permanganate of potash, chloride of lime or phenyle may be used in preference to lysol, which is costly. The use of carbolic acid should be discontinued, as it has been found to be a very weak germicide.

4. *Para.* 8 *of the report.*—The Collectors of Bellary and Kurnool are requested to satisfy themselves and report whether the several officers of the Observation Staff actually do the duties assigned them. It is only by constant personal inspection that their work can be properly checked, and the Government will, if possible, post a special gazetted officer to each district to help the Collector in the work of supervision. The Divisional Officers should also move about along the frontier as much as they can without neglecting other work.

5. *Paras.* 18 *and* 19 *of the report.*—In the opinion of the Government, the recommendations of the Sanitary Commissioner go too far and cannot be sanctioned. Detention of all railway passengers for ten days is a measure of quarantine, which is against the Venice Sanitary Convention and the orders of the Government of India, and its practical effect would be to drive people to roads and bye-paths, and thus spread plague in directions where the Government control is less strict. Nor is universal disinfection desirable.

6. *Para.* 20 *of the report.*—Surgeon-Major Bannerman has been lent to the Government of Bengal on the condition that he must return when plague actually breaks out in this Presidency, and he cannot therefore be recalled at present. The Sanitary Commissioner's suggestion to depute a Medical officer to Bombay for plague instruction will be disposed of separately.

7. The plan is returned to the Sanitary Commissioner as requested. A copy should be forwarded for record in the Government office.

(True Extract.)

H. TREMENHEERE,
Secretary to Government.

To
The Collector of Bellary. (A+B, C, 2. E. H. J. K.)
" " Kurnool. (A, 2. E. K.)
" Sanitary Commissioner.
" Surgeon-General.
Copy to all other Collectors. (A. 2. E. H. K.)

...e following is the work done on

...lation and a wish to be inoculated.
... Lenmann has had considerable
...ur Plague Camp and his opinion
...or Haffkine are much too small
... 50 per cent.; also that the first
...ks. He accordingly re-inoculates
...ion for from 5 to 6 months.

...of the departure from Hubli of
...hat a weekly census of the Muni-
...howed that very few people were
...evious to my visit being 53,000.
... there are four railway stations.
...ed unless in accordance with the
...e line from Hubli to Guntakul
... together were issued in one day

...om Hubli is made up of two
...th camps and one observation
... ds from the station.

...der the orders of Mr. Vincent,
...nt Police Superintendent.

...gi are inspected—the one by the
...ctitioner. Departing trains are
...hecked nor inspected. Plague
...gue case from Hubli died there.
... for any person from Hubli to
...t and Hospet and there to book
...ndra river being in flood and
... I would recommend that all
...detained and thoroughly disin-
...lso request the serious consider-
...s all persons travelling from or
... their name and address will
...r whereabouts not being known

...spet and the incubation period
... thing for a person affected
...ed and there is no doubt but
...n the Hospet side of Gadag
...m the Hubli district travel to
...sidency.

... the Bengal Presidency about
...od for some time yet of his

e latrines, male and female kitchen for
spital shed.

ted from the infected sheds. All the
s as per Government list.

flood and likely to continue at a high
tations guard the frontier most effectu-
by rail.

23rd July and reached Hubli at 6 A.M.
aptain Lehmann, I.M.S., Bombay, in
e plague precautions at Hubli are as

way stations near to Hubli is forbidden
Plague Authority at Hubli or Patel

xcept from persons holding pass from
avel by rail or certificate of having
ernment Medical Officer or a special
and detention.

id departing are inspected and unless
and disinfected.

n and Plague Hospital.

odating 250, 250 and 150 each.

bout 60,000 is divided into divisions
es. On a case occurring, the infected
people being taken to the plague camp.
vacuated and all the people disinfected
es are all disinfected and after 15 to
their houses.

apart from the Municipality and have
wn. They were the means of intro-

bli would have been stamped out or
y guard and disinfection staff been
nd a disinfection staff of 167 coolies
the people under strict supervision
cuated houses. In consequence the
To counteract the evil of insufficient
utmost to inoculate the whole popu-
way to succeed.

10th May in Hubli. Up to the 19th
ice and 5,500 persons once. On the
nd assisted at the inoculation of 583

...be ordered. A.

nts.

use of medical subordinates and nurses.
rovided for the camp. There are no

washing tubs, six wooden buckets for
ecting with ~~Hydrochloride~~ in the camp
t in the irrigation channel.

ave an open mesh wire platform in-
platform which causes wetting of the
on.

ld be kept in the chamber 30 minutes
tes to ensure thorough disinfection.
l for disinfection of persons instead of
mix with water.
to be used for disinfection of articles
disinfection chamber and for soiled
ded to the dhobie for the purpose of

the entrance of plague cases across the
, formed by the river Tungabhadra
nto 32 inspection circles arranged in
nd. Each circle is 10 miles square
epth of 20 miles of country.

upervisor over four Circle Inspectors,
circles are 14 Unions, for each Union
who as far as possible works under

nd Sanitary Officer, Bellary, is given
Officer to allow of his being absent from
gue supervision work. He is supposed
rious circles.

les. He sends weekly diaries to the
fficer who enters any remarks he has
the Collector. The Collector makes
returns the diary through the District
he Supervisor. Any part of the diary
cted and attended to at once.

ircle, observe all cases entering the
uce them before a plague authority?
are observed for a period of 10 days?
They send their reports to the Super-
on the Tungabhadra, stations for
are 10 inspection stations.

... Dispensary Quarters and Medicines.

d rammed floor.

An indent for these articles has been Sanctd
G.O. No. 717 P.dy 26-7-98. Hay B
Do. HA

$HgCl_2$ (perchloride of mercury)

One Dhoby & 1 clerk applied for by the Coll. have been sanc.
Do. A. HA

may be ordered

No harm; certainly, especially as at this place there is plenty of time. HA

This has been prescribed vide Rules 41 & 49, pages 105 & 107 of the Plague Regulations & Rules. But dy. sol. is costly & perchloride of mercury is highly poisonous — Permanganate of Potash & Chloride of lime are good & may be used — vide Hay. C. Dr. Bannerman reports (Hay D page 2) that the Bombay Plague Comsr. has now ordered that "baths are to be optional and that no disinfectants are to be used".

This has been already prescribed as noted on the previous page.
HA

a/

? Expected. I suppose no insinuation is meant. A. — I suspect. HA

tm/

(b) *Native observation Camp.*—A
each side for males and fe
ment is built next to Eur
guard rooms, 2 bath room
2 kitchens. There are
females.

(c) *Hospital Assistants' Quarter*
middle for 2 Hospital Ass

(d) *Nurse's Quarters.*—A single

(e) *Well.*—A single well for the
at present but will be shor

III.—CONTAC

(a) *Hospital Assistant's Quarters.*
for 2 Hospital Assistants.

(b) *Nurse's Quarters.*—Just as ab

(c) *Assistant Surgeon's Quarters.*
No latrines for the above t
Assistants and one for nur
bath room.

(d) *Police guard rooms.*—Two in

(e) *Native Hospitals.*—Two in nu
Each Hospital contains 5 c
each room.

(f) *Relatives' rooms.*—Two in nu
patients.

(g) *Store room.*—One single room

(h) *Dispensary.*—One single roo

(i) *Duty room.*—One single roo
subordinates.

(j) *European Hospitals*—Two in
females. The floor cement

(k) *Servants' room.*—Two in num

(l) *Well.*—A single deep well for
befitted with a pump and co
The kitchens are attached to

5. *Disinfection and observation.*—
are taken to the observation camp und
morning. All their clothes are take
Government clothes to wear. These cl
put in the disinfecting chamber and ste
* Too little / would advise 30 minutes. the chamber.
clothes are t
given to the passengers who have bee
disinfected. They are then allowed t
there till the arrival of the next train
Those persons suffering from any illn
kept in the observation camp for a mor
so detained are provided with a disinfe
and disinfected. The clothes given t
they are being disinfected are afterw
dried and kept for use for the next day

30 lbs pressure gives a temperature of 250° F = 118° C ~~for~~ 15 minutes quite enough, I should say HS

Carbolic acid he is not efficient – vide page 10 of Flag. Perchloride of mercury is the best disinfectant & has been prescribed by these Coupe vide pages 40, ~~page~~ and 105 (Rule 40) of the Plague Regulations & Rules. HS

No P., August 1898

Govt of Madras
Local and Municipal Dept

PLAGUE.

No. 1692/S.

OFFICE OF SANITARY COMMISSIONER,
Fort St. George, 30th *July* 1898.

Please arrange in Eng. form, and send a clean copy of the proof
Lang
6/8/98

Read following paper:-

From

SURGEON-MAJOR H. THOMSON, M.B., D.P.H.,
Acting Sanitary Commissioner
for Madras,

LAWRENCE ASYLUM PRESS
06 AUG 98

To

THE SECRETARY TO GOVERNMENT,
Local and Municipal Department, dated Fort St George, 30 July 1898, No 1692/S

Sir,

I have the honor to forward you herewith the Report on Hospet Plague preventive measures and of the precautions taken at Hubli and the line between Hubli and Hospet.

2. A plan of the disinfection, observation and ~~Infect~~ Plague Camps at Hospet is also forwarded for information and favor of return.

(Here enter Report)

I have the honor to be,
Sir,
Your most obedient Servant,

H. THOMSON, SURGEON-MAJOR,
Ag. Sanitary Commissioner.

No.

OFFICE OF SANITARY COMMISSIONER,

Fort St. George, 30*th July* 1898.

From

SURGEON-MAJOR H. THOMSON, M.B., D.P.H.,

Sanitary Commissioner for Madras,

To

THE SECRETARY TO GOVERNMENT,

Local and Municipal Department.

SIR,

With reference to your wire of the 19th instant received here on the following morning, I have the honor to state that I started for Hospet by the mail train leaving Madras on the 21st July 1898.

2. I arrived at Bellary on 22nd July at 9 A.M. As I could not proceed further until evening 8 o'clock, I, in company with the District Medical and Sanitary Officer, inspected the Municipal arrangements for the detection of plague in the station. The following are the arrangements:—

(1) One Hospital Assistant is posted on the railway platform to inspect all arrivals by trains—

Hospet to Bellary	...	...4-30 A.M. arrival.
Guntakul to Bellary	...	...9- 0 A.M. ,,
,, ,,	...	...8- 0 P.M. ,,

The Municipality wish to remove this subordinate and to distribute his duties among the Medical Subordinates attached to the Municipal Hospital (2) and Branch dispensaries (2) or to discontinue medical inspection of arrivals by rail. I do not approve of the withdrawal of the Hospital Assistant detailed for special inspection duty.

(2) The Municipal Plague Staff—

Two Divisional Inspectors (Cantonment and Municipality).
Eight Circle Inspectors.
Ten Peons.
Eight Totties.

The Divisional Inspectors issue passports, attend the railway station on the arrival of trains and make a list of arrivals from infected areas. This list is checked with that received from the inspection station, Hospet. The list is divided among the various Circle Inspectors who see that the addressee attend for observation daily. There are three observing stations, *viz.*, the Municipal Hospital, Cowl Bazaar Dispensary and Brucepet Dispensary. Inspection is here made by a Medical Subordinate; at the end of ten days' observation the passport is taken from the person and filed.

(3) Should a case be suspected, it is sent to the Plague Observation Shed near the Municipal Hospital. This shed is well designed for the detention of observation cases, but another shed with necessary out-buildings at some distance should be erected for the treatment of actual plague cases, to accommodate two females and four males, which could be added to if required. This is advisable because of the existence of plague at Hubli.

3. *Hospet Railway Station and Plague Camp.*—In company with the Acting Collector, Mr. Elwin, I reached Hospet at 11-15 P.M. The following preventive measures are in force at Hospet on arrival of train :—

(1) All passengers are counted in the carriages before being permitted to alight.

(2) Those alighting are made to pass out by one gate, are examined and again counted.

(3) Those remaining in the carriages are examined and again counted. In this way the number is checked.

(4) Those passengers going from Hospet are allowed admission to the platform by the entrance gate. They are examined as they pass on to the platform.

The train from Hubli to Hospet is due at 1-38 A.M. but is, as a rule, one hour late. On the day of my arrival here (22nd), I inspected the train from Hubli along with Surgeon-Captain Pereira.

Inspection Staff on the platform—

1 Commissioned Medical Officer.

1 Nurse.

2 Hospital Assistants.

passes/

Inspection of train occupied 1½ hours. 16 passengers were detained on account of want of passports and unsatisfactory destination and one woman suffering from fever. They were sent to the observation camp under police escort; Their clothes and persons were disinfected at 8 A.M., and they were given passports and allowed to proceed by the next train. The examination was made as thorough as possible, but hindered on account of the darkness. The inspection would be much quicker and more thorough, were it performed in daylight. The inspection is made on the railway platform in the open. There is no shelter nor provision for privacy and, should it be necessary, it is not possible to examine any person thoroughly unless done in the open. The station building is not suitable for use as an examination room. One examination shed or enclosure should be erected on the platform for the use of the Medical Officer and Medical Subordinates during the inspection of passengers to ensure expedition, privacy and thorough examination.

Disinfection Camp. Disinfection Camp.

I.—~~PLAGUE~~ CAMPS.

~~Disinfection Camp.~~—The disinfection camp at Hospet consists of 4 round rooms (2 waiting and 2 bath rooms) 2 for males and 2 for females. Two latrines are also attached to these.

Suspect

II.—~~OBSERVATION~~ CAMP.

(a) *European Observation Camp*—Consists of 2 sheds, the bigger of the two for 4 European males and the smaller for one European lady. There are 2 servants' rooms, 2 latrines, 1 kitchen, for both, attached to these. The bath rooms are attached to the main sheds.

Note for the Sanitary Comr.

* Please say what passports are referred to here. Perhaps you mean the passes referred to in your para 10. If so, please correct, and return for proof where necessary.

Secretary to Government

Lim
5/5/[illegible]

Not necessary. See addition to this note
5-8-[illegible]

(*b*) *Native observation Camp.*—A single shed containing 5 compartments on each side for males and females to admit 5 persons in each compartment is built next to European Observation Camp. There are 2 police guard rooms, 2 bath rooms (one for males and one for females) and 2 kitchens. There are two latrines one for males and one for females.

(*c*) *Hospital Assistants' Quarters.*—A single building with partition in the middle for 2 Hospital Assistants under construction.

(*d*) *Nurse's Quarters.*—A single building just as above.

(*e*) *Well.*—A single well for the whole camp; eight feet water, not protected at present but will be shortly so, and provided with a pump.

III.—CONTACT PLAGUE CAMP.

(*a*) *Hospital Assistant's Quarters.*—A single shed with partition in the middle for 2 Hospital Assistants.

(*b*) *Nurse's Quarters.*—Just as above.

(*c*) *Assistant Surgeon's Quarters.*—A single shed.

No latrines for the above three quarters. One required for Hospital Assistants and one for nurses and commode for Assistant Surgeon's bath room.

(*d*) *Police guard rooms.*—Two in number.

(*e*) *Native Hospitals.*—Two in number, one for males and one for females. Each Hospital contains 5 compartments to accommodate 5 patients in each room.

(*f*) *Relative's rooms.*—Two in number for the use of the relatives of the patients.

(*g*) *Store room.*—One single room for storing provisions, &c.

(*h*) *Dispensary.*—One single room for dispensing medicines, &c.

(*i*) *Duty room.*—One single room with partition in the middle for duty subordinates.

(*j*) *European Hospitals*—Two in number, one for males and the other for females. The floor cemented.

(*k*) *Servant's room.*—Two in number.

(*l*) *Well.*—A single deep well for the whole camp under construction, well befitted with a pump and covered in.

The kitchens are attached to the above hospitals.

4. *b. Disinfection and observation.*—The passengers detained for observation are taken to the observation camp under police escort and wait there until the next morning. All their clothes are taken from them, they previously being given Government clothes to wear. These clothes are then tied in loose bundles and are put in the disinfecting chamber and steamed till lb. 30 of pressure is obtained in the chamber, which is retained for *15 minutes. The clothes are then taken out from the chamber and are given to the passengers who have been previously bathed with hot water and disinfected. They are then allowed to go to the observation camp and are kept there till the arrival of the next train (24 hours after arrival) and then discharged. Those persons suffering from any illness or who are in any way suspicious are kept in the observation camp for a more or less prolonged period. The passengers so detained are provided with a disinfection pass in proof of their being detained and disinfected. The clothes given to the passengers for temporary use while they are being disinfected are afterwards thoroughly washed in *carbolic lotion* dried and kept for use for the next day.

*Too little minutes. would advise 30

Requirements.

5. (1) Latrines in Plague camp for the use of medical subordinates and nurses.

(2) Bedding and furniture should be provided for the camp. There are no cots nor blankets.

(3) A dhooly, a night-soil cart, six washing tubs, six wooden buckets for cleaning soiled clothes and disinfecting with ~~Hydrochloride~~ in the camp enclosure instead of as at present in the irrigation channel.

(4) Two dhobies and one clerk.

(5) The disinfection chamber should have an open mesh wire platform instead of the present wooden platform which causes wetting of the articles introduced for disinfection.

(6) The articles to be disinfected should be kept in the chamber 30 minutes instead of as at present 15 minutes to ensure thorough disinfection.

(7) Phenyle or Lysol should be used for disinfection of persons instead of crude carbolic acid as it will not mix with water.

(8) Perchloride of mercury 1 to 1,000 to be used for disinfection of articles which cannot be placed in the disinfection chamber and for soiled articles before their being handed to the dhobie for the purpose of washing.

6. *Frontier precautions taken against the entrance of plague cases across the frontier into Bellary.*—The frontier of Bellary, formed by the river Tungabhadra is about 200 miles in extent. It is divided into 32 inspection circles arranged in a double row—19 circles in front and 13 behind. Each circle is 10 miles square and the two rows are supposed to protect a depth of 20 miles of country.

7. *Staff of the frontier Circles.*—One supervisor over four Circle Inspectors, one Circle Inspector each circle. In the 32 circles are 14 Unions, for each Union one Assistant Plague Inspector is appointed, who as far as possible works under the orders of the Union Chairman.

8. (1) *Duties.*—The District Medical and Sanitary Officer, Bellary, is given the Assistance of a Special Plague Medical Officer to allow of his being absent from Head Quarters for prolonged periods on plague supervision work. He is ~~supposed~~ to visit and attend to the working of the various circles.

(2) The Supervisor itinerates the 4 circles. He sends weekly diaries to the District Medical and Sanitary Officer who enters any remarks he has to make and forwards them to the Collector. The Collector makes any remarks he has to make and returns the diary through the District Medical and Sanitary Officer to the Supervisor. Any part of the diary that calls for early action is extracted and attended to at once.

(3) Circle Inspectors itinerate their circle, observe all cases entering the circle without passport and produce them before a plague authority. With passports they see that they are observed for a period of 10 days. They find and report cases of fever. They send their reports to the Supervisor. At the frequented services on the Tungabhadra, stations for inspection have been erected. There are 10 inspections stations.

(4) Establishment.

Hospital Assistant/Clerk	...	Dispensary Quarters and Medicines.
Conservancy Maistry	...	
2 Peons	...	
1 Constable	...	
1 Toty	...	

Hospital with 3 wards 12×12 raised rammed floor.

Observation sheds, male and female latrines, male and female kitchen for observation shed, kitchen for Hospital shed.

The observation shed is well separated from the infected sheds. All the stations are supplied with articles as per Government list.

9. The Tunghabadra river being in flood and likely to continue at a high level until November will with the frontier stations guard the frontier most effectually, the only likely means of entrance being by rail.

10. I left Hospet on the night of the 23rd July and reached Hubli at 6 A.M. 24th July, where I was met by Surgeon-Captain Lehmann, I.M.S., Bombay, in charge of plague operations at Hubli. The plague precautions at Hubli are as follows :—

(1) Booking in any direction from railway stations near to Hubli is forbidden except under pass from Resident Plague Authority at Hubli or Patel of village outside Hubli.

(2) Booking from Hubli is prohibited except by persons holding pass from Resident Plague Authority to travel by rail or certificate of having been twice inoculated by a Government Medical Officer or a special pass exempting from disinfection and detention.

(3) Passengers by all trains arriving and departing are inspected and unless holding passes, &c., are detained and disinfected.

(4) *Camps*—

1. Observation and segregation and Plague Hospital.
2. Health Camp.
3. Railway observation Camp.

These camps are capable of accommodating 250, 250 and 150 each.

11. The Municipality, population is about 60,000, is divided into divisions and wards for the detection of plague cases. On a case occurring the infected and neighbouring houses are evacuated, the people being taken to the plague camp. The area in which the house is situated is evacuated and all the people disinfected and placed in the Health Camp. The houses are all disinfected and after 15 to 20 days the people are allowed to return to their houses.

12. The Railway employees live quite apart from the Municipality and have an observation camp and doctor of their own. They were the means of introducing plague into Hubli.

13. I was informed that plague in Hubli would have been stamped out or controlled, had sufficient police or military guard and disinfection staff been supplied but that the force of police 36 and a disinfection staff of 167 coolies was quite inadequate to segregate and keep the people under strict supervision together with thorough disinfection of evacuated houses. In consequence the epidemic spread and is now on the increase. To counteract the evil of insufficient staff the Medical Officer in charge is doing his utmost to inoculate the whole population and is, as far as I could judge, in a fair way to succeed.

14. Inoculation was commenced on the 10th May in Hubli. Up to the 19th July 11,500 persons had been inoculated twice and 5,500 persons once. On the day of my visiting Hubli, I was present and assisted at the inoculation of 583

cases. There were four inoculation centres and the following is the work done on the 24th July :—

	583
	330
	250
	500
	1663

The people seem to have confidence in inoculation and a wish to be inoculated. The Medical Officer in charge, Surgeon-Captain Lenmann has had considerable experience having been in charge of the Sholapur Plague Camp and his opinion is that the doses of serum prescribed by Professor Haffkine are much too small and accordingly he increases the dose by about 50 per cent.; also that the first inoculation only gives immunity for about 3 weeks. He accordingly re-inoculates all his cases which re-inoculation confers protection for from 5 to 6 months.

15. The paucity of police guards allows of the departure from Hubli of numbers of people. However I was informed that a weekly census of the Municipality was regularly taken and that the census showed that very few people were leaving the station, the census taken the week previous to my visit being 53,000. Between Hubli and Gadag on the line to Hospet there are four railway stations. At these stations no tickets are allowed to be issued unless in accordance with the Regulations in force. I was informed that on the line from Hubli to Guntakul and Hubli to Bangalore, not more than 10—15 altogether were issued in one day since this order came into force 10th July 1898.

16. Gadag, a rail station about 30 miles from Hubli is made up of two villages Bitgiri and Gadag. There are two health camps and one observation camp and a plague Hospital situated about 600 yards from the station.

17. A Special Plague Medical Officer has charge with the Civil Hospital Assistant and a private medical man paid by the Municipality for plague duty and the Civil Hospital Compounder.

Under the orders of Mr. Vincent, Assistant Police Superintendent.

18. The trains arriving from Hubli and Hotgi are inspected—the one by the compounder, the other by the private medical practitioner. Departing trains are not inspected. People arriving by road are not checked nor inspected. Plague has not broken out in Gadag, but 14 days ago a plague case from Hubli died there. There have been no more cases. It is quite easy for any person from Hubli to travel by road to Gadag or any station between that and Hospet and there to book by rail into the Madras Presidency. The Tungabadra river being in flood and the frontier Inspection stations being on the alert, I would recommend that all persons arriving by train from the Hubli side be detained and thoroughly disinfected whether they have a pass or not. I would also request the serious consideration of Government to detain at Hospet for 10 days all persons travelling from or near Hubli, as I find that persons although giving their name and address will proceed next day and book to some other place their whereabouts not being known and no trace of them to be found.

19 Hubli is only about 6 hours' run from Hospet and the incubation period is noted as 10 days. It is therefore the most likely thing for a person affected with plague to pass under your inspection undetected and there is no doubt but that the numbers of ticket-holders from stations on the Hospet side of Gadag are greatly increased which suggests that people from the Hubli district travel to Gadag, &c., and "book" thence to the Madras Presidency.

20. Surgeon-Major Bannerman was lent to the Bengal Presidency about 3 months ago, and there seems the likelihood for some time yet of his

return. As he is the only Medical Officer belonging to this Presidency who has received a special training in plague work, I would advise Government to depute a Medical Officer for plague instruction to Bombay. This measure I consider necessary on account of the increasing hold plague has acquired on Hubli. Its situation and nearness to the lines of communication with this Presidency lays us open to infection at any moment notwithstanding the most careful preventive measures that can be adopted. It is therefore advisable that Surgeon-Major Bannerman be recalled or a medical officer be at once put in training to take his place during his absence.

I have the honor to be

Sir,

Your most obedient servant,

H. THOMSON, SURGEON-MAJOR,

Ag. Sanitary Commissioner for Madras.

PLAGUE.

H.M.
Hon'ble Premier
H.E. The Governor

No. 1692/S.

OFFICE OF SANITARY COMMISSIONER,

Fort St. George, 30th July 1898.

From

SURGEON-MAJOR H. THOMSON, M.B., D.P.H.,

Acting Sanitary Commissioner

for Madras,

To

THE SECRETARY TO GOVERNMENT,

Local and Municipal Department.

SIR,

I have the honor to forward you herewith the Report on Hospet Plague preventive measures and of the precautions taken at Hubli and the line between Hubli and Hospet.

2. A plan of the disinfection, observation and Infect Plague Camps at Hospet is also forwarded for information and favor of return.

I have the honor to be,

Sir,

Your most obedient Servant,

H. THOMSON, SURGEON-MAJOR,

Ag. Sanitary Commissioner.

No.

From

SURGEON-MAJOR H. THOMS[illegible]N, M.B., D.P.H.,

Sanitary Commissioner for Madras,

To

THE SECRETARY TO GO[illegible]ERNMENT,

Local and Municipal Department.

OFFICE OF SANITARY COMMISSIONER,

Fort St. George, 30th July 1898.

They have'nt reached me upto 6½ P.M. WH

Note Telegrams have today been circulated that there has been a Suspicious death at Nagapatam of a man who had come from Hubli & asked observation; & that two Suspicious cases (one ending in death) have been detained in Hospet

HT
3 8 98

SIR,

With reference to your ~~wire~~ of the 19th instant received here on the following morning, I have the honor to state that I started for Hospet by the mail train leaving Madras on the 21st July 1898. telegram

2. I arrived at Bellary on 22nd July at 9 A.M. As I could not proceed further until evening 8 o'clock, I, in company with the District Medical and Sanitary Officer, inspected the Municipal arrangements for the detection of plague in the station. The following are the arrangements:—

(1) One Hospital Assistant is posted on the railway platform to inspect all arrivals by trains—

Hospet to Bellary	...	...4-30 A.M. arrival.
Guntakul to Bellary	...	...9- 0 A.M. ,,
,, ,,	...	...8- 0 P.M. ,,

The Municipality wish to remove this subordinate and to distribute his duties among the Medical Subordinates attached to the Municipal Hospital (2) and Branch dispensaries (2) or to discontinue medical inspection of arrivals by rail. I do not approve of the withdrawal of the Hospital Assistant detailed for special inspection duty.

(2) The Municipal Plague Staff—

Two Divisional Inspectors (Cantonment and Municipality).
Eight Circle Inspectors.
Ten Peons.
Eight Totties.

The Divisional Inspectors issue passports, attend the railway station on the arrival of trains and make a list of arrivals from infected areas. This list is checked with that received from the inspection station, Hospet. The list is divided among the various Circle Inspectors who see that the addressee attend for observation daily. There are three observing stations, *viz.*, the Municipal Hospital, Cowl Bazaar Dispensary and Brucepet Dispensary. Inspection is here made by a Medical Subordinate; at the end of ten days' observation the passport is taken from the person and filed.

? arrivals.

with a thorough medical inspection at Hospet on one side & at Tungabadra on the other side, an inspection by a Special medical officer at the Bellary platform, of persons alighting at Bellary station does not seem absolutely necessary. The passengers may be examined by the Division Inspectors, mentioned below, who, being Sanitary Inspectors on Rs 35 + Rs 15 horse allowance, may be expected to conduct as good an inspection as the Hospital Assistant. There are required at present to attend each train and issue passports.

With ref. to the Hospet cases, & considering the importance of Bellary as a Military Station, I consider the Hosp. Asst should be retained.

HT.

Yes WH

AA A.S.H.

(3) Should a case be suspecte[d] ... near the Municipal Hos[pital] ... detention of observatio[n] ... buildings at some dista[nce] ... actual plague cases, to ... which could be added to ... existence of plague at H[ubli].

it is sent to the Plague Observation Shed ...ital. This shed is well designed for the ...ases, but another shed with necessary out-...e should be erected for the treatment of ...ccommodate two females and four males, ...f required. This is advisable because of the ...li.

This may be ordered. HT – HS HA 9.5.4

3. *Hospet Railway Station and ...Plague Camp.*—In company with the Acting Collector, Mr. Elwin, I reached Hos[pet] ...t at 11-15 P.M. The following preventive measures are in force at Hospet on ...ival of train :—

(1) All passengers are counted ...n the carriages before being permitted to alight.

(2) Those alighting are made ... pass out by one gate, are examined and again counted.

(3) Those remaining in the car[riages] ...iages are examined and again counted. In this way the number is ch[ecked].

(4) Those passengers going from Hospet are allowed admission to the plat-form by the entrance gate ... They are examined as they pass on to the platform.

The train from Hubli to Ho[s]pet is due at 1-38 A.M. but is, as a rule, one hour late On the day of ...y arrival here (22nd), I inspected the train from Hubli along with S[urg]eon-Captain Pereira.

Inspection Staff on the platf[or]m—

1 Commissioned Med[ic]al Officer.

1 Nurse.

2 Hospital Assistants.

Inspection of train occupied ... ¼ hours. 16 passengers were detained on account of want of passp[o]rts and unsatisfactory destination and one woman suffering from fev[er]. They were sent to the observation camp under police escort; Th[ei]r clothes and persons were disinfected at 8 A.M., and they were give[n] passports and allowed to proceed by the next train. The examina[ti]on was made as thorough as possible, but hindered on account of th[e] darkness. The inspection would be much quicker and more thorou[gh], were it performed in daylight. The inspection is made on the railway platform in the open. There is no shelter nor provision for p[r]ivacy and, should it be necessary, it is not possible to examine any p[e]rson thoroughly unless done in the open. The station building is n[ot] suitable for use as an examination room. One examination shed or e[n]closure should be erected on the platform for the use of the Medic[al] Officer and Medical Subordinates during the inspection of passengers to ensure expedition, privacy and thorough examination.

I dont understand about "want of passports"– The point had better be cleared up by a D.O. to the San. Comr. HS

But see para 10 below – Passengers from Hubli & neighbourhood have to be provided with passes – No doubt this is what is meant. It is a pity the San: Comr. is not more accurate in his language –

This is not clear. Our rules (pages 14–17 & page 31 of the Plague Regulations & Rules) ~~[illegible]~~ require the passports to be issued only at the Railway Station of alighting. Perhaps, the Sanitary Commr. means to say that these passengers were detained because they did not bring passes from some disinfection camp in the Bombay Presy (e.g. Gadag). – Vide para 4 of his letter.

This question will be separately submitted for orders. HS

~~[illegible]~~ An order similar to G.O. No 5678. d/ 11-Aug 97 (Plag) may be issued, directing the S.M. Rly to erect suitable shed without delay. HT. *Yes* HS

~~4. ... PLA[GUE] ... CAMPS.~~ *Disinfection Camp.*

I. ~~PLA[GUE]~~ *Disi[nfection]* C[AMP]. 5/

~~*Disinfection Camp.*~~—The disinfe[ction] ...on camp at Hospet consists of 4 round ...ours a... and 2 for females. Two latrines ...r who...sts of 2 sheds, the bigger of the ...less pro...e smaller for one European lady. rooms (2 waiting and 2 bath rooms) 2 ...ss ...trines, 1 kitchen, for both, attached ...2 males ...ached to the main sheds. are also attached to these.

These should be called "Suspect Camps" to distinguish them from what are strictly speaking "Observation" wards – vide Rules 26 & 33, pages 101 & 103 of the Plague Regulations & Rules. *Yes* HS

II.—OBS[ERVA]TION C[AMPS].

(a) *European Observation C[amp].*—Consis[ts of] ... two for 4 European m... There are 2 servants' r... to these. The bath ro...

Re

5. (1) Latrines in Plague camp fo

(2) Bedding and furniture should cots nor blankets.

(3) A dhooly, a night-soil cart, cleaning soiled clothes and enclosure instead of as at p

(4) Two dhobies and one clerk.

(5) The disinfection chamber sho stead of the present wood articles introduced for disin

(6) The articles to be disinfected instead of as at present 15

(7) Phenyle or Lysol should be crude carbolic acid as it will

(8) Perchloride of mercury 1 to 1, which cannot be placed in articles before their being washing.

6. *Frontier precautions taken aga frontier into Bellary.*—The frontier of is about 200 miles in extent. It is divid a double row—19 circles in front and 13 and the two rows are supposed to prote

7. *Staff of the frontier Circles.*—On one Circle Inspector for each circle. In the one Assistant Plague Inspector is app the orders of the Union Chairman.

8. (1) *Duties.*—The District Medic the Assistance of a Special Plague Medic Head Quarters for prolonged periods on to visit and attend to the working of the

(2) The Supervisor itinerates the 4 District Medical and Sanitar to make and forwards them any remarks he has to make Medical and Sanitary Officer that calls for early action is

(3) Circle Inspectors itinerate the circle without passport and With passports they see that find and report cases of fever visor. At the frequented ferries inspection have been erected

(4) Establishment.

Hospital Assistant (Cle
Conservancy Maistry
2 Peons
1 Constable
1 Toty

Hospital with 3 wards 12 × 12

This is alright in theory – but do the several officers actually do the work assigned to them respectively. The Collr has now only one Asstt – I should like him to have two so that one shd be constantly on the move along the frontier. The Dist. officers should also move about along the frontier [illegible] can without neglecting other work – The Kurnool Collr has no Asstt – I think he should have one for this duty – Perhaps H.E. will consider these requirements H.S.

A.T.

It is difficult just now to provide European officers as Assistants in these Districts. Mr Paddison is the only man who could be sent and it is a pity to move him from Vizag. A good Deputy Collector might be posted to each Dist. A.S.H.

Settle in Council
European from Salt [illegible] [illegible]
Ask Chamier [illegible]

Observation sheds, male and
observation shed, kitchen

The observation shed is well
stations are supplied with

9. The Tungbhadra river bein
level until November will with the fro
ally, the only likely means of entranc

10. I left Hospet on the night o
24th July, where I was met by Surg
charge of plague operations at Hubl
follows :—

(1) Booking in any direction fro
except under pass from Re
of village outside Hubli.

(2) Booking from Hubli is prohib
Resident Plague Authority
been twice inoculated by
pass exempting from disin

(3) Passengers by all trains arriv
holding passes, &c., are de

(4) *Camps*—

1. Observation and
2. Health Camp.
3. Railway observatio

These camps are capable of

11. The Municipality population
and wards for the detection of plague
and neighbouring houses are evacuated.
The area in which the house is situated
and placed in the Health Camp. Th
20 days the people are allowed to retur

12. The Railway employés live
an observation camp and doctor of
ducing plague into Hubli.

13. I was informed that plague
controlled, had sufficient police on
supplied but that the force of police
was quite inadequate to segregate an
together with thorough disinfection
epidemic spread and is now on the inc
staff the Medical Officer in charge is d
lation and is, as far as I could judge,

14. Inoculation was commenced
July 11,500 persons had been inocul
day of my visiting Hubli, I was pl

cases. There were four inoculation ce
the 24th July :—

The people seem to have confidenc
The Medical Officer in charge, Surge
experience having been in charge of t
is that the doses of serum prescribed
and accordingly he increases the dose
inoculation only gives immunity for ab
all his cases which re-inoculation confe

15. The paucity of police guard
numbers of people. However I was
cipality was regularly taken and that t
leaving the station, the census taken
Between Hubli and Gadag on the lin
At these stations no tickets are allow
Regulations in force. I was informd
and Hubli to Bangalore, not more th
since this order came into force 10th

16. Gadag, a rail station about
villages Bitgiri and Gadag. There
camp and a plague Hospital situated a

17. A Special Plague Medical O
cer has charge with the Civil Hospi
Assistant and a private medical m
paid by the Municipality for plague du
and the Civil Hospital Compounder.

18. The trains arriving from Hu
compounder, the other by the private
not inspected. People arriving by r
has not broken out in Gadag, but 14 da
There have been no more cases. It is
travel by road to Gadag or any station
by rail into the Madras Presidency.
the frontier Inspection stations being
persons arriving by train from the H
fected whether they have a pass or not
ation of Government to detain at Hos
near Hubli, as I find that persons a
proceed next day and book to some o
and no trace of them to be found.

19 Hubli is only about 6 hours
is noted as 10 days. It is therefore
with plague to pass under your inspe
that the numbers of ticket-holders fr
are greatly increased which suggests
Gadag, &c., and "book" thence to th

20. Surgeon-Major Banner
3 months ago, and there seems

The only specimen of Bombay passes in a circulation file, so I cannot refer to it. Prima facie it would seem we should require Bombay passes.

Eg:- If people are found evading detention, giving false names & addresses, disappearing without entries, we must prosecute them & their destination - we could have quarantine

Detention of all travellers for 10 days is a measure of quarantine, which is against the orders of India, & would only drive people on to roads & bye-paths. Now is universal disinfection desirable

return. As he is the only Medical
has received a special training in pl
to depute a Medical Officer for plagu
consider necessary on account of the in
Its situation and nearness to the lines
us open to infection at any moment no
measures that can be adopted. It
Bannerman be recalled or a medical
place during his absence.

I h

Your

for hospital furniture and equipment. For disinfection of persons ~~purposes~~, permanganate of potash, chloride of lime or phenyle may be used in preference to lysol, which is costly. ~~Carbolic acid~~

~~The~~ The use of carbolic acid should be discontinued, as it ~~is~~ has been found to be a very weak germicide.

4. Para 8 of the report. The Collrs. of Bellary and Kurnool are requested to satisfy ~~himself~~ themselves and report whether the several officers of the Observation Staff actually do the duties assigned them. It is only by constant personal inspection that their work can be properly checked, and the Govt. will, if possible, post a special gazetted officer to each district to help the Collr. in the work of supervision. The Divisional Officers should also move about along the frontier as much as they can without neglecting other work.

5. Paras 18 & 19 of the report. ~~The~~ In the opinion of Government, the recommendations of the Sanitary Commr. go too far and cannot be sanctioned. Detention of all ~~to~~ railway passengers for ten days is a measure of quarantine, which is against the Venice Sanitary Convention and the orders of the Govt. of India, and its practical effect would ~~only~~ be to drive people to roads and bye-paths, and thus ~~tend towards the spread of plague~~ spread plague in directions where the Government control is less strict. Nor is universal disinfection desirable.

6. Para 20 of the report. Surgeon-Major Bannerman has been lent to the Govt. of Bengal on the condition that he must return when plague actually breaks out in this Presidency, and he cannot therefore be recalled at present. The Sanitary Commr's suggestion to depute a Medical officer to Bombay for plague instruction will be disposed of separately.

7. The plan is returned to the Sanitary Commr. as requested. A copy should be forwarded for record in the Govt. office.

(From order)

Ling
8/8/98

H. T.
8. 8. 98

To the Collrs. of Bellary
" Kurnool
" Sanitary Commr.
" Surgeon-General
Copy to all other Collrs.
" the Agent S. M. Ry.

Desd on 30-9-98

Despd
11-8-1898

Plague

3 Apr. in
Bombay

Local & Munl. (1898) Department.

CURRENT No. 4810

FA
Print V. 2
1.8.98

From

The Sanitary Commissioner
for Bombay.

Order

LAWRENCE ASYLUM PRESS
31 AUG 98

No. 692/S

Dated 30th July 1898.

Received 1-8-98

Registered

Enclosures (one plan.)

Spare copies.

SUBJECT.

Forwarding report on plague preventive measures at Hospet and of the precautions taken at Hubli and the line between Hubli and Hospet.

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

[200—10-6-98.]

Plague

OFFICE OF SANITARY COMMISSIONER,

No. 1692/S Fort St. George, 30th July 1898.

From

SURGEON-MAJOR H. THOMSON, M.B., D P.H.,
ACTING SANITARY COMMISSIONER
FOR MADRAS,

To

THE Secretary to Government
Local & Municipal Department

Enclosure.

SIR,

I have the honor to forward
for your herewith the Report on
Hospet Plague preventive measures
and of the precautions taken at
Hubli & the line between Hubli & Hospet.
2 A plan of the Disinfection, Observation
& Inspct Plague Camps at Hospet is
also forwarded for information
and favor of return

I have the honor to be
Sir
Your most obed't Servant
H. Thomson
Surg major
& Sanitary Comm'r

[2,000—18-2 98.]

No.

OFFICE OF SANITARY COMMISSIONER,

Fort St. George, 30th July 1898

From

Major H. Thimson M.B., D.P.H.

~~SURGEON-LIEUT.-COL. W. G. KING, M.B., C.M., D.P.H.,~~

SANITARY COMMISSIONER FOR MADRAS,

To

THE

Secretary to Government,
Local & Municipal Dept.

Enclosure.

SIR,

With reference to your memo of the 19th instant received here on the following morning I have the honor to state that I started for Hospet by the Mail train leaving Madras on the 21st July 1898.

2. I arrived at Bellary on 22nd July at 9 a.m. As I could not proceed further until evening 8 o'clock, I in company with the District Medical and Sanitary Officer, inspected the municipal arrangements for the detection of plague in the station. The following are the arrangements

(1) One Hospital Assistant is posted

hosted on the railway plat-
form to inspect all arrivals
by trains.
Hospet to Bellary - 4-30 a.m. Arrival
Guntakul to Bellary - 9. a.m. } do -
8. P.M. } do -

The Municipality wish to
remove this subordinate and
to distribute his duties among
the medical Subordinates at-
tached to the Municipal Hos-
pital (2) and Branch dispen-
saries (2) or to discontinue
medical inspection of ar-
rivals by rail. I do not ap-
prove of the withdrawal of
the Hospital Assistant de-
tailed for special inspection
duty.

(2) The Municipal Plague Staff:-
Two Divisional Inspectors (Cantonment and Municipality)
Eight Circle Inspectors
Ten peons.
Eight Tothis.
The Divisional Inspectors
issue passports, attend the
railway station on the arrival
of

of trains and make a list of
arrivals from infected areas.
This list is checked with
that received from the in-
specting station, Hospet. The
list is divided among the
various Circle Inspectors
who see that the addresses
attend for observation daily.
There are three observing
stations, viz, the Municipal
Hospital, Cowl Bazaar Dispen-
sary and Bruce pet Dispen-
sary. Inspection is here made
by a medical subordinate,
at the end of ten days' obser-
vation the passport is taken
from the person and filed.
(3) Should a case be suspect-
ed, it is sent to the Plague
observation shed near the
Municipal Hospital. This
shed is well designed for
the detention of observation
cases, but another shed with
necessary outbuildings at
some distance should be
erected for the treatment
of actual plague cases - to
accommodate two females
and

and four males - which could be added to if required. This is advisable because of the existance of plague at Hubli.

3. Hospet Railway Station and Plague Camp. In company with the Acting Collector, Mr Elvin, I reached Hospet at 11.15 P.M. The following precautionary measures are in force at Hospet on arrival of train:-

(1) All passengers are counted in the carriages before being permitted to alight.

(2) Those alighting are made to pass out by one gate, are examined and again counted.

(3) Those remaining in the carriages are examined and again counted. In this way the numbers is checked.

(4) Those passengers going from Hospet are allowed admission to the platform by the entrance gate. They are examined as they pass on to the platform.

The train from Hubli to Hospet is due at 1.38 a.m. but is, as a rule, one hour late. On the

day of my arrival here (22d) I inspected the train from Hubli along with Surgeon Captain Pereira.

Inspection Staff on the platform.

1 Commissioned Medical Officer.
1 Nurse.
2 Hospital Assistants.

Inspection of train occupied 1¼ hours. 16 passengers were detained on account of want of passports and unsatisfactory destination and one woman suffering from fever. They were sent to the observation Camp under police escort. Their clothes and persons were disinfected at 8 a.m. and they were given passports and allowed to proceed by the next train. The examination was made as thorough as possible but hindered on account of the darkness. The inspection would be much quicker and more thorough were it performed in daylight. The inspection is made on the railway platform

platform in the open. There is no shelter nor provision for privacy and, should it be necessary, it is not possible to examine any person thoroughly unless done in the open. The station building is not suitable for use as an examination room. An examination shed or enclosure should be erected on the platform for the use of the medical officer and medical subordinates during the inspection of passengers to ensure expedition, privacy and thorough examination.

I Plague camps.

Disinfection camp. The disinfection camp at Hoepat consists of 4 round rooms (2 waiting and 2 bath rooms) 2 for males and 2 for females. Two latrines are also attached to these.

II Observation camp.

(a) European observation camp. Consists of 2 sheds, the bigger of the two for 4 European males and the smaller for one European lady

lady. There are 2 servants' rooms 2 latrines, one kitchen, for both, attached to these. The bathrooms are attached to the main sheds.

(b) Native observation camp. A single shed containing 5 compartments on each side for males and females to admit 5 persons in each compartment is built next to European observation Camp. There are 2 police guard rooms, 2 bath rooms (one for males and one for females) and 2 kitchens. There are two latrines one for males and one for females.

(c) Hospital Assistants Quarters. A single building with partition in the middle for 2 Hospital Assistants under construction.

(d) Nurses Quarters. A single building just as above.

(e) Well. A single well for the whole camp; Eight feet water; Not protected at present but will be shortly so, and provided with a pump.

III Contactor Plague camp.

(a) Hospital Assistants Quarters. A single

single shed with partition in the middle for 2 Hospital Assistants.
(B) Nurses Quarters. Just as above.
(C) Assistant Surgeon's Quarters. A single shed.
No latrines for the above three quarters. One required for Hospital Assistant and one for Nurses and commode for Assistant Surgeon's bath room.

(D) Police Guard rooms. Two in number.
(E) Native Hospitals. Two in number - one for males and one for females. Each Hospital contains 5 compartments to accommodate 5 patients in each room.
(F) Relatives rooms. Two in number for the use of the relatives of the patients.
(G) Store room. One single room for storing provisions etc.
(H) Dispensary. One single room for dispensing medicines etc.
(I) Duty room. One single room with partition in the middle for duty subordinates
(J) European Hospitals. Two in number - one for males and the other for females. The floor is cemented.
(K) Servants' room. Two in number.
(L) Well. A single deep well for the whole camp under construction. Will be fitted with a pump covered in.
The kitchens are attached to the above hospitals.

4. Disinfection and Observation.
The passengers detained for observation are taken to the observation camp under police escort and wait there until the next morning. All their clothes are taken from them, they previously being given Government clothes to wear. These clothes are then tied in loose bundles and are put in the disinfecting chamber and steamed till 30 of pressure is obtained in the chamber, which is retained for 15* minutes. The clothes are then taken out from the chamber and are given to the passengers

* Too little - would advise 30 minutes
FA Check this considering the pressure

passengers who have been previously bathed with hot water and disinfected. They are then allowed to go to the observation camp and are kept there till the arrival of the next train (24 hours after arrival) and then discharged. Those persons suffering from any illness or who are in any way suspicious are kept in the observation camp for a more or less prolonged period. The passengers so detained are provided with a disinfection pass in proof of their being detained and disinfected. The clothes given to the passengers for temporary use while they are being disinfected are afterwards thoroughly washed in carbolic lotion dried and kept for use for the next day.

I & W thank a better dis-infectant might be used

5. Requirements

(1) Latrines in Plague Camps for the use of medical subordinate & nurses

(2) Bedding and furniture should be provided for the camps. There are no cots nor blankets.

(3). A dhoby, a night-soil cart, six washing tubs, six wooden buckets for cleaning soiled clothes and disinfecting with $HgCl_2$ in the camp enclosure instead of as at present in the irrigation channel.

(4). Two dhobies and one clerk

(5) The disinfection chamber should have an open mesh wire platform instead of the present wooden platform which causes wetting of the articles introduced for disinfection.

(6) The articles to be disinfected should be kept in the chamber 30 minutes instead of as at present 15 minutes to ensure thorough disinfection.

See para 4

(7) Phenyle or Lysol should be used for disinfecting persons instead of crude Carbolic acid as it will not mix with water.

Corrosive Sublimate or permanganate of potash

(8) Perchloride of mercury 1 to 1000 to be used for disinfection of articles which cannot be placed in the disinfection

disinfection chamber and for soiled articles before their being handed to the dhobi for the purpose of washing

6. Frontier precautions taken against the entrance of plague cases across the frontier into Bellary. The frontier of Bellary formed by the river Tungabadra is about 200 miles in extent. It is divided into 32 inspection circles arranged in a double row - 19 circles in front and 13 behind. Each circle is 10 miles square and the two rows are supposed to protect a depth of 20 miles of country.

7. Staff of the frontier circles. One Supervisor over four circle Inspectors - one Circle Inspector for each circle. In the 32 circles are 14 Unions - for each Union one Assistant Plague Inspector is appointed who as far as possible works under the orders of the Union Chairman.

8. Duties. The District Medical and Sanitary Officer, Bellary, is given the assistance of a Special plague medical Officer to allow of his being absent from Head Quarters for prolonged periods on plague supervision work. He is supposed to visit and attend to the working of the various circles.

(2) The Supervisor itinerates the 4 circles. He sends weekly diaries to the District Medical and Sanitary Officer who enters any remarks he has to make and forwards them to the Collector. The Collector makes any remarks he has to make and returns the diary through the District Medical and Sanitary Officer to the Supervisor. Any part of the diary that calls for early action is extracted and attended to at once.

(3) Circle Inspectors itinerate their circles, observe all cases entering the circle without passport and produce them before a plague authority. With passports they see that

that they are observed for a period of 10 days, and report cases of fever. They send their reports to the Supervisor. At the frequented ferries on the Tunghabadra, stations for inspection have been erected. There are 10 inspection stations.

(4) Establishment–

Hospital Assistant Clerk Conservancy Maistry. 2 peons 1 Constable 1 Toty.	Dispensary Quarters and Medicines.

Hospital with 3 wards 12×12 raised rammed floor.

Observation sheds–male and female

Latrines–male and female

Kitchen for observation shed

Kitchen for Hospital shed.

The observation shed is well separated from the infected sheds. All the stations are supplied with articles as per Government list

9. The Tunghabadra river being in flood and likely to continue at a high level until November will with the frontier stations guard the frontier most effectually, the only likely means of entrance being by rail

Paras. 6 to 10 ... seem to be no suggestions ... improve ... system

10. I left Hospet on the night of the 23rd July and reached Hubli at 6 A.M. 24th July where I was met by Surgeon-Captain Lemmann, I.M.S. Bombay, in charge of plague operations at Hubli. The plague precautions at Hubli are as follows:–

(1) Booking in any direction from railway stations near to Hubli is forbidden except under pass from Resident Plague Authority at Hubli or Patel of village outside Hubli.

(2) Booking from Hubli is prohibited except from persons holding pass from Resident Plague Authority to travel by rail or certificate of having been twice inoculated by a Government Medical Officer or a special pass exempting from disinfection and detention

detention.

(3) Passengers by all trains arriving and departing are inspected and unless holding passes etc are detained and disinfected.

(4) Camps —

1. Observation and Segregation and Plague Hospital
2. Health Camp.
3. Railway Observation Camp.

These Camps are capable of accommodating 250 – 250 and 150 each.

11. The municipality – Population about 60,000 – is divided into divisions and wards for the detection of plague cases. On a case occurring the infected and neighbouring houses are evacuated, the people being taken to the plague Camp. The area in which the house is situated is evacuated and all the people disinfected and placed in the Health Camp. The houses are all disinfected and after 15 & 20 days the people

people are allowed to return to their homes.

12. The Railway Employees live quite apart from the municipality and have an observation Camp and doctor of their own. They were the means of introducing plague into Hubli.

13. I was informed that plague in Hubli would have been stamped out & controlled had sufficient police or military guard and disinfection staff been supplied but that the force of police 36 and a disinfection staff of 167 coolies was quite inadequate to segregate and keep the people under strict supervision together with thorough disinfection of evacuated houses. In consequence the epidemic spread and is now on the increase. To counteract the evil of insufficient staff the medical officer in charge is doing his utmost to inoculate the whole

population

population and is, as far as I could judge, in a fair way to succeed.

14. Inoculation was commenced at the 10th May in Hubli. Up to the 19th July 11,500 persons had been inoculated twice and 5500 persons once. On the day of my visiting Hubli I was present and assisted at the inoculation of 583 cases. There were four inoculation centres and the following is the work done on the 24th July:-

583
330
250
500
1663

The people seem to have confidence in inoculation and a wish to be inoculated. The medical officer in charge, Surgeon-Captain Lemmann has had considerable experience having been in charge of the Sholapur plague Camp and his opinion is that the doses of serum prescribed by

* F.A. - May [illegible] reason for double inoculation? See next page.

by Professor Haffkine are much too small and accordingly he increases the dose by about 50 percent. Also that the first inoculation only gives immunity for about 3 weeks. He accordingly re-inoculates all his cases which re-inoculation confers protection for some 5 to 6 months.

15. The paucity of police guards allows of the departure from Hubli of numbers of people. However I was informed that a weekly census of the municipality was regularly taken and that the census showed that very few people were leaving the station, the census taken the week previous to my visit being 53,000. Between Hubli and Gadag on the line to Hospet there are four railway stations. At these stations no tickets are allowed to be issued unless in accordance with the Regulations in force. I was informed that on the line from Hub-

to

to Guntakal and Hubli to Bangalore not more than 10-15 altogether were issued in one day since this order came into force 10th July 1898.

16. Gadag a rail station about 30 miles from Hubli is made up of two villages Bitgiri and Gadag. There are two health camps and one observation camp and a plague Hospital situated about 600 yards from the station

17. A special plague medical Officer has charge with the Civil Hospital Assistant and a private medical man paid by the Municipality for plague duty and the Civil Hospital Compounder.

[Margin note: under the orders of his Vincent Assistant Police Superintendent]

18. The trains arriving from Hubli and Hotgi are inspected the one by the compounder, the other by the private medical practitioner. Departing trains are not inspected.
People arriving by road are not checked nor inspected.
Plague has not broken out in Gadag but 14 days ago a plague case from Hubli died there. There

There have been no more cases. It is quite easy for any person from Hubli to travel by road to Gadag or any station between that and Hospet and there to book by rail into the Madras Presidency. The Tunghabadra river being in flood and the frontier Inspection Stations being on the alert I would recommend that all persons arriving by train from the Hubli side be detained and thoroughly disinfected whether they have a pass or not. I would also request the serious consideration of Government to detain at Hospet for 10 days all persons travelling from or near Hubli, as I find that persons although giving their name and address will proceed next day and book to some other place their whereabouts not being known and no trace of them to be found.

19. Hubli is only about 6 hours run

man from Hospet and the in-
cubation period is noted as more usually
10 days. It is therefore the 5-6.
most likely thing for a person
affected with plague to pass
under your inspection
undetected and there is
no doubt but that the num-
bers of ticket holders from
stations on the Hospet side
of Gadag are greatly in-
creased which suggests that
people from the Hubli dis-
trict travel to Gadag and
"book" thence to the Madras
Presidency.

20. Surgeon Major Bannerman
was sent to the Bengal
Presidency about 3 months
ago and there seems little
likelihood for sometime yet
of his return. As he is the
only medical officer belong-
ing to this Presidency who
has received a special
training in plague work,
I would advise Government
to depute a medical officer
for plague distinction to
Bombay. This measure I
consider

consider necessary as accumu
of the increasing hold
plague has acquired in
Hubli. Its situation and
nearness to the lines of
communication with this
Presidency lays us open to
infection at any moment
notwithstanding the most
careful preventive measures
that can be adopted. It is
therefore advisable that
Surgeon-Major Bannerman
be recalled or a medical
officer be at once put in
training to take his place
during his absence.

I have the honor to be
Sir
Your most obed Servant
W. Ramsay
Surgn Major
Offg Sanitary Commissioner
for Madras

[R. O./10] Press.

5,000—14-

...n for signature.

...atched in print.

Number of copies required. { Order complete. / Letter only. / Order complete with Letter.

...in G.O., No. — Dated.

189

... No.

...ed to C. No.

...f Government

...er of Government

...atement with ditto.

...ers not filed up, being meant for despatch in original.

N.B.—

A = Print in full.
B = Not to be printed.
P = Print abstract only.
... = Print heading only.