GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

Read—the following paper :—

From T. VARADA RAO, Esq., S.C.S., Chairman, Municipal Council, Calicut, to the Chief Secretary to Government (through the Revenue Divisional Officer), dated 30th May 1895, No. 533.

I have the honour to forward herewith the Sanitary Commissioner's inspection notes on the Calicut Municipality and my replies thereon.

The paper was placed before the council at its meeting held on the 24th May 1895 and passed.

Enclosure.

Inspection Notes of the Sanitary Commissioner, Madras.

MALABAR DISTRICT.

Calicut Municipality.

Inspected 14th and 15th November 1894.

Population as per census of 1891 ..	Males		34,507
	Females		31,571
	Total ..		66,078

Inspection Notes.

Dwellings.—(*a*) In the Máppila quarters along the beach there is a steady tendency to crowding whilst place after place near huts is shut off from use as a public thoroughfare. Indeed to a stranger the whole place is a maze that cannot be desirable with reference to maintenance of order by the Police.

(*b*) The municipality should take early steps in this matter, and by pressure upon owners under section 168 insist upon space being left for public communication and for perflation of the buildings.

Chairman's Remarks.

The beach from the junction of the Kallai river with the sea to the northern limit of the municipality is divided from the town by a narrow road more than half the length of which, consisting of 2½ miles, is gravelled. The parambas to the east of the road are private property and are leased out to residents and firms. Most of the people who live on the beach are Máppilas who find work in connection with the numerous coasting vessels and native craft that touch the port. The parambas are crowded with huts; the right of entry alone is reserved to the residents of the huts. No public roads pass through the parambas. I have also found that janmis claim the right of ownership in regard to the beach itself up to the water limit. The municipality has no control over this part of the town except the little bit of ground covered by the road. To open up the parambas a great many

Inspection Notes.

2. *Roads.*—(*a*) These were in good order; but I would advise the municipality to attempt their best to substitute stone metal for the laterite which they almost exclusively employ at present.

(*b*) There are frequent patches forming the junctions of roads that could be improved in appearance by having the edges of the turf neatly trimmed. Near the Post office, the sole ornament of such a patch, is a dust-bin in the centre. In this climate it would probably cost little to maintain some ornamental vegetation in such localities.

Moonalangul Street.—The side drains were found blocked with rubbish.

3. *Drainage.*—No efforts have been made by the municipality to abolish the cess-pools in the Máppila quarters; nor has it introduced private conservancy in this locality where it is urgently requisite. The Tellicherry Municipality is understood to have abolished all Máppila cess-pools, and I trust the Calicut Municipality will do their best to follow their example.

4. *Water-supply.*—(*a*) The question of securing a protected water-supply from a correct source is of great importance, more especially with reference to the Máppila quarters where shallow well water is depended upon, notwithstanding

Chairman's Remarks.

cross roads will be required and it will cost a large sum of money to acquire land for that purpose. There is no near prospect of opening up these parambas.

The municipality has spent a considerable portion of the allotment allowed for road repairs in paving the roads with stone metal. In 1894-95 the amount spent was as under (out of a total allotment of Rs. 10,000)—

	Cubic yards.	Cost. Rs.	A.	P.
1. Big bazaar road ..	454	1,702	8	0
2. Chevayur rood ..	645	2,418	12	0
3. Cannanore Coast road	330	1,237	8	0

In effecting the improvement of patches of ground enclosed by roads by converting them into gardens, the municipality is confronted by the difficulty that such patches do not belong to it. A piece of land near the waste ground referred to by the Sanitary Commissioner was made into a garden and is at present maintained as a garden by Messrs. F. N. Heerjee & Co. In this case the Collector was good enough to assign the land on quit-rent to the municipality which leased it to Messrs. F. N. Heerjee & Co. for three years on condition of their maintaining on it a flower garden. If Government hands to the municipality all such plots it won't be a difficulty to the municipality to make them nice and comfortable resorts to the public. It would improve the condition of the town enormously.

The side drains of this street have been cleaned.

The question of abolishing cess-pools is receiving attention. I am also endeavouring to obtain a bilge water pump attached to a cask for use in cleaning private cess-pools. The matter is one in which any sudden progress is impossible, inasmuch as it is the poorest classes alone who retain cess-pools as they cannot afford to have a correctly appointed latrine or pay for its cleaning. In Tellicherry I am informed by the chairman that much progress has not been made.

This subject, which is referred to in G.Os., No. 1668 M., dated 8th November 1894, and Memo. No. 1193, dated 7th November 1894 is still under consideration. Opinions are divided among the councillors whether the town is in need

Inspection Notes.

the presence side by side with the dwellings of cess-pools (into which excreta enter) and graveyards. In my last report I suggested that the determination to use the Mánánchera tank without much more careful exploration of possible sources in the neighbourhood than had apparently been made, was premature. Since then the Sanitary Engineer has explored the neighbouring Pulloor Hills and has reported the existence of good springs.

(*b*) *Ratmabai's well.*—I found still in use, notwithstanding the warning against it in my last report.

(*c*) *Chuckler's Street well*—is much used by the people. It has a parapet wall, but no basement: this should be provided.

(*d*) At the part chiefly inhabited by fishermen about twenty wells exist, but these are not suitably protected. A certain number yielding good water should be selected and basements with drains be provided.

(*e*) *Brown's well.*—I was disappointed to find that no action had been taken with regard to carrying out the improvements I suggested as to Mr. Brown's well. If the water struck is not potable, the pump and well lining should be shifted elsewhere. The principle followed in the construction of this well is sanitarily sound.

5. *Conservancy* (*a*).— In my last report I pointed out the absolute inadequacy with which the requirements of a population of 66,078 persons were attended to, even holding in mind the peculiarities involved in the "paramba" system. I pointed to the uselessness of so large an area being worked by bullock power and advised the speedy adoption of a tramway to deal with the transport of both night-soil and rubbish, especially in view of the fact that this municipality could possibly incur no loss by reason of existing plant, as they practically up to that date had done nothing in the way of conservancy. Having arranged for transport by [illegible] a tramway, I advised that incineration should be employed for the disposal of rubbish, and that this should be combined

Chairman's Remarks.

of a water-supply at all. I am also submitting to the council a small scheme for the supply of the Máppila quarters with water from the Mánánchera tank.

This well which was closed last year was again opened by the residents near for purposes of ablution. I have ordered it to be closed again.

I have called for estimates to provide each of the public wells with a parapet wall, a basement and a drain all round. The improvement of the public wells will be effected during the year.

The Brown well which was at first greatly used began to fail in December or January 1893. There being no watchman for this well the pump materials used to be stolen at night. I had myself caught Máppila urchins meddling with the pump and charged them before the Magistracy. The pump has since been removed to the municipal garden where it is handled only by the gardeners who are more careful in using it.

The proposals of the Council in regard to tramway have been submitted in my letter No. 1449, dated 17th November 1894, to Government through the District officers. Funds for the construction of a Silchar cinerator were placed at the disposal of the Public Works Department in October 1894. I am informed that the work has been delayed owing to the Calicut Mercantile mission not having furnished the fire bricks required. The Executive Engineer assures me that, when the material is secured, the cinerator will at once be put on hand. Meanwhile the arrangements for the removal of night-soil and town sweepings have been [illegible]ed to the best of my resources. To the [illegible]ght-soil carts in use I added fifteen more; so that there are at present

Inspection Notes.

with a special apparatus for the removal of moisture from fœcal matter by means of the heat generated by the incineration of rubbish. It was pointed out that, seeing manufacture of poudrette made from human fœcal matter was being actually carried on side by side with the production of artificial manure in the town by independent firms for the supply of planters, there was every reason to hope that poudrette-making might prove a profitable undertaking for the municipality. But, with the object of ascertaining how far the scheme would be likely to be successful, it was advised, as an experimental measure, to erect a Silchar incinerator and pursue the Poona system of poudrette making temporarily.

(*b*) The inadequate number of night-soil carts and latrines was also brought to the notice of the municipality. The use of dust-bins was not advised in consideration of the long distances to be traversed; but it was suggested that the system of collection from separate receptacles arranged for under section 219 would prove of utility.

(*c*) Since the forwarding of this report the chairman has exhibited most creditable energy in determining the feasibility of what must be the first step towards obtaining a correct system of conservancy, namely, the making of a suitable tramway. I understand that definite proposals are now before Government on the subject. In my opinion this effort is of great sanitary importance, and I trust that the representations of the municipality will be received with this view by Government.

(*d*) It has too often been assumed—in fact it has been officially stated by Revenue officers in charge of the district of Malabar—that there exists little necessity for any action in the matter of conservancy. If the statistics of Calicut which, I consider, by reason of the liability for burials to occur in parambas without the knowledge of the municipality to be particularly faulty, are to be trusted, the death-rate calculated upon the estimated population amounts to not less than 34·2 per mille per annum. Seeing that it is

Chairman's Remarks.

eighteen night-soil buckets on wheels which convey the night-soil of the public latrines and the houses conserved by the Municipal Agency to the depôt. Each of the buckets has a capacity of $4\frac{1}{3}$ cubic feet or altogether 78 cubic feet. These buckets are in charge of trollymen who pay not less than two visits every day to each public latrine. The private scavengers empty the closed receptacles into the trollies whenever they meet them in their rounds. In the current year I propose to add fifteen more buckets. Inadequate as the present arrangements are, they are far in advance of what they were in 1893–94 when there were only five buckets, of which two were in proper order.

There are also fifteen rubbish carts each carrying $\frac{3}{4}$ of a ton which traverse the street. Rubbish is swept and thrown into these carts.

There are 14 latrines, of which 11 are metal and 3 masonry built.

No night-soil depôt or rubbish depôt has been yet provided. I have several times pointed out that no ground is available within easy reach of the town.

Inspection Notes.

granted that wherever a death-rate of over 17 per mille occurs there also must exist sanitary error, I think, it pretty evident that to attempt to combat disease whilst neglecting the barest attempts at conservancy up to date has not been very successful.

(*e*) *Robinson's Road latrine*—is beyond repair, and is hopelessly filthy. Of twelve buckets employed, I found eight unserviceable. The whole should be abolished; a new latrine of the standard pattern be put in its place.

(*f*) Kerosine open tins are used for conveyance of fœcal matter. Iron-tarred buckets with lids and handles should be provided.

6. *Markets and Slaughter-houses.*—In reference to both these matters, nothing has been done up to date. The Chairman, however, states that action is contemplated; it is decidedly necessary.

7. *Graveyards* (*a*). — In the matter of Máppila graveyards, certain propositions have, I believe, been made to Government by the municipality, and as the matter is under consideration, I do not think it necessary to further allude to this well-worn question, except to suggest the desirability, on the answer from Government being received, that the municipality should lose no time in taking action. The question of the Roman Catholic graveyard is still unsettled though, I believe, the Catholics have now notified their willingness to cease burial within the town, provided a suitable spot be given them outside. The site chosen near the Lunatic Asylum by the municipality was rightly objected to by the Superintendent of that institution. I, however, pointed out a site removed at some distance from the asylum, which, if this be the only feasible direction, will meet sanitary requirements.

(*b*) At the gate of the old European burial-ground is one of the spots where the municipality retains its night-soil buckets. The spot is inappropriate, irrespective of its being in a much frequented part of the town. The night-soil carts are also exposed to public view in other parts of the town at the side of the roads. Other arrangements should be made.

Chairman's Remarks.

The Robinson road latrine has been demolished and a metal latrine on the Horbury pattern erected in its stead.

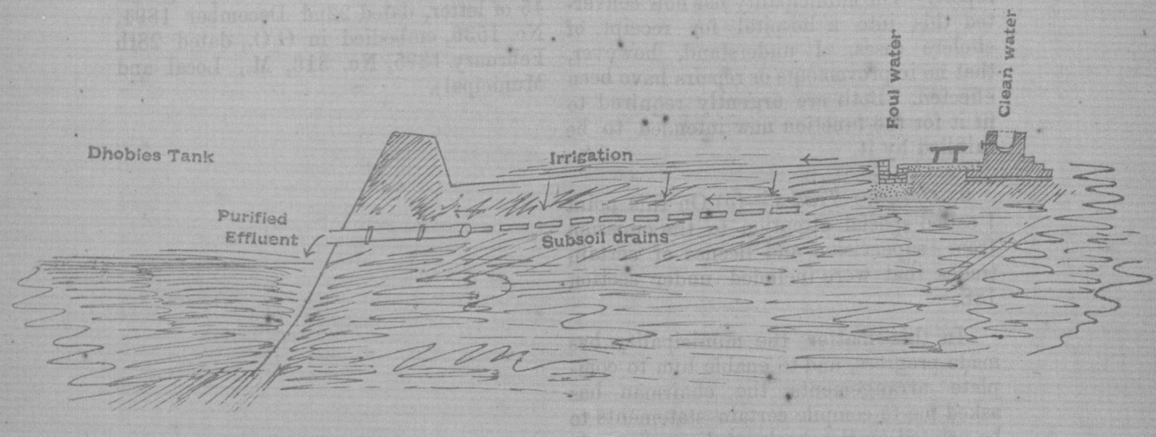
I shall introduce the use of iron-tarred buckets with lids for the conveyance of fœcal mater.

Proposals are now before the Collector in regard to this subject.

The question of Máppilas' graveyards is pending orders with Government. The site selected for the Roman Catholic burial ground having been again objected to on account of its vicinity to the Lunatic Asylum, a fresh notification for the acquisition of a site not far removed from the town will be shortly submitted. The question of Náyar and Tiya burial grounds is now before a sub-committee of the municipal council.

This is due to the carelessness of one of the scavengers. The night-soil carts are now brought to a place specially selected for them.

Inspection Notes.	Chairman's Remarks.
(*c*) Many Hindus are buried within their own "parambas." The Chairman has taken the first step towards remedying this state of affairs by purchase of a suitable burial ground for sects pursuing this practice, which should be abolished by the municipality.	
8. *Infectious Disease Hospital.*—The repair of this was advised in my last report. The municipality has now converted this into a hospital for receipt of cholera cases. I understand, however, that no improvements or repairs have been effected. Both are urgently required to fit it for the function now intended to be fulfilled by it.	The question of an Infectious Disease Hospital has been deferred (*vide* paragraph 45 of letter, dated 22nd December 1894, No. 1536, embodied in G.O., dated 28th February 1895, No. 316, M., Local and Municipal).
9. *Offensive Trades.*—(*a*) On this point I called special attention to the omission from supervision and license of certain trades that were included under section 188.	
In this matter the municipality has made progress, and to enable him to complete arrangements, the chairman has asked me to compile certain statements to be printed on the back of licenses as to the sanitary conditions under which they are supposed to be granted.	
(*b*) A bakery in Pathserata street was found to be licensed. Its condition did not warrant this; the floor was of rammed earth; the whitewash was filthy; a receptacle for rubbish was found immediately below the table of wood for dough making.	
(*c*) It ought to be possible for the municipality to arrange that water for dhobies should be lifted from the dhobies' tank and be distributed on the banks for use without their defiling the bulk of the water. It is not likely that any water abstracted would not be replaced by sub-soil flow quick enough; but, if there were difficulty, the municipality could arrange for the water from the dhobies' troughs to flow upon a patch of ground, arranged at the side of the tank for sub-soil filtration. The water would then pass from the gutter, and in a fair state of purification join the body of water. I attach a diagram explaining what is required. This arrangement, together with a well-worked system of inspection of licensed dhobies, ought to afford a most desirable grade of protection.	Improvements to the dhobies' tank will be taken in hand as soon as the more pressing questions are disposed of. I am now cleaning out one by one, the five tanks referred to in the Sanitary Commissioner's notes, dated 5th October 1893. I have taken in hand the Kuttichira Máppila tank which is the worst and has not been cleaned for over a quarter of a century.



Reg: No. 2232—Copies.93

Litho. Survey Office, Madras.
1895

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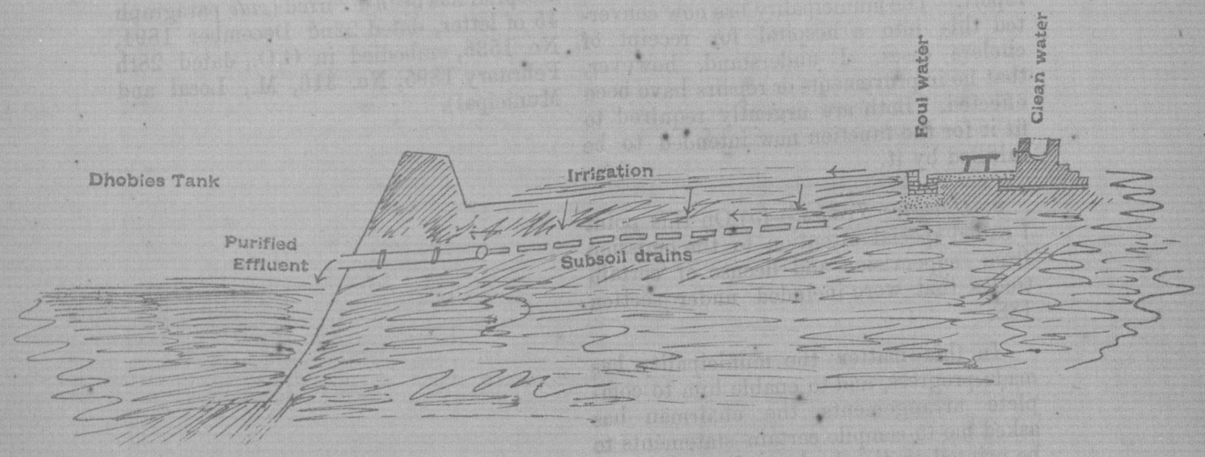
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Inspection Notes.

I found a portion of this tank, where the bank had given way, being filled up with rubbish. This dangerous practice should be stopped, and the present deposit be excavated.

10. *Vaccination.*—The chairman informs me that he has made arrangements for the correct conduct of vaccination, in accordance with G.O., dated 19th October 1894, No. 1502 M., Local and Municipal. Seeing that under this scheme the parents must bring back the children to the depôt for examination, it is hoped that either the Assistant Surgeon or the District Sanitary officer will exercise more supervision than at present in the matter of verification. Only 170 cases were verified from 1st April to the 18th November, and, under the circumstances, the results secured must be open to doubt. On inspecting haphazard on the streets, it was found that of 106 children, 51 were protected and 55 were unprotected; of the latter, 15 had been attacked with small-pox, showing that in past years vaccination has been poorly conducted, and that efforts to reach *children* below ten years of age should at once be made:—

Chairman's Remarks.

Total births during preceding six months, *i.e.*, from 1st July 1893 to 31st December 1893.	Number vaccinated.		Number vaccinated a second time because first operation proved unsuccessful.		Postponed under medical certificate at the end of six months.	Died.	Left the town.	Unaccounted for.	Ratio of successful vaccination to total births per cent.
	Successfully.	Unsuccessfully for the first time.	Successful.	Unsuccessful.					
1,050	2,089	137	49	6	5	4	20	53	* 203·6

* This result is presumably due to attention to arrears.

11. *Registration.*—The books are kept in the vernacular. Seventy prosecutions for failure to register had been carried out between the 1st of April and my inspection. No "vaccination column" was maintained; but, since this date of inspection, it is reported this has been duly effected with reference to the late G.O., dated 19th October 1894, No. 1502 M., Local and Municipal.

It would be advisable for the municipality to erect boards in the vernacular in various parts of the town, setting forth the usual notification referring to compulsory registration.

The following exhibits the results of registration:—

The suggestion of the Sanitary Commissioner regarding the erection of boards will be attended to.

Years.	Ratio of births per mille of estimated population.	Ratio of deaths per mille of estimated population.	Percentage of deaths from						Ratio of deaths of infants under one year of age per mille to registered births in the proceding year.	Ratio per mille of deaths of infants between one and five years of age to population of that age.
			Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	Injuries.	Other causes.		
1892	29·8	32·3	18·7	5·8	10·9	16·3	0·5	47·8	150·1	105·0
1893	34·3	29·4	6·8	1·5	11·1	13·2	0·7	66·7	157·2	44·8
1894	27·4	21·1	..	0·4	13·6	13·0	1·2	71·8	130·9	13·4

These figures show that there has been a decrease of attention to registration during 1894, especially with reference to births and mortality of the child-population. An effort should at once be made to put matters on a more satisfactory footing; a complete re-organization of the existing system is probably requisite.

28*th February* 1895.

(Signed) W. G. KING, Surgn.-Lieut.-Col.,
Ag. Sanitary Commr. for Madras.

No. 17 M.

Submitted.

Calicut,
10*th June* 1895.

(Signed) S. SWAMINATHA AIYAR,
Hd.-Qr. Deputy Collector.

C. No. 200 M.

Forwarded with the following remarks on the Sanitary Commissioner's notes.

2. *Paragraph* 6.—The Chairman's statement that proposals as to markets and slaughter-houses are now before me is not correct. I have made some suggestions to the council, and hope, with the aid of the Zamorin and other Rajahs and by means of public subscriptions to raise the necessary funds.

3. *Paragraph* 10.—The District Medical officer has so much work that he cannot supervise vaccination in the town. A deputy inspector of vaccination for the five municipalities is required, and I hope to address Government on the subject ere long.

17*th June* 1895.

(Signed) H. MOBERLY,
Ag. Collector.

Order—dated 31st July 1895, No. 1221 M., Local and Municipal.

Recorded, with the following remarks:—

(1) The municipal council should take action under section 187 of the District Municipalities Act to remedy the overcrowding in the Máppila quarters on the beach.

(2) The council should apply to the Collector if it wishes to be placed in possession of the plots of land at the junctions of roads.

(3) The delay in dealing with the question of water-supply is most unsatisfactory. The matter is urgent and should be disposed of as soon as possible.

(4) The license granted for the bakery in Pathserata street should be suspended or cancelled if the owner does not take the steps necessary to improve its condition.

(5) The Chairman has not reported what action the council proposes to take on the Sanitary Commissioner's remarks regarding the registration of vital statistics. This omission should now be supplied.

(6) The report promised by the Collector in paragraph 3 of his endorsement will be awaited.

(True Extract.)

J. F. PRICE,
Chief Secretary.

To the Chairman, Municipal Council, Calicut.
„ Collector of Malabar.
„ Sanitary Commissioner.
„ Sanitary Engineer.
„ Public Works Department.
Editors' Table.

Exd. A. Raitt.

Govt. of {1895} Madras.

LOCAL AND MUNICIPAL.

Issued

Recd. *Encl.*

G.O., 31st July 1895, No. 1221 M.

JULY.

Inspection Notes.

Recording, with remarks, Sanitary Commissioner's — on the Calicut Municipality.

No 2164 W dy 29 August 1895

Communicated to the Supty. Engineer IV Circle.

Sd J. P.

W

Sd. IV Circle

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(*b*) The municipality should take early steps in this matter, and by pressure upon owners under section 168 insist upon space being left for public communication and for perflation of the buildings.

Chairman's Remarks.

The beach from the junction of the Kallai river with the sea to the northern limit of the municipality is divided from the town by a narrow road more than half the length of which, consisting of $2\frac{1}{2}$ miles, is gravelled. The parambas to the east of the road are private property and are leased out to residents and firms. Most of the people who live on the beach are Máppilas who find work in connection with the numerous coasting vessels and native craft that touch the port. The parambas are crowded with huts; the right of entry alone is reserved to the residents of the huts. No public roads pass through the parambas. I have also found that janmis claim the right of ownership in regard to the beach itself up to the water limit. The municipality has no control over this part of the town except the little bit of ground covered by the road. To open up the parambas a great many

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Inspected 14th and 15th November 1894.

Population as per census of 1891 ..	Males		34,507
	Females		31,571
	Total ..		66,078

Inspection Notes.

Dwellings.—(*a*) In the Máppila quarters along the beach there is a steady tendency to crowding whilst place after place near huts is shut off from use as a public thoroughfare. Indeed to a stranger the whole place is a maze that cannot be desirable with reference to maintenance of order by the Police.

(*b*) The municipality should take early steps in this matter, and by pressure upon owners under section 168 insist upon space being left for public communication and for perflation of the buildings.

Chairman's Remarks.

The beach from the junction of the Kallai river with the sea to the northern limit of the municipality is divided from the town by a narrow road more than half the length of which, consisting of 2½ miles, is gravelled. The parambas to the east of the road are private property and are leased out to residents and firms. Most of the people who live on the beach are Máppilas who find work in connection with the numerous coasting vessels and native craft that touch the port. The parambas are crowded with huts; the right of entry alone is reserved to the residents of the huts. No public roads pass through the parambas. I have also found that janmis claim the right of ownership in regard to the beach itself up to the wate limit. The municipality has no contr over this part of the town except the little bit of ground covered by the road. To open up the parambas a great many

Inspection Notes.

2. *Roads.*—(*a*) These were in good order; but I would advise the municipality to attempt their best to substitute stone metal for the laterite which they almost exclusively employ at present.

(*b*) There are frequent patches forming the junctions of roads that could be improved in appearance by having the edges of the turf neatly trimmed. Near the Post office, the sole ornament of such a patch, is a dust-bin in the centre. In this climate it would probably cost little to maintain some ornamental vegetation in such localities.

Moonalangul Street.—The side drains were found blocked with rubbish.

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Chairman's Remarks.

cross roads will be required and it will cost a large sum of money to acquire land for that purpose. There is no near prospect of opening up these parambas.

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Chairman's Remarks.

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I have called for estimates to provide each of the public wells with a parapet wall, a basement and a drain all round. The improvement of the public wells will be effected during the year.

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Inspection Notes.

with a special apparatus for the removal of moisture from fœcal matter by means of the heat generated by the incineration of rubbish. It was pointed out that, seeing manufacture of poudrette made from human fœcal matter was being actually carried on side by side with the production of artificial manure in the town by independent firms for the supply of planters, there was every reason to hope that poudrette-making might prove a profitable undertaking for the municipality. But, with the object of ascertaining how far the scheme would be likely to be successful, it was advised, as an experimental measure, to erect a Silchar incinerator and pursue the Poona system of poudrette making temporarily.

(*b*) The inadequate number of night-soil carts and latrines was also brought to the notice of the municipality. The use of dust-bins was not advised in consideration of the long distances to be traversed; but it was suggested that the system of collection from separate receptacles arranged for under section 219 would prove of utility.

(*c*) Since the forwarding of this report the chairman has exhibited most creditable energy in determining the feasibility of what must be the first step towards obtaining a correct system of conservancy, namely, the making of a suitable tramway. I understand that definite proposals are now before Government on the subject. In my opinion this effort is of great sanitary importance, and I trust that the representations of the municipality will be received with this view by Government.

(*d*) It has too often been assumed—in fact it has been officially stated by Revenue officers in charge of the district of Malabar—that there exists little necessity for any action in the matter of conservancy. If the statistics of Calicut which, I consider, by reason of the liability for burials to occur in parambas without the knowledge of the municipality to be particularly faulty, are to be trusted, the death-rate calculated upon the estimated population amounts to not less than 34·2 per mille per annum. Seeing that it is

Chairman's Remarks.

eighteen night-soil buckets on wheels which convey the night-soil of the public latrines and the houses conserved by the Municipal Agency to the depôt. Each of the buckets has a capacity of $4\frac{1}{3}$ cubic feet or altogether 78 cubic feet. These buckets are in charge of trollymen who pay not less than two visits every day to each public latrine. The private scavengers empty the closed receptacles into the trollies whenever they meet them in their rounds. In the current year I propose to add fifteen more buckets. Inadequate as the present arrangements are, they are far in advance of what they were in 1893–94 when there were only five buckets, of which two were in proper order.

There are also fifteen rubbish carts each carrying $\frac{3}{4}$ of a ton which traverse the street. Rubbish is swept and thrown into these carts.

There are 14 latrines, of which 11 are metal and 3 masonry built.

No night-soil depôt or rubbish depôt has been yet provided. I have several times pointed out that no ground is available within easy reach of the town.

Inspection Notes.

granted that wherever a death-rate of over 17 per mille occurs there also must exist sanitary error, I think, it pretty evident that to attempt to combat disease whilst neglecting the barest attempts at conservancy up to date has not been very successful.

(*e*) *Robinson's Road latrine*—is beyond repair, and is hopelessly filthy. Of twelve buckets employed, I found eight unserviceable. The whole should be abolished; a new latrine of the standard pattern be put in its place.

(*f*) Kerosine open tins are used for conveyance of fœcal matter. Iron-tarred buckets with lids and handles should be provided.

6. *Markets and Slaughter-houses.*—In reference to both these matters, nothing has been done up to date. The Chairman, however, states that action is contemplated; it is decidedly necessary.

7. *Graveyards* (*a*). — In the matter of Máppila graveyards, certain propositions have, I believe, been made to Government by the municipality, and as the matter is under consideration, I do not think it necessary to further allude to this well-worn question, except to suggest the desirability, on the answer from Government being received, that the municipality should lose no time in taking action. The question of the Roman Catholic graveyard is still unsettled though, I believe, the Catholics have now notified their willingness to cease burial within the town, provided a suitable spot be given them outside. The site chosen near the Lunatic Asylum by the municipality was rightly objected to by the Superintendent of that institution. I, however, pointed out a site removed at some distance from the asylum, which, if this be the only feasible direction, will meet sanitary requirements.

(*b*) At the gate of the old European burial-ground is one of the spots where the municipality retains its night-soil buckets. The spot is inappropriate, irrespective of its being in a much frequented part of the town. The night-soil carts are also exposed to public view in other parts of the town at the side of the roads. Other arrangements should be made.

Chairman's Remarks.

The Robinson road latrine has been demolished and a metal latrine on the Horbury pattern erected in its stead.

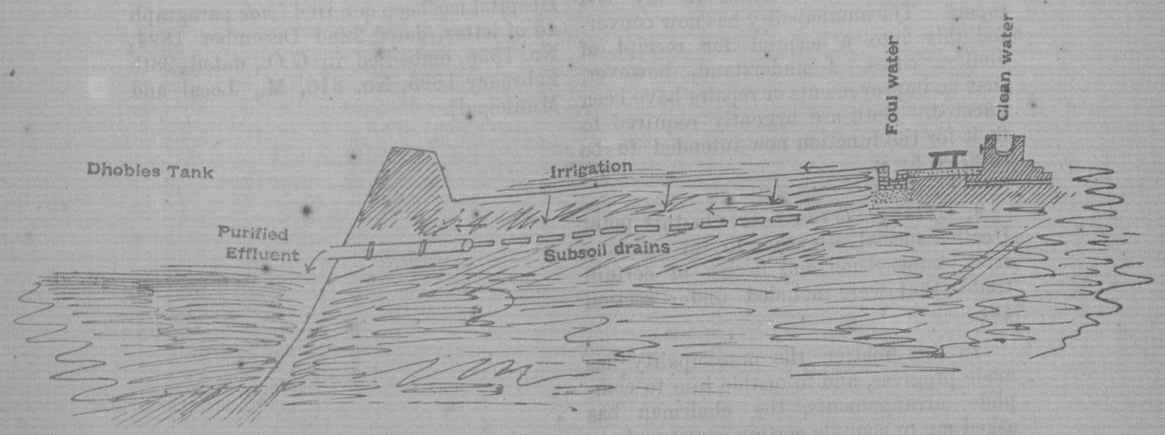
I shall introduce the use of iron-tarred buckets with lids for the conveyance of fœcal mater.

Proposals are now before the Collector in regard to this subject.

The question of Máppilas' graveyards is pending orders with Government. The site selected for the Roman Catholic burial ground having been again objected to on account of its vicinity to the Lunatic Asylum, a fresh notification for the acquisition of a site not far removed from the town will be shortly submitted. The question of Náyar and Tiya burial grounds is now before a sub-committee of the municipal council.

This is due to the carelessness of one of the scavengers. The night-soil carts are now brought to a place specially selected for them.

Inspection Notes.	Chairman's Remarks.
(*c*) Many Hindus are buried within their own "parambas." The Chairman has taken the first step towards remedying this state of affairs by purchase of a suitable burial ground for sects pursuing this practice, which should be abolished by the municipality.	
8. *Infectious Disease Hospital.*—The repair of this was advised in my last report. The municipality has now converted this into a hospital for receipt of cholera cases. I understand, however, that no improvements or repairs have been effected. Both are urgently required to fit it for the function now intended to be fulfilled by it.	The question of an Infectious Disease Hospital has been deferred (*vide* paragraph 45 of letter, dated 22nd December 1894, No. 1536, embodied in G.O., dated 28th February 1895, No. 316, M., Local and Municipal).
9. *Offensive Trades.*—(*a*) On this point I called special attention to the omission from supervision and license of certain trades that were included under section 188.	
In this matter the municipality has made progress, and to enable him to complete arrangements, the chairman has asked me to compile certain statements to be printed on the back of licenses as to the sanitary conditions under which they are supposed to be granted.	
(*b*) A bakery in Pathserata street was found to be licensed. Its condition did not warrant this; the floor was of rammed earth; the whitewash was filthy; a receptacle for rubbish was found immediately below the table of wood for dough making.	
(*c*) It ought to be possible for the municipality to arrange that water for dhobies should be lifted from the dhobies' tank and be distributed on the banks for use without their defiling the bulk of the water. It is not likely that any water abstracted would not be replaced by sub-soil flow quick enough; but, if there were difficulty, the municipality could arrange for the water from the dhobies' troughs to flow upon a patch of ground, arranged at the side of the tank for sub-soil filtration. The water would then pass from the gutter, and in a fair state of purification join the body of water. I attach a diagram explaining what is required. This arrangement, together with a well-worked system of inspection of licensed dhobies, ought to afford a most desirable grade of protection.	Improvements to the dhobies' tank will be taken in hand as soon as the more pressing questions are disposed of. I am now cleaning out one by one, the five tanks referred to in the Sanitary Commissioner's notes, dated 5th October 1893. I have taken in hand the Kuttichira Máppila tank which is the worst and has not been cleaned for over a quarter of a century.



Litho. Survey Office, Madras.
1895
Reg: No. 2232—Copies 95

Inspection Notes.

I found a portion of this tank, where the bank had given way, being filled up with rubbish. This dangerous practice should be stopped, and the present deposit be excavated.

10. *Vaccination.*—The chairman informs me that he has made arrangements for the correct conduct of vaccination, in accordance with G.O., dated 19th October 1894, No. 1502 M., Local and Municipal. Seeing that under this scheme the parents must bring back the children to the depôt for examination, it is hoped that either the Assistant Surgeon or the District Sanitary officer will exercise more supervision than at present in the matter of verification. Only 170 cases were verified from 1st April to the 18th November, and, under the circumstances, the results secured must be open to doubt. On inspecting haphazard on the streets, it was found that of 106 children, 51 were protected and 55 were unprotected; of the latter, 15 had been attacked with smallpox, showing that in past years vaccination has been poorly conducted, and that efforts to reach *children* below ten years of age should at once be made:—

Total births during preceding six months, *i.e.*, from 1st July 1893 to 31st December 1893.	Number vaccinated.		Number vaccinated a second time because first operation proved unsuccessful.		Postponed under medical certificate at the end of six months.	Died.	Left the town.	Unaccounted for.	Ratio of successful vaccination to total births per cent.
	Successfully.	Unsuccessfully for the first time.	Successful.	Unsuccessful.					
1,050	2,089	137	49	6	5	4	20	53	* 203·6

* This result is presumably due to attention to arrears.

11. *Registration.*—The books are kept in the vernacular. Seventy prosecutions for failure to register had been carried out between the 1st of April and my inspection. No "vaccination column" was maintained; but, since this date of inspection, it is reported this has been duly effected with reference to the late G.O., dated 19th October 1894, No. 1502 M., Local and Municipal.

It would be advisable for the municipality to erect boards in the vernacular in various parts of the town, setting forth the usual notification referring to compulsory registration.

The following exhibits the results of registration:—

Chairman's Remarks.

The suggestion of the Sanitary Commissioner regarding the erection of boards will be attended to.

Years.	Ratio of births per mille of estimated population.	Ratio of deaths per mille of estimated population.	Percentage of deaths from						Ratio of deaths of infants under one year of age per mille to registered births in the proceding year.	Ratio per mille of deaths of infants between one and five years of age to population of that age.
			Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	Injuries.	Other causes.		
1892	29·8	32·3	18·7	5·8	10·9	16·3	0·5	47·8	150·1	105·0
1893	34·3	29·4	6·8	1·5	11·1	13·2	0·7	66·7	157·2	44·8
1894	27·4	21·1	..	0·4	13·6	13·0	1·2	71·8	130·9	13·4

These figures show that there has been a decrease of attention to registration during 1894, especially with reference to births and mortality of the child-population. An effort should at once be made to put matters on a more satisfactory footing; a complete re-organization of the existing system is probably requisite.

28*th February* 1895. (Signed) W. G. KING, Surgn.-Lieut.-Col.,
Ag. Sanitary Commr. for Madras.

No. 17 M.

Submitted.

Calicut, 10*th June* 1895. (Signed) S. SWAMINATHA AIYAR,
Hd.-Qr. Deputy Collector.

C. No. 200 M.

Forwarded with the following remarks on the Sanitary Commissioner's notes.

2. *Paragraph* 6.—The Chairman's statement that proposals as to markets and slaughter-houses are now before me is not correct. I have made some suggestions to the council, and hope, with the aid of the Zamorin and other Rajahs and by means of public subscriptions to raise the necessary funds.

3. *Paragraph* 10.—The District Medical officer has so much work that he cannot supervise vaccination in the town. A deputy inspector of vaccination for the five municipalities is required, and I hope to address Government on the subject ere long.

17*th June* 1895. (Signed) H. MOBERLY,
Ag. Collector.

Order—dated 31st July 1895, No. 1221 M., Local and Municipal.

Recorded, with the following remarks:—

(1) The municipal council should take action under section 187 of the District Municipalities Act to remedy the overcrowding in the Mâppila quarters on the beach.

(2) The council should apply to the Collector if it wishes to be placed in possession of the plots of land at the junctions of roads.

(3) The delay in dealing with the question of water-supply is most unsatisfactory. The matter is urgent and should be disposed of as soon as possible.

(4) The license granted for the bakery in Pathserata street should be suspended or cancelled if the owner does not take the steps necessary to improve its condition.

(5) The Chairman has not reported what action the council proposes to take on the Sanitary Commissioner's remarks regarding the registration of vital statistics. This omission should now be supplied.

(6) The report promised by the Collector in paragraph 3 of his endorsement will be awaited.

(True Extract.)

J. F. PRICE,
Chief Secretary.

To the Chairman, Municipal Council, Calicut.
" Collector of Malabar.
" Sanitary Commissioner.
" Sanitary Engineer.
" Public Works Department.
Editors' Table.

Exd. A. Raitt.

Govt. of {1895} Madras.

LOCAL AND MUNICIPAL.

Issued

Recd. *Encl.*

G.O., 31st July 1895, No. 1221 M.

JULY.

Inspection Notes.

Recording, with remarks, Sanitary Commissioner's — on the Calicut Municipality.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

Read—the following paper :—

From T. VARADA RAO, Esq., S.C.S., Chairman, Municipal Council, Calicut, to the Chief Secretary to Government (through the Revenue Divisional Officer), dated 30th May 1895, No. 533.

I have the honour to forward herewith the Sanitary Commissioner's inspection notes on the Calicut Municipality and my replies thereon.

The paper was placed before the council at its meeting held on the 24th May 1895 and passed.

Enclosure.

Inspection Notes of the Sanitary Commissioner, Madras.

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(*d*) It has too often been assumed—in fact it has been officially stated by Revenue officers in charge of the district of Malabar—that there exists little necessity for any action in the matter of conservancy. If the statistics of Calicut which, I consider, by reason of the liability for burials to occur in parambas without the knowledge of the municipality to be particularly faulty, are to be trusted, the death-rate calculated upon the estimated population amounts to not less than 34·2 per mille per annum. Seeing that it is

Chairman's Remarks.

eighteen night-soil buckets on wheels which convey the night-soil of the public latrines and the houses conserved by the Municipal Agency to the depôt. Each of the buckets has a capacity of $4\frac{1}{3}$ cubic feet or altogether 78 cubic feet. These buckets are in charge of trollymen who pay not less than two visits every day to each public latrine. The private scavengers empty the closed receptacles into the trollies whenever they meet them in their rounds. In the current year I propose to add fifteen more buckets. Inadequate as the present arrangements are, they are far in advance of what they were in 1893–94 when there were only five buckets, of which two were in proper order.

There are also fifteen rubbish carts each carrying $\frac{3}{4}$ of a ton which traverse the street. Rubbish is swept and thrown into these carts.

There are 14 latrines, of which 11 are metal and 3 masonry built.

No night-soil depôt or rubbish depôt has been yet provided. I have several times pointed out that no ground is available within easy reach of the town.

Inspection Notes.

granted that wherever a death-rate of over 17 per mille occurs there also must exist sanitary error, I think, it pretty evident that to attempt to combat disease whilst neglecting the barest attempts at conservancy up to date has not been very successful.

(*e*) *Robinson's Road latrine*—is beyond repair, and is hopelessly filthy. Of twelve buckets employed, I found eight unserviceable. The whole should be abolished; a new latrine of the standard pattern be put in its place.

(*f*) Kerosine open tins are used for conveyance of fœcal matter. Iron-tarred buckets with lids and handles should be provided.

6. *Markets and Slaughter-houses.*—In reference to both these matters, nothing has been done up to date. The Chairman, however, states that action is contemplated; it is decidedly necessary.

7. *Graveyards* (*a*). — In the matter of Máppila graveyards, certain propositions have, I believe, been made to Government by the municipality, and as the matter is under consideration, I do not think it necessary to further allude to this well-worn question, except to suggest the desirability, on the answer from Government being received, that the municipality should lose no time in taking action. The question of the Roman Catholic graveyard is still unsettled though, I believe, the Catholics have now notified their willingness to cease burial within the town, provided a suitable spot be given them outside. The site chosen near the Lunatic Asylum by the municipality was rightly objected to by the Superintendent of that institution. I, however, pointed out a site removed at some distance from the asylum, which, if this be the only feasible direction, will meet sanitary requirements.

(*b*) At the gate of the old European burial-ground is one of the spots where the municipality retains its night-soil buckets. The spot is inappropriate, irrespective of its being in a much frequented part of the town. The night-soil carts are also exposed to public view in other parts of the town at the side of the roads. Other arrangements should be made.

Chairman's Remarks.

The Robinson road latrine has been demolished and a metal latrine on the Horbury pattern erected in its stead.

I shall introduce the use of iron-tarred buckets with lids for the conveyance of fœcal mater.

Proposals are now before the Collector in regard to this subject.

The question of Máppilas' graveyards is pending orders with Government. The site selected for the Roman Catholic burial ground having been again objected to on account of its vicinity to the Lunatic Asylum, a fresh notification for the acquisition of a site not far removed from the town will be shortly submitted. The question of Náyar and Tiya burial grounds is now before a sub-committee of the municipal council.

This is due to the carelessness of one of the scavengers. The night-soil carts are now brought to a place specially selected for them.

Inspection Notes.

with a special apparatus for the removal of moisture from fœcal matter by means of the heat generated by the incineration of rubbish. It was pointed out that, seeing manufacture of poudrette made from human fœcal matter was being actually carried on side by side with the production of artificial manure in the town by independent firms for the supply of planters, there was every reason to hope that poudrette-making might prove a profitable undertaking for the municipality. But, with the object of ascertaining how far the scheme would be likely to be successful, it was advised, as an experimental measure, to erect a Silchar incinerator and pursue the Poona system of poudrette making temporarily.

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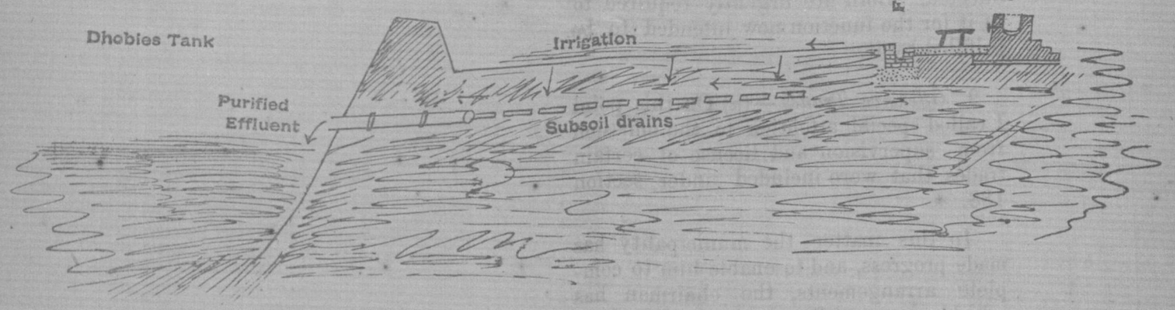
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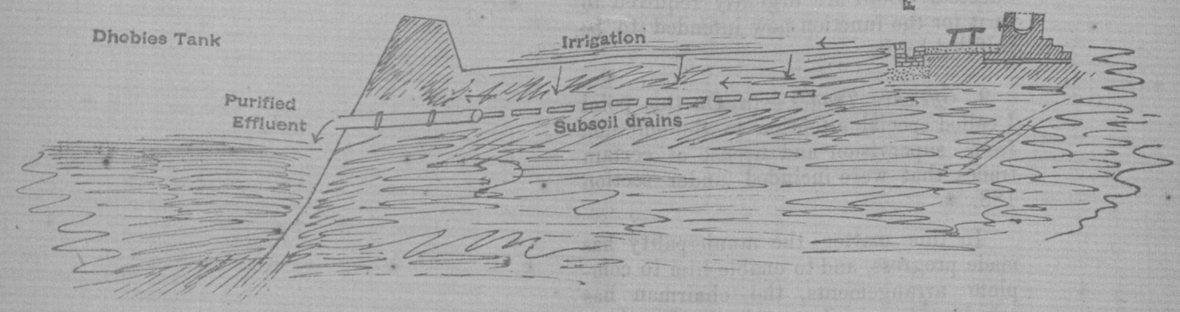
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8. *Infectious Disease Hospital.*—The repair of this was advised in my last report. The municipality has now converted this into a hospital for receipt of cholera cases. I understand, however, that no improvements or repairs have been effected. Both are urgently required to fit it for the function now intended to be fulfilled by it.	The question of an Infectious Disease Hospital has been deferred (*vide* paragraph 45 of letter, dated 22nd December 1894, No. 1536, embodied in G.O., dated 28th February 1895, No. 316, M., Local and Municipal).
9. *Offensive Trades.*—(*a*) On this point I called special attention to the omission from supervision and license of certain trades that were included under section 188.	
In this matter the municipality has made progress, and to enable him to complete arrangements, the chairman has asked me to compile certain statements to be printed on the back of licenses as to the sanitary conditions under which they are supposed to be granted.	
(*b*) A bakery in Pathserata street was found to be licensed. Its condition did not warrant this; the floor was of rammed earth; the whitewash was filthy; a receptacle for rubbish was found immediately below the table of wood for dough making.	
(*c*) It ought to be possible for the municipality to arrange that water for dhobies should be lifted from the dhobies' tank and be distributed on the banks for use without their defiling the bulk of the water. It is not likely that any water abstracted would not be replaced by sub-soil flow quick enough; but, if there were difficulty, the municipality could arrange for the water from the dhobies' troughs to flow upon a patch of ground, arranged at the side of the tank for sub-soil filtration. The water would then pass from the gutter, and in a fair state of purification join the body of water. I attach a diagram explaining what is required. This arrangement, together with a well-worked system of inspection of licensed dhobies, ought to afford a most desirable grade of protection.	Improvements to the dhobies' tank will be taken in hand as soon as the more pressing questions are disposed of. I am now cleaning out one by one, the five tanks referred to in the Sanitary Commissioner's notes, dated 5th October 1893. I have taken in hand the Kuttichira Máppila tank which is the worst and has not been cleaned for over a quarter of a century.



Reg: No. 2232—Copies.95
Litho. Survey Office, Madras.
1895

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1895

Inspection Notes.

I found a portion of this tank, where the bank had given way, being filled up with rubbish. This dangerous practice should be stopped, and the present deposit be excavated.

10. *Vaccination.*—The chairman informs me that he has made arrangements for the correct conduct of vaccination, in accordance with G.O., dated 19th October 1894, No. 1502 M., Local and Municipal. Seeing that under this scheme the parents must bring back the children to the depôt for examination, it is hoped that either the Assistant Surgeon or the District Sanitary officer will exercise more supervision than at present in the matter of verification. Only 170 cases were verified from 1st April to the 18th November, and, under the circumstances, the results secured must be open to doubt. On inspecting haphazard on the streets, it was found that of 106 children, 51 were protected and 55 were unprotected; of the latter, 15 had been attacked with small-pox, showing that in past years vaccination has been poorly conducted, and that efforts to reach *children* below ten years of age should at once be made:—

Total births during preceding six months, *i.e.*, from 1st July 1893 to 31st December 1893.	Number vaccinated.		Number vaccinated a second time because first operation proved unsuccessful.		Postponed under medical certificate at the end of six months.	Died.	Left the town.	Unaccounted for.	Ratio of successful vaccination to total births per cent.
	Successfully.	Unsuccessfully for the first time.	Successful.	Unsuccessful.					
1,050	2,089	137	49	6	5	4	20	53	* 203·6

* This result is presumably due to attention to arrears.

11. *Registration.*—The books are kept in the vernacular. Seventy prosecutions for failure to register had been carried out between the 1st of April and my inspection. No "vaccination column" was maintained; but, since this date of inspection, it is reported this has been duly effected with reference to the late G.O., dated 19th October 1894, No. 1502 M., Local and Municipal.

It would be advisable for the municipality to erect boards in the vernacular in various parts of the town, setting forth the usual notification referring to compulsory registration.

The following exhibits the results of registration:—

Chairman's Remarks.

The suggestion of the Sanitary Commissioner regarding the erection of boards will be attended to.

Years.	Ratio of births per mille of estimated population.	Ratio of deaths per mille of estimated population.	Percentage of deaths from						Ratio of deaths of infants under one year of age per mille to registered births in the proceding year.	Ratio per mille of deaths of infants between one and five years of age to population of that age.
			Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	Injuries.	Other causes.		
1892	29·8	32·3	18·7	5·8	10·9	16·3	0·5	47·8	150·1	105·0
1893	34·3	29·4	6·8	1·5	11·1	13·2	0·7	66·7	157·2	44·8
1894	27·4	21·1	..	0·4	13·6	13·0	1·2	71·8	130·9	13·4

These figures show that there has been a decrease of attention to registration during 1894, especially with reference to births and mortality of the child-population. An effort should at once be made to put matters on a more satisfactory footing; a complete re-organization of the existing system is probably requisite.

(Signed) W. G. KING, Surgn.-Lieut.-Col.,
Ag. Sanitary Commr. for Madras.

28*th February* 1895.

No. 17 M.

Submitted.

(Signed) S. SWAMINATHA AIYAR,
Hd.-Qr. Deputy Collector.

CALICUT,
10*th June* 1895.

C. No. 200 M.

Forwarded with the following remarks on the Sanitary Commissioner's notes.

2. *Paragraph* 6.—The Chairman's statement that proposals as to markets and slaughter-houses are now before me is not correct. I have made some suggestions to the council, and hope, with the aid of the Zamorin and other Rajahs and by means of public subscriptions to raise the necessary funds.

3. *Paragraph* 10.—The District Medical officer has so much work that he cannot supervise vaccination in the town. A deputy inspector of vaccination for the five municipalities is required, and I hope to address Government on the subject ere long.

(Signed) H. MOBERLY,
Ag. Collector.

17*th June* 1895.

ORDER—dated 31st July 1895, No. 1221 M., Local and Municipal.

Recorded, with the following remarks:—

(1) The municipal council should take action under section 187 of the District Municipalities Act to remedy the overcrowding in the Máppila quarters on the beach.

(2) The council should apply to the Collector if it wishes to be placed in possession of the plots of land at the junctions of roads.

(3) The delay in dealing with the question of water-supply is most unsatisfactory. The matter is urgent and should be disposed of as soon as possible.

(4) The license granted for the bakery in Pathserata street should be suspended or cancelled if the owner does not take the steps necessary to improve its condition.

(5) The Chairman has not reported what action the council proposes to take on the Sanitary Commissioner's remarks regarding the registration of vital statistics. This omission should now be supplied.

(6) The report promised by the Collector in paragraph 3 of his endorsement will be awaited.

(True Extract.)

J. F. PRICE,
Chief Secretary.

To the Chairman, Municipal Council, Calicut.
" Collector of Malabar.
" Sanitary Commissioner.
" Sanitary Engineer.
" Public Works Department.
Editors' Table.

Exd. A. Raitt.

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Govt. of {1895} Madras.

LOCAL AND MUNICIPAL.

Issued 8 L C

Recd. Ov 6345/95 *Encl.* 1

G.O., 31st July 1895, No. 1221 M.

JULY.

Inspection Notes.

Recording, with remarks, Sanitary Commissioner's — on the Calicut Municipality.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

Read—the following paper :—

From T. VARADA RAO, Esq., S.C.S., Chairman, Municipal Council, Calicut, to the Chief Secretary to Government (through the Revenue Divisional Officer), dated 30th May 1895, No. 533.

I have the honour to forward herewith the Sanitary Commissioner's inspection notes on the Calicut Municipality and my replies thereon.

The paper was placed before the council at its meeting held on the 24th May 1895 and passed.

Enclosure.

Inspection Notes of the Sanitary Commissioner, Madras.

MALABAR DISTRICT.

Calicut Municipality.

Inspected 14th and 15th November 1894.

Population as per census of 1891 ..	Males	34,507
	Females	31,571
	Total ..	66,078

Inspection Notes.

Dwellings.—(*a*) In the Máppila quarters along the beach there is a steady tendency to crowding whilst place after place near huts is shut off from use as a public thoroughfare. Indeed to a stranger the whole place is a maze that cannot be desirable with reference to maintenance of order by the Police.

(*b*) The municipality should take early steps in this matter, and by pressure upon owners under section 168 insist upon space being left for public communication and for perflation of the buildings.

Chairman's Remarks.

The beach from the junction of the Kallai river with the sea to the northern limit of the municipality is divided from the town by a narrow road more than half the length of which, consisting of $2\frac{1}{2}$ miles, is gravelled. The parambas to the east of the road are private property and are leased out to residents and firms. Most of the people who live on the beach are Máppilas who find work in connection with the numerous coasting vessels and native craft that touch the port. The parambas are crowded with huts; the right of entry alone is reserved to the residents of the huts. No public roads pass through the parambas. I have also found that janmis claim the right of ownership in regard to the beach itself up to the water limit. The municipality has no control over this part of the town except the little bit of ground covered by the road. To open up the parambas a great many

Inspection Notes.

2. *Roads.*—(*a*) These were in good order; but I would advise the municipality to attempt their best to substitute stone metal for the laterite which they almost exclusively employ at present.

(*b*) There are frequent patches forming the junctions of roads that could be improved in appearance by having the edges of the turf neatly trimmed. Near the Post office, the sole ornament of such a patch, is a dust-bin in the centre. In this climate it would probably cost little to maintain some ornamental vegetation in such localities.

Moonalangul Street.—The side drains were found blocked with rubbish.

3. *Drainage.*—No efforts have been made by the municipality to abolish the cess-pools in the Máppila quarters; nor has it introduced private conservancy in this locality where it is urgently requisite. The Tellicherry Municipality is understood to have abolished all Máppila cess-pools, and I trust the Calicut Municipality will do their best to follow their example.

4. *Water-supply.*—(*a*) The question of securing a protected water-supply from a correct source is of great importance, more especially with reference to the Máppila quarters where shallow well water is depended upon, notwithstanding

Chairman's Remarks.

cross roads will be required and it will cost a large sum of money to acquire land for that purpose. There is no near prospect of opening up these parambas.

The municipality has spent a considerable portion of the allotment allowed for road repairs in paving the roads with stone metal. In 1894-95 the amount spent was as under (out of a total allotment of Rs. 10,000)—

	Cubic yards.	Cost. Rs.	A.	P.
1. Big bazaar road ..	454	1,702	8	0
2. Chevayur rood ..	645	2,418	12	0
3. Cannanore Coast road	330	1,237	8	0

In effecting the improvement of patches of ground enclosed by roads by converting them into gardens, the municipality is confronted by the difficulty that such patches do not belong to it. A piece of land near the waste ground referred to by the Sanitary Commissioner was made into a garden and is at present maintained as a garden by Messrs. F. N. Heerjee & Co. In this case the Collector was good enough to assign the land on quit-rent to the municipality which leased it to Messrs. F. N. Heerjee & Co. for three years on condition of their maintaining on it a flower garden. If Government hands to the municipality all such plots it won't be a difficulty to the municipality to make them nice and comfortable resorts to the public. It would improve the condition of the town enormously.

The side drains of this street have been cleaned.

The question of abolishing cess-pools is receiving attention. I am also endeavouring to obtain a bilge water pump attached to a cask for use in cleaning private cess-pools. The matter is one in which any sudden progress is impossible, inasmuch as it is the poorest classes alone who retain cess-pools as they cannot afford to have a correctly appointed latrine or pay for its cleaning. In Tellicherry I am informed by the chairman that much progress has not been made.

This subject, which is referred to in G.Os., No. 1668 M., dated 8th November 1894, and Memo. No. 1193, dated 7th November 1894 is still under consideration. Opinions are divided among the councillors whether the town is in need

Inspection Notes.

the presence side by side with the dwellings of cess-pools (into which excreta enter) and graveyards. In my last report I suggested that the determination to use the Mánánchera tank without much more careful exploration of possible sources in the neighbourhood than had apparently been made, was premature. Since then the Sanitary Engineer has explored the neighbouring Pulloor Hills and has reported the existence of good springs.

(*b*) *Ratmabai's well.*—I found still in use, notwithstanding the warning against it in my last report.

(*c*) *Chuckler's Street well*—is much used by the people. It has a parapet wall, but no basement: this should be provided.

(*d*) At the part chiefly inhabited by fishermen about twenty wells exist, but these are not suitably protected. A certain number yielding good water should be selected and basements with drains be provided.

(*e*) *Brown's well.*—I was disappointed to find that no action had been taken with regard to carrying out the improvements I suggested as to Mr. Brown's well. If the water struck is not potable, the pump and well lining should be shifted elsewhere. The principle followed in the construction of this well is sanitarily sound.

5. *Conservancy* (*a*).— In my last report I pointed out the absolute inadequacy with which the requirements of a population of 66,078 persons were attended to, even holding in mind the peculiarities involved in the "paramba" system. I pointed to the uselessness of so large an area being worked by bullock power and advised the speedy adoption of a tramway to deal with the transport of both night-soil and rubbish, especially in view of the fact that this municipality could possibly incur no loss by reason of existing plant, as they practically up to that date had done nothing in the way of conservancy. Having arranged for transport by means of a tramway, I advised that incineration should be employed for the disposal of rubbish, and that this should be combined

Chairman's Remarks.

of a water-supply at all. I am also submitting to the council a small scheme for the supply of the Máppila quarters with water from the Mánánchera tank.

This well which was closed last year was again opened by the residents near for purposes of ablution. I have ordered it to be closed again.

I have called for estimates to provide each of the public wells with a parapet wall, a basement and a drain all round. The improvement of the public wells will be effected during the year.

The Brown well which was at first greatly used began to fail in December or January 1893. There being no watchman for this well the pump materials used to be stolen at night. I had myself caught Máppila urchins meddling with the pump and charged them before the Magistracy. The pump has since been removed to the municipal garden where it is handled only by the gardeners who are more careful in using it.

The proposals of the Council in regard to tramway have been submitted in my letter No. 1449, dated 17th November 1894, to Government through the District officers. Funds for the construction of a Silchar cinerator were placed at the disposal of the Public Works Department in October 1894. I am informed that the work has been delayed owing to the Calicut Mercantile mission not having furnished the fire bricks required. The Executive Engineer assures me that, when the material is secured, the cinerator will at once be put on hand. Meanwhile the arrangements for the removal of night-soil and town sweepings have been improved to the best of my resources. To the three night-soil carts in use I added fifteen more; so that there are at present

Inspection Notes.

2. *Roads.*—(*a*) These were in good order; but I would advise the municipality to attempt their best to substitute stone metal for the laterite which they almost exclusively employ at present.

(*b*) There are frequent patches forming the junctions of roads that could be improved in appearance by having the edges of the turf neatly trimmed. Near the Post office, the sole ornament of such a patch, is a dust-bin in the centre. In this climate it would probably cost little to maintain some ornamental vegetation in such localities.

Moonalangul Street.—The side drains were found blocked with rubbish.

3. *Drainage.*—No efforts have been made by the municipality to abolish the cess-pools in the Máppila quarters; nor has it introduced private conservancy in this locality where it is urgently requisite. The Tellicherry Municipality is understood to have abolished all Máppila cess-pools, and I trust the Calicut Municipality will do their best to follow their example.

4. *Water-supply.*—(*a*) The question of securing a protected water-supply from a correct source is of great importance, more especially with reference to the Máppila quarters where shallow well water is depended upon, notwithstanding

Chairman's Remarks.

cross roads will be required and it will cost a large sum of money to acquire land for that purpose. There is no near prospect of opening up these parambas.

The municipality has spent a considerable portion of the allotment allowed for road repairs in paving the roads with stone metal. In 1894-95 the amount spent was as under (out of a total allotment of Rs. 10,000)—

	Cubic yards.	Cost. Rs.	A.	P.
1. Big bazaar road ..	454	1,702	8	0
2. Chevayur rood ..	645	2,418	12	0
3. Cannanore Coast road	330	1,237	8	0

In effecting the improvement of patches of ground enclosed by roads by converting them into gardens, the municipality is confronted by the difficulty that such patches do not belong to it. A piece of land near the waste ground referred to by the Sanitary Commissioner was made into a garden and is at present maintained as a garden by Messrs. F. N. Heerjee & Co. In this case the Collector was good enough to assign the land on quitrent to the municipality which leased it to Messrs. F. N. Heerjee & Co. for three years on condition of their maintaining on it a flower garden. If Government hands to the municipality all such plots it won't be a difficulty to the municipality to make them nice and comfortable resorts to the public. It would improve the condition of the town enormously.

The side drains of this street have been cleaned.

The question of abolishing cess-pools is receiving attention. I am also endeavouring to obtain a bilge water pump attached to a cask for use in cleaning private cess-pools. The matter is one in which any sudden progress is impossible, inasmuch as it is the poorest classes alone who retain cess-pools as they cannot afford to have a correctly appointed latrine or pay for its cleaning. In Tellicherry I am informed by the chairman that much progress has not been made.

This subject, which is referred to in G.Os., No. 1668 M., dated 8th November 1894, and Memo. No. 1193, dated 7th November 1894 is still under consideration. Opinions are divided among the councillors whether the town is in need

Inspection Notes.

the presence side by side with the dwellings of cess-pools (into which excreta enter) and graveyards. In my last report I suggested that the determination to use the Mánánchera tank without much more careful exploration of possible sources in the neighbourhood than had apparently been made, was premature. Since then the Sanitary Engineer has explored the neighbouring Pulloor Hills and has reported the existence of good springs.

(*b*) *Ratmabai's well.*—I found still in use, notwithstanding the warning against it in my last report.

(*c*) *Chuckler's Street well*—is much used by the people. It has a parapet wall, but no basement: this should be provided.

(*d*) At the part chiefly inhabited by fishermen about twenty wells exist, but these are not suitably protected. A certain number yielding good water should be selected and basements with drains be provided.

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Inspection Notes.

with a special apparatus for the removal of moisture from fœcal matter by means of the heat generated by the incineration of rubbish. It was pointed out that, seeing manufacture of poudrette made from human fœcal matter was being actually carried on side by side with the production of artificial manure in the town by independent firms for the supply of planters, there was every reason to hope that poudrette-making might prove a profitable undertaking for the municipality. But, with the object of ascertaining how far the scheme would be likely to be successful, it was advised, as an experimental measure, to erect a Silchar incinerator and pursue the Poona system of poudrette making temporarily.

(*b*) The inadequate number of night-soil carts and latrines was also brought to the notice of the municipality. The use of dust-bins was not advised in consideration of the long distances to be traversed; but it was suggested that the system of collection from separate receptacles arranged for under section 219 would prove of utility.

(*c*) Since the forwarding of this report the chairman has exhibited most creditable energy in determining the feasibility of what must be the first step towards obtaining a correct system of conservancy, namely, the making of a suitable tramway. I understand that definite proposals are now before Government on the subject. In my opinion this effort is of great sanitary importance, and I trust that the representations of the municipality will be received with this view by Government.

(*d*) It has too often been assumed—in fact it has been officially stated by Revenue officers in charge of the district of Malabar—that there exists little necessity for any action in the matter of conservancy. If the statistics of Calicut which, I consider, by reason of the liability for burials to occur in parambas without the knowledge of the municipality to be particularly faulty, are to be trusted, the death-rate calculated upon the estimated population amounts to not less than 34·2 per mille per annum. Seeing that it is

Chairman's Remarks.

eighteen night-soil buckets on wheels which convey the night-soil of the public latrines and the houses conserved by the Municipal Agency to the depôt. Each of the buckets has a capacity of $4\frac{1}{3}$ cubic feet or altogether 78 cubic feet. These buckets are in charge of trollymen who pay not less than two visits every day to each public latrine. The private scavengers empty the closed receptacles into the trollies whenever they meet them in their rounds. In the current year I propose to add fifteen more buckets. Inadequate as the present arrangements are, they are far in advance of what they were in 1893–94 when there were only five buckets, of which two were in proper order.

There are also fifteen rubbish carts each carrying $\frac{3}{4}$ of a ton which traverse the street. Rubbish is swept and thrown into these carts.

There are 14 latrines, of which 11 are metal and 3 masonry built.

No night-soil depôt or rubbish depôt has been yet provided. I have several times pointed out that no ground is available within easy reach of the town.

Inspection Notes.

granted that wherever a death-rate of over 17 per mille occurs there also must exist sanitary error, I think, it pretty evident that to attempt to combat disease whilst neglecting the barest attempts at conservancy up to date has not been very successful.

(*e*) *Robinson's Road latrine*—is beyond repair, and is hopelessly filthy. Of twelve buckets employed, I found eight unserviceable. The whole should be abolished; a new latrine of the standard pattern be put in its place.

(*f*) Kerosine open tins are used for conveyance of fœcal matter. Iron-tarred buckets with lids and handles should be provided.

6. *Markets and Slaughter-houses.*—In reference to both these matters, nothing has been done up to date. The Chairman, however, states that action is contemplated; it is decidedly necessary.

7. *Graveyards* (*a*). — In the matter of Máppila graveyards, certain propositions have, I believe, been made to Government by the municipality, and as the matter is under consideration, I do not think it necessary to further allude to this well-worn question, except to suggest the desirability, on the answer from Government being received, that the municipality should lose no time in taking action. The question of the Roman Catholic graveyard is still unsettled though, I believe, the Catholics have now notified their willingness to cease burial within the town, provided a suitable spot be given them outside. The site chosen near the Lunatic Asylum by the municipality was rightly objected to by the Superintendent of that institution. I, however, pointed out a site removed at some distance from the asylum, which, if this be the only feasible direction, will meet sanitary requirements.

(*b*) At the gate of the old European burial-ground is one of the spots where the municipality retains its night-soil buckets. The spot is inappropriate, irrespective of its being in a much frequented part of the town. The night-soil carts are also exposed to public view in other parts of the town at the side of the roads. Other arrangements should be made.

Chairman's Remarks.

The Robinson road latrine has been demolished and a metal latrine of the Horbury pattern erected in its stead.

I shall introduce the use of iron-tarred buckets with lids for the conveyance of fœcal mater.

Proposals are now before the Collector in regard to this subject.

The question of Máppilas' graveyards is pending orders with Government. The site selected for the Roman Catholic burial ground having been again objected to on account of its vicinity to the Lunatic Asylum, a fresh notification for the acquisition of a site not far removed from the town will be shortly submitted. The question of Náyar and Tiya burial grounds is now before a sub-committee of the municipal council.

This is due to the carelessness of one of the scavengers. The night-soil carts are now brought to a place specially selected for them.

Inspection Notes.

(*c*) Many Hindus are buried within their own "parambas." The Chairman has taken the first step towards remedying this state of affairs by purchase of a suitable burial ground for sects pursuing this practice, which should be abolished by the municipality.

Chairman's Remarks.

8. *Infectious Disease Hospital.*—The repair of this was advised in my last report. The municipality has now converted this into a hospital for receipt of cholera cases. I understand, however, that no improvements or repairs have been effected. Both are urgently required to fit it for the function now intended to be fulfilled by it.

The question of an Infectious Disease Hospital has been deferred (*vide* paragraph 45 of letter, dated 22nd December 1894, No. 1536, embodied in G.O., dated 28th February 1895, No. 316, M., Local and Municipal).

9. *Offensive Trades.*—(*a*) On this point I called special attention to the omission from supervision and license of certain trades that were included under section 188.

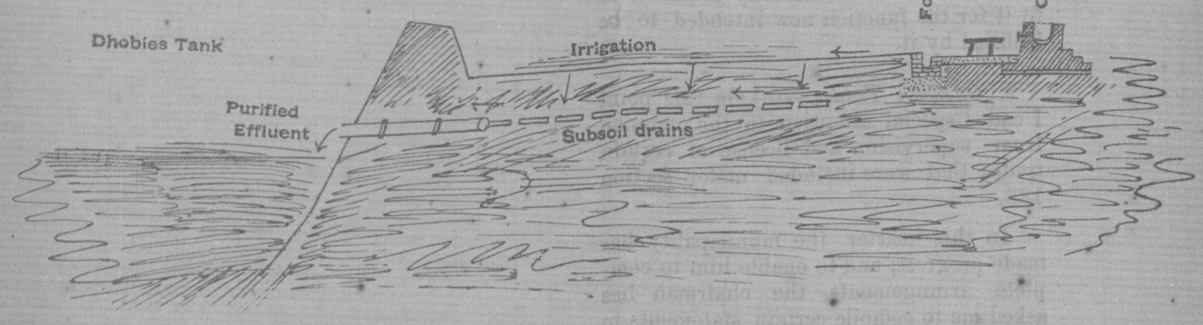
In this matter the municipality has made progress, and to enable him to complete arrangements, the chairman has asked me to compile certain statements to be printed on the back of licenses as to the sanitary conditions under which they are supposed to be granted.

(*b*) A bakery in Pathserata street was found to be licensed. Its condition did not warrant this; the floor was of rammed earth; the whitewash was filthy; a receptacle for rubbish was found immediately below the table of wood for dough making.

(*c*) It ought to be possible for the municipality to arrange that water for dhobies should be lifted from the dhobies' tank and be distributed on the banks for use without their defiling the bulk of the water. It is not likely that any water abstracted would not be replaced by sub-soil flow quick enough; but, if there were difficulty, the municipality could arrange for the water from the dhobies' troughs to flow upon a patch of ground, arranged at the side of the tank for sub-soil filtration. The water would then pass from the gutter, and in a fair state of purification join the body of water. I attach a diagram explaining what is required. This arrangement, together with a well-worked system of inspection of licensed dhobies, ought to afford a most desirable grade of protection.

Improvements to the dhobies' tank will be taken in hand as soon as the more pressing questions are disposed of. I am now cleaning out one by one, the five tanks referred to in the Sanitary Commissioner's notes, dated 5th October 1893.

I have taken in hand the Kuttichira Máppila tank which is the worst and has not been cleaned for over a quarter of a century.



Reg: No. 2232—Copies 95
Litho. Survey Office, Madras.
1895

Inspection Notes.

I found a portion of this tank, where the bank had given way, being filled up with rubbish. This dangerous practice should be stopped, and the present deposit be excavated.

10. *Vaccination.*—The chairman informs me that he has made arrangements for the correct conduct of vaccination, in accordance with G.O., dated 19th October 1894, No. 1502 M., Local and Municipal. Seeing that under this scheme the parents must bring back the children to the depôt for examination, it is hoped that either the Assistant Surgeon or the District Sanitary officer will exercise more supervision than at present in the matter of verification. Only 170 cases were verified from 1st April to the 18th November, and, under the circumstances, the results secured must be open to doubt. On inspecting haphazard on the streets, it was found that of 106 children, 51 were protected and 55 were unprotected; of the latter, 15 had been attacked with small-pox, showing that in past years vaccination has been poorly conducted, and that efforts to reach *children* below ten years of age should at once be made:—

Total births during preceding six months, *i.e.*, from 1st July 1893 to 31st December 1893.	Number vaccinated.		Number vaccinated a second time because first operation proved unsuccessful.		Postponed under medical certificate at the end of six months.	Died.	Left the town.	Unaccounted for.	Ratio of successful vaccination to total births per cent.
	Successfully.	Unsuccessfully for the first time.	Successful.	Unsuccessful.					
1,050	2,089	137	49	6	5	4	20	53	* 203·6

* This result is presumably due to attention to arrears.

11. *Registration.*—The books are kept in the vernacular. Seventy prosecutions for failure to register had been carried out between the 1st of April and my inspection. No "vaccination column" was maintained; but, since this date of inspection, it is reported this has been duly effected with reference to the late G.O., dated 19th October 1894, No. 1502 M., Local and Municipal.

It would be advisable for the municipality to erect boards in the vernacular in various parts of the town, setting forth the usual notification referring to compulsory registration.

The following exhibits the results of registration:—

Chairman's Remarks.

The suggestion of the Sanitary Commissioner regarding the erection of boards will be attended to.

Inspection Notes.

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Years.	Ratio of births per mille of estimated population.	Ratio of deaths per mille of estimated population.	Percentage of deaths from						Ratio of deaths of infants under one year of age per mille to registered births in the proceding year.	Ratio per mille of deaths of infants between one and five years of age to population of that age.
			Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	Injuries.	Other causes.		
1892	29·8	32·3	18·7	5·8	10·9	16·3	0·5	47·8	150·1	105·0
1893	34·3	29·4	6·8	1·5	11·1	13·2	0·7	66·7	157·2	44·8
1894	27·4	21·1	..	0·4	13·6	13·0	1·2	71·8	130·9	13·4

These figures show that there has been a decrease of attention to registration during 1894, especially with reference to births and mortality of the child-population. An effort should at once be made to put matters on a more satisfactory footing; a complete re-organization of the existing system is probably requisite.

28*th February* 1895. (Signed) W. G. KING, Surgn.-Lieut.-Col.,
Ag. Sanitary Commr. for Madras.

No. 17 M.

Submitted.

Calicut,
10*th June* 1895. (Signed) S. SWAMINATHA AIYAR,
Hd.-Qr. Deputy Collector.

C. No. 200 M.

Forwarded with the following remarks on the Sanitary Commissioner's notes.

2. *Paragraph* 6.—The Chairman's statement that proposals as to markets and slaughter-houses are now before me is not correct. I have made some suggestions to the council, and hope, with the aid of the Zamorin and other Rajahs and by means of public subscriptions to raise the necessary funds.

3. *Paragraph* 10.—The District Medical officer has so much work that he cannot supervise vaccination in the town. A deputy inspector of vaccination for the five municipalities is required, and I hope to address Government on the subject ere long.

17*th June* 1895. (Signed) H. MOBERLY,
Ag. Collector.

Order—dated 31st July 1895, No. 1221 M., Local and Municipal.

Recorded, with the following remarks:—

(1) The municipal council should take action under section 187 of the District Municipalities Act to remedy the overcrowding in the Mâppila quarters on the beach.

(2) The council should apply to the Collector if it wishes to be placed in possession of the plots of land at the junctions of roads.

(3) The delay in dealing with the question of water-supply is most unsatisfactory. The matter is urgent and should be disposed of as soon as possible.

(4) The license granted for the bakery in Pathserata street should be suspended or cancelled if the owner does not take the steps necessary to improve its condition.

(5) The Chairman has not reported what action the council proposes to take on the Sanitary Commissioner's remarks regarding the registration of vital statistics. This omission should now be supplied.

(6) The report promised by the Collector in paragraph 3 of his endorsement will be awaited.

(True Extract.)

J. F. PRICE,
Chief Secretary.

To the Chairman, Municipal Council, Calicut.
" Collector of Malabar.
" Sanitary Commissioner.
" Sanitary Engineer.
" Public Works Department.
Editors' Table.

Ed. A. Raitt.

Govt. of {1895} Madras.

LOCAL AND MUNICIPAL.

Issued

Read. *Encl.*

G.O., 31st July 1895, No. 1221 M.

JULY.

Inspection Notes.

Recording, with remarks, Sanitary Commissioner's — on the Calicut Municipality.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

Read—the following paper :—

From T. VARADA RAO, Esq., S.C.S., Chairman, Municipal Council, Calicut, to the Chief Secretary to Government (through the Revenue Divisional Officer), dated 30th May 1895, No. 533.

I have the honour to forward herewith the Sanitary Commissioner's inspection notes on the Calicut Municipality and my replies thereon.

The paper was placed before the council at its meeting held on the 24th May 1895 and passed.

Enclosure.

Inspection Notes of the Sanitary Commissioner, Madras.

MALABAR DISTRICT.

Calicut Municipality.

Inspected 14th and 15th November 1894.

Population as per census of 1891 ..	Males		34,507
	Females		31,571
	Total ..		66,078

Inspection Notes.

Dwellings.—(*a*) In the Máppila quarters along the beach there is a steady tendency to crowding whilst place after place near huts is shut off from use as a public thoroughfare. Indeed to a stranger the whole place is a maze that cannot be desirable with reference to maintenance of order by the Police.

(*b*) The municipality should take early steps in this matter, and by pressure upon owners under section 168 insist upon space being left for public communication and for perflation of the buildings.

Chairman's Remarks.

The beach from the junction of the Kallai river with the sea to the northern limit of the municipality is divided from the town by a narrow road more than half the length of which, consisting of $2\frac{1}{2}$ miles, is gravelled. The parambas to the east of the road are private property and are leased out to residents and firms. Most of the people who live on the beach are Máppilas who find work in connection with the numerous coasting vessels and native craft that touch the port. The parambas are crowded with huts; the right of entry alone is reserved to the residents of the huts. No public roads pass through the parambas. I have also found that janmis claim the right of ownership in regard to the beach itself up to the water limit. The municipality has no control over this part of the town except the little bit of ground covered by the road. To open up the parambas a great many

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(*b*) The municipality should take early steps in this matter, and by pressure upon owners under section 168 insist upon space being left for public communication and for perflation of the buildings.

Chairman's Remarks.

The beach from the junction of the Kallai river with the sea to the northern limit of the municipality is divided from the town by a narrow road more than half the length of which, consisting of 2½ miles, is gravelled. The parambas to the east of the road are private property and are leased out to residents and firms. Most of the people who live on the beach are Máppilas who find work in connection with the numerous coasting vessels and native craft that touch the port. The parambas are crowded with huts; the right of entry alone is reserved to the residents of the huts. No public roads pass through the parambas. I have also found that janmis claim the right of ownership in regard to the beach itself up to the water limit. The municipality has no control over this part of the town except the little bit of ground covered by the road. To open up the parambas a great many

Inspection Notes.

2. *Roads.*—(*a*) These were in good order; but I would advise the municipality to attempt their best to substitute stone metal for the laterite which they almost exclusively employ at present.

(*b*) There are frequent patches forming the junctions of roads that could be improved in appearance by having the edges of the turf neatly trimmed. Near the Post office, the sole ornament of such a patch, is a dust-bin in the centre. In this climate it would probably cost little to maintain some ornamental vegetation in such localities.

Moonalangul Street.—The side drains were found blocked with rubbish.

3. *Drainage.*—No efforts have been made by the municipality to abolish the cess-pools in the Máppila quarters; nor has it introduced private conservancy in this locality where it is urgently requisite. The Tellicherry Municipality is understood to have abolished all Máppila cess-pools, and I trust the Calicut Municipality will do their best to follow their example.

4. *Water-supply.*—(*a*) The question of securing a protected water-supply from a correct source is of great importance, more especially with reference to the Máppila quarters where shallow well water is depended upon, notwithstanding

Chairman's Remarks.

cross roads will be required and it will cost a large sum of money to acquire land for that purpose. There is no near prospect of opening up these parambas.

The municipality has spent a considerable portion of the allotment allowed for road repairs in paving the roads with stone metal. In 1894-95 the amount spent was as under (out of a total allotment of Rs. 10,000)—

	Cubic yards.	Cost. Rs.	A.	P.
1. Big bazaar road ..	454	1,702	8	0
2. Chevayur rood ..	645	2,418	12	0
3. Cannanore Coast road	330	1,237	8	0

In effecting the improvement of patches of ground enclosed by roads by converting them into gardens, the municipality is confronted by the difficulty that such patches do not belong to it. A piece of land near the waste ground referred to by the Sanitary Commissioner was made into a garden and is at present maintained as a garden by Messrs. F. N. Heerjee & Co. In this case the Collector was good enough to assign the land on quit-rent to the municipality which leased it to Messrs. F. N. Heerjee & Co. for three years on condition of their maintaining on it a flower garden. If Government hands to the municipality all such plots it won't be a difficulty to the municipality to make them nice and comfortable resorts to the public. It would improve the condition of the town enormously.

The side drains of this street have been cleaned.

The question of abolishing cess-pools is receiving attention. I am also endeavouring to obtain a bilge water pump attached to a cask for use in cleaning private cess-pools. The matter is one in which any sudden progress is impossible, inasmuch as it is the poorest classes alone who retain cess-pools as they cannot afford to have a correctly appointed latrine or pay for its cleaning. In Tellicherry I am informed by the chairman that much progress has not been made.

This subject, which is referred to in G.Os., No. 1668 M., dated 8th November 1894, and Memo. No. 1193, dated 7th November 1894 is still under consideration. Opinions are divided among the councillors whether the town is in need

Inspection Notes.

the presence side by side with the dwellings of cess-pools (into which excreta enter) and graveyards. In my last report I suggested that the determination to use the Mánánchera tank without much more careful exploration of possible sources in the neighbourhood than had apparently been made, was premature. Since then the Sanitary Engineer has explored the neighbouring Pulloor Hills and has reported the existence of good springs.

(*b*) *Ratmabai's well.*—I found still in use, notwithstanding the warning against it in my last report.

(*c*) *Chuckler's Street well*—is much used by the people. It has a parapet wall, but no basement: this should be provided.

(*d*) At the part chiefly inhabited by fishermen about twenty wells exist, but these are not suitably protected. A certain number yielding good water should be selected and basements with drains be provided.

(*e*) *Brown's well.*—I was disappointed to find that no action had been taken with regard to carrying out the improvements I suggested as to Mr. Brown's well. If the water struck is not potable, the pump and well lining should be shifted elsewhere. The principle followed in the construction of this well is sanitarily sound.

5. *Conservancy* (*a*).— In my last report I pointed out the absolute inadequacy with which the requirements of a population of 66,078 persons were attended to, even holding in mind the peculiarities involved in the "paramba" system. I pointed to the uselessness of so large an area being worked by bullock power and advised the speedy adoption of a tramway to deal with the transport of both night-soil and rubbish, especially in view of the fact that this municipality could possibly incur no loss by reason of existing plant, as they practically up to that date had done nothing in the way of conservancy. Having arranged for transport by means of a tramway, I advised that incineration should be employed for the disposal of rubbish, and that this should be combined

Chairman's Remarks.

of a water-supply at all. I am also submitting to the council a small scheme for the supply of the Máppila quarters with water from the Mánánchera tank.

This well which was closed last year was again opened by the residents near for purposes of ablution. I have ordered it to be closed again.

I have called for estimates to provide each of the public wells with a parapet wall, a basement and a drain all round. The improvement of the public wells will be effected during the year.

The Brown well which was at first greatly used began to fail in December or January 1893. There being no watchman for this well the pump materials used to be stolen at night. I had myself caught Máppila urchins meddling with the pump and charged them before the Magistracy. The pump has since been removed to the municipal garden where it is handled only by the gardeners who are more careful in using it.

The proposals of the Council in regard to tramway have been submitted in my letter No. 1449, dated 17th November 1894, to Government through the District officers. Funds for the construction of a Silchar cinerator were placed at the disposal of the Public Works Department in October 1894. I am informed that the work has been delayed owing to the Calicut Mercantile mission not having furnished the fire bricks required. The Executive Engineer assures me that, when the material is secured, the cinerator will at once be put on hand. Meanwhile the arrangements for the removal of night-soil and town sweepings have been improved to the best of my resources. To the three night-soil carts in use I added fifteen more; so that there are at present

Inspection Notes.

with a special apparatus for the removal of moisture from fœcal matter by means of the heat generated by the incineration of rubbish. It was pointed out that, seeing manufacture of poudrette made from human fœcal matter was being actually carried on side by side with the production of artificial manure in the town by independent firms for the supply of planters, there was every reason to hope that poudrette-making might prove a profitable undertaking for the municipality. But, with the object of ascertaining how far the scheme would be likely to be successful, it was advised, as an experimental measure, to erect a Silchar incinerator and pursue the Poona system of poudrette making temporarily.

(*b*) The inadequate number of night-soil carts and latrines was also brought to the notice of the municipality. The use of dust-bins was not advised in consideration of the long distances to be traversed; but it was suggested that the system of collection from separate receptacles arranged for under section 219 would prove of utility.

(*c*) Since the forwarding of this report the chairman has exhibited most creditable energy in determining the feasibility of what must be the first step towards obtaining a correct system of conservancy, namely, the making of a suitable tramway. I understand that definite proposals are now before Government on the subject. In my opinion this effort is of great sanitary importance, and I trust that the representations of the municipality will be received with this view by Government.

(*d*) It has too often been assumed—in fact it has been officially stated by Revenue officers in charge of the district of Malabar—that there exists little necessity for any action in the matter of conservancy. If the statistics of Calicut which, I consider, by reason of the liability for burials to occur in parambas without the knowledge of the municipality to be particularly faulty, are to be trusted, the death-rate calculated upon the estimated population amounts to not less than 34·2 per mille per annum. Seeing that it is

Chairman's Remarks.

eighteen night-soil buckets on wheels which convey the night-soil of the public latrines and the houses conserved by the Municipal Agency to the depôt. Each of the buckets has a capacity of $4\frac{1}{3}$ cubic feet or altogether 78 cubic feet. These buckets are in charge of trollymen who pay not less than two visits every day to each public latrine. The private scavengers empty the closed receptacles into the trollies whenever they meet them in their rounds. In the current year I propose to add fifteen more buckets. Inadequate as the present arrangements are, they are far in advance of what they were in 1893–94 when there were only five buckets, of which two were in proper order.

There are also fifteen rubbish carts each carrying $\frac{3}{4}$ of a ton which traverse the street. Rubbish is swept and thrown into these carts.

There are 14 latrines, of which 11 are metal and 3 masonry built.

No night-soil depôt or rubbish depôt has been yet provided. I have several times pointed out that no ground is available within easy reach of the town.

Inspection Notes.

granted that wherever a death-rate of over 17 per mille occurs there also must exist sanitary error, I think, it pretty evident that to attempt to combat disease whilst neglecting the barest attempts at conservancy up to date has not been very successful.

(*e*) *Robinson's Road latrine*—is beyond repair, and is hopelessly filthy. Of twelve buckets employed, I found eight unserviceable. The whole should be abolished; a new latrine of the standard pattern be put in its place.

(*f*) Kerosine open tins are used for conveyance of fœcal matter. Iron-tarred buckets with lids and handles should be provided.

6. *Markets and Slaughter-houses.*—In reference to both these matters, nothing has been done up to date. The Chairman, however, states that action is contemplated; it is decidedly necessary.

7. *Graveyards* (*a*). — In the matter of Máppila graveyards, certain propositions have, I believe, been made to Government by the municipality, and as the matter is under consideration, I do not think it necessary to further allude to this well-worn question, except to suggest the desirability, on the answer from Government being received, that the municipality should lose no time in taking action. The question of the Roman Catholic graveyard is still unsettled though, I believe, the Catholics have now notified their willingness to cease burial within the town, provided a suitable spot be given them outside. The site chosen near the Lunatic Asylum by the municipality was rightly objected to by the Superintendent of that institution. I, however, pointed out a site removed at some distance from the asylum, which, if this be the only feasible direction, will meet sanitary requirements.

(*b*) At the gate of the old European burial-ground is one of the spots where the municipality retains its night-soil buckets. The spot is inappropriate, irrespective of its being in a much frequented part of the town. The night-soil carts are also exposed to public view in other parts of the town at the side of the roads. Other arrangements should be made.

Chairman's Remarks.

The Robinson road latrine has been demolished and a metal latrine on the Horbury pattern erected in its stead.

I shall introduce the use of iron-tarred buckets with lids for the conveyance of fœcal mater.

Proposals are now before the Collector in regard to this subject.

The question of Máppilas' graveyards is pending orders with Government. The site selected for the Roman Catholic burial ground having been again objected to on account of its vicinity to the Lunatic Asylum, a fresh notification for the acquisition of a site not far removed from the town will be shortly submitted. The question of Náyar and Tiya burial grounds is now before a sub-committee of the municipal council.

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Inspection Notes.

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(*c*) Many Hindus are buried within their own "parambas." The Chairman has taken the first step towards remedying this state of affairs by purchase of a suitable burial ground for sects pursuing this practice, which should be abolished by the municipality.

Chairman's Remarks.

8. *Infectious Disease Hospital.*—The repair of this was advised in my last report. The municipality has now converted this into a hospital for receipt of cholera cases. I understand, however, that no improvements or repairs have been effected. Both are urgently required to fit it for the function now intended to be fulfilled by it.

The question of an Infectious Disease Hospital has been deferred (*vide* paragraph 45 of letter, dated 22nd December 1894, No. 1536, embodied in G.O., dated 28th February 1895, No. 316, M., Local and Municipal).

9. *Offensive Trades.*—(*a*) On this point I called special attention to the omission from supervision and license of certain trades that were included under section 188.

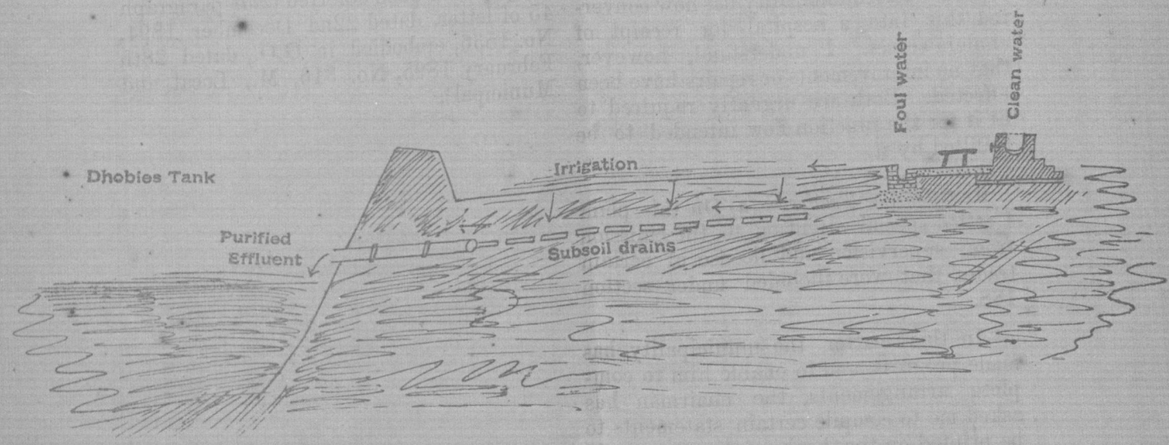
In this matter the municipality has made progress, and to enable him to complete arrangements, the chairman has asked me to compile certain statements to be printed on the back of licenses as to the sanitary conditions under which they are supposed to be granted.

(*b*) A bakery in Pathserata street was found to be licensed. Its condition did not warrant this; the floor was of rammed earth; the whitewash was filthy; a receptacle for rubbish was found immediately below the table of wood for dough making.

(*c*) It ought to be possible for the municipality to arrange that water for dhobies should be lifted from the dhobies' tank and be distributed on the banks for use without their defiling the bulk of the water. It is not likely that any water abstracted would not be replaced by sub-soil flow quick enough; but, if there were difficulty, the municipality could arrange for the water from the dhobies' troughs to flow upon a patch of ground, arranged at the side of the tank for sub-soil filtration. The water would then pass from the gutter, and in a fair state of purification join the body of water. I attach a diagram explaining what is required. This arrangement, together with a well-worked system of inspection of licensed dhobies, ought to afford a most desirable grade of protection.

Improvements to the dhobies' tank will be taken in hand as soon as the more pressing questions are disposed of. I am now cleaning out one by one, the five tanks referred to in the Sanitary Commissioner's notes, dated 5th October 1893.

I have taken in hand the Kuttichira Máppila tank which is the worst and has not been cleaned for over a quarter of a century.



Litho. Survey Office, Madras.
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I found a portion of this tank, where the bank had given way, being filled up with rubbish. This dangerous practice should be stopped, and the present deposit be excavated.

10. *Vaccination.*—The chairman informs me that he has made arrangements for the correct conduct of vaccination, in accordance with G.O., dated 19th October 1894, No. 1502 M., Local and Municipal. Seeing that under this scheme the parents must bring back the children to the depôt for examination, it is hoped that either the Assistant Surgeon or the District Sanitary officer will exercise more supervision than at present in the matter of verification. Only 170 cases were verified from 1st April to the 18th November, and, under the circumstances, the results secured must be open to doubt. On inspecting haphazard on the streets, it was found that of 106 children, 51 were protected and 55 were unprotected; of the latter, 15 had been attacked with small-pox, showing that in past years vaccination has been poorly conducted, and that efforts to reach *children* below ten years of age should at once be made:—

Total births during preceding six months, *i.e.*, from 1st July 1893 to 31st December 1893.	Number vaccinated.		Number vaccinated a second time because first operation proved unsuccessful.		Postponed under medical certificate at the end of six months.	Died.	Left the town.	Unaccounted for.	Ratio of successful vaccination to total births per cent.
	Successfully.	Unsuccessfully for the first time.	Successful.	Unsuccessful.					
1,050	2,089	137	49	6	5	4	20	53	* 203·6

* This result is presumably due to attention to arrears.

11. *Registration.*—The books are kept in the vernacular. Seventy prosecutions for failure to register had been carried out between the 1st of April and my inspection. No "vaccination column" was maintained; but, since this date of inspection, it is reported this has been duly effected with reference to the late G.O., dated 19th October 1894, No. 1502 M., Local and Municipal.

It would be advisable for the municipality to erect boards in the vernacular in various parts of the town, setting forth the usual notification referring to compulsory registration.

The following exhibits the results of registration:—

Chairman's Remarks.

The suggestion of the Sanitary Commissioner regarding the erection of boards will be attended to.

Years.	Ratio of births per mille of estimated population.	Ratio of deaths per mille of estimated population.	Percentage of deaths from						Ratio of deaths of infants under one year of age per mille to registered births in the proceding year.	Ratio per mille of deaths of infants between one and five years of age to population of that age.
			Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	Injuries.	Other causes.		
1892	29·8	32·3	18·7	5·8	10·9	16·3	0·5	47·8	150·1	105·0
1893	34·3	29·4	6·8	1·5	11·1	13·2	0·7	66·7	157·2	44·8
1894	27·4	21·1	..	0·4	13·6	13·0	1·2	71·8	130·9	13·4

These figures show that there has been a decrease of attention to registration during 1894, especially with reference to births and mortality of the child-population. An effort should at once be made to put matters on a more satisfactory footing; a complete re-organization of the existing system is probably requisite.

28*th February* 1895. (Signed) W. G. KING, Surgn.-Lieut.-Col.,
Ag. Sanitary Commr. for Madras.

No. 17 M.

Submitted.

Calicut, 10*th June* 1895. (Signed) S. SWAMINATHA AIYAR,
Hd.-Qr. Deputy Collector.

C. No. 200 M.

Forwarded with the following remarks on the Sanitary Commissioner's notes.

2. *Paragraph* 6.—The Chairman's statement that proposals as to markets and slaughter-houses are now before me is not correct. I have made some suggestions to the council, and hope, with the aid of the Zamorin and other Rajahs and by means of public subscriptions to raise the necessary funds.

3. *Paragraph* 10.—The District Medical officer has so much work that he cannot supervise vaccination in the town. A deputy inspector of vaccination for the five municipalities is required, and I hope to address Government on the subject ere long.

17*th June* 1895. (Signed) H. MOBERLY,
Ag. Collector.

Order—dated 31st July 1895, No. 1221 M., Local and Municipal.

Recorded, with the following remarks:—

(1) The municipal council should take action under section 187 of the District Municipalities Act to remedy the overcrowding in the Máppila quarters on the beach.

(2) The council should apply to the Collector if it wishes to be placed in possession of the plots of land at the junctions of roads.

(3) The delay in dealing with the question of water-supply is most unsatisfactory. The matter is urgent and should be disposed of as soon as possible.

(4) The license granted for the bakery in Pathserata street should be suspended or cancelled if the owner does not take the steps necessary to improve its condition.

(5) The Chairman has not reported what action the council proposes to take on the Sanitary Commissioner's remarks regarding the registration of vital statistics. This omission should now be supplied.

(6) The report promised by the Collector in paragraph 3 of his endorsement will be awaited.

(True Extract.)

J. F. PRICE,
Chief Secretary.

To the Chairman, Municipal Council, Calicut.
" Collector of Malabar.
" Sanitary Commissioner.
" Sanitary Engineer.
" Public Works Department.
Editors' Table.

Exd. A. Raitt.

Govt. of {1895} Madras.

LOCAL AND MUNICIPAL.

Issued

Recd. *Encl.*

No. 2162 W. 29 August 1895.

Communicated to the Supdg. Engineer, IV Circle.

(Sd.) J. P.

W

G.O., 31st July 1895, No. 1221 M.

JULY.

S.E. IV Circle.

Inspection Notes.

Recording, with remarks, Sanitary Commissioner's — on the Calicut Municipality.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

Read—the following paper :—

From T. VARADA RAO, Esq., S.C.S., Chairman, Municipal Council, Calicut, to the Chief Secretary to Government (through the Revenue Divisional Officer), dated 30th May 1895, No. 533.

I have the honour to forward herewith the Sanitary Commissioner's inspection notes on the Calicut Municipality and my replies thereon.

The paper was placed before the council at its meeting held on the 24th May 1895 and passed.

Enclosure.

Inspection Notes of the Sanitary Commissioner, Madras.

MALABAR DISTRICT.

Calicut Municipality.

Inspected 14th and 15th November 1894.

Population as per census of 1891 ..	Males	34,507
	Females	31,571
	Total ..	66,078

Inspection Notes.

Dwellings.—(*a*) In the Máppila quarters along the beach there is a steady tendency to crowding whilst place after place near huts is shut off from use as a public thoroughfare. Indeed to a stranger the whole place is a maze that cannot be desirable with reference to maintenance of order by the Police.

(*b*) The municipality should take early steps in this matter, and by pressure upon owners under section 168 insist upon space being left for public communication and for perflation of the buildings.

Chairman's Remarks.

The beach from the junction of the Kallai river with the sea to the northern limit of the municipality is divided from the town by a narrow road more than half the length of which, consisting of 2½ miles, is gravelled. The parambas to the east of the road are private property and are leased out to residents and firms. Most of the people who live on the beach are Máppilas who find work in connection with the numerous coasting vessels and native craft that touch the port. The parambas are crowded with huts; the right of entry alone is reserved to the residents of the huts. No public roads pass through the parambas. I have also found that janmis claim the right of ownership in regard to the beach itself up to the water limit. The municipality has no control over this part of the town except the little bit of ground covered by the road. To open up the parambas a great many

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Inspection Notes.

2. *Roads.*—(*a*) These were in good order; but I would advise the municipality to attempt their best to substitute stone metal for the laterite which they almost exclusively employ at present.

(*b*) There are frequent patches forming the junctions of roads that could be improved in appearance by having the edges of the turf neatly trimmed. Near the Post office, the sole ornament of such a patch, is a dust-bin in the centre. In this climate it would probably cost little to maintain some ornamental vegetation in such localities.

Moonalangul Street.—The side drains were found blocked with rubbish.

3. *Drainage.*—No efforts have been made by the municipality to abolish the cess-pools in the Máppila quarters; nor has it introduced private conservancy in this locality where it is urgently requisite. The Tellicherry Municipality is understood to have abolished all Máppila cess-pools, and I trust the Calicut Municipality will do their best to follow their example.

4. *Water-supply.*—(*a*) The question of securing a protected water-supply from a correct source is of great importance, more especially with reference to the Máppila quarters where shallow well water is depended upon, notwithstanding

Chairman's Remarks.

cross roads will be required and it will cost a large sum of money to acquire land for that purpose. There is no near prospect of opening up these parambas.

The municipality has spent a considerable portion of the allotment allowed for road repairs in paving the roads with stone metal. In 1894-95 the amount spent was as under (out of a total allotment of Rs. 10,000)—

	Cubic yards.	Cost. Rs.	A.	P.
1. Big bazaar road ..	454	1,702	8	0
2. Chevayur rood ..	645	2,418	12	0
3. Cannanore Coast road	330	1,237	8	0

In effecting the improvement of patches of ground enclosed by roads by converting them into gardens, the municipality is confronted by the difficulty that such patches do not belong to it. A piece of land near the waste ground referred to by the Sanitary Commissioner was made into a garden and is at present maintained as a garden by Messrs. F. N. Heerjee & Co. In this case the Collector was good enough to assign the land on quit-rent to the municipality which leased it to Messrs. F. N. Heerjee & Co. for three years on condition of their maintaining on it a flower garden. If Government hands to the municipality all such plots it won't be a difficulty to the municipality to make them nice and comfortable resorts to the public. It would improve the condition of the town enormously.

The side drains of this street have been cleaned.

The question of abolishing cess-pools is receiving attention. I am also endeavouring to obtain a bilge water pump attached to a cask for use in cleaning private cess-pools. The matter is one in which any sudden progress is impossible, inasmuch as it is the poorest classes alone who retain cess-pools as they cannot afford to have a correctly appointed latrine or pay for its cleaning. In Tellicherry I am informed by the chairman that much progress has not been made.

This subject, which is referred to in G.Os., No. 1668 M., dated 8th November 1894, and Memo, No. 1193, dated 7th November 1894 is still under consideration. Opinions are divided among the councillors whether the town is in need

Inspection Notes.

the presence side by side with the dwellings of cess-pools (into which excreta enter) and graveyards. In my last report I suggested that the determination to use the Mánánchera tank without much more careful exploration of possible sources in the neighbourhood than had apparently been made, was premature. Since then the Sanitary Engineer has explored the neighbouring Pulloor Hills and has reported the existence of good springs.

(*b*) *Ratmabai's well.*—I found still in use, notwithstanding the warning against it in my last report.

(*c*) *Chuckler's Street well*—is much used by the people. It has a parapet wall, but no basement: this should be provided.

(*d*) At the part chiefly inhabited by fishermen about twenty wells exist, but these are not suitably protected. A certain number yielding good water should be selected and basements with drains be provided.

(*e*) *Brown's well.*—I was disappointed to find that no action had been taken with regard to carrying out the improvements I suggested as to Mr. Brown's well. If the water struck is not potable, the pump and well lining should be shifted elsewhere. The principle followed in the construction of this well is sanitarily sound.

5. *Conservancy* (*a*).— In my last report I pointed out the absolute inadequacy with which the requirements of a population of 66,078 persons were attended to, even holding in mind the peculiarities involved in the "paramba" system. I pointed to the uselessness of so large an area being worked by bullock power and advised the speedy adoption of a tramway to deal with the transport of both night-soil and rubbish, especially in view of the fact that this municipality could possibly incur no loss by reason of existing plant, as they practically up to that date had done nothing in the way of conservancy. Having arranged for transport by means of a tramway, I advised that incineration should be employed for the disposal of rubbish, and that this should be combined

Chairman's Remarks.

of a water-supply at all. I am also submitting to the council a small scheme for the supply of the Máppila quarters with water from the Mánánchera tank.

This well which was closed last year was again opened by the residents near for purposes of ablution. I have ordered it to be closed again.

I have called for estimates to provide each of the public wells with a parapet wall, a basement and a drain all round. The improvement of the public wells will be effected during the year.

The Brown well which was at first greatly used began to fail in December or January 1893. There being no watchman for this well the pump materials used to be stolen at night. I had myself caught Máppila urchins meddling with the pump and charged them before the Magistracy. The pump has since been removed to the municipal garden where it is handled only by the gardeners who are more careful in using it.

The proposals of the Council in regard to tramway have been submitted in my letter No. 1449, dated 17th November 1894, to Government through the District officers. Funds for the construction of a Silchar cinerator were placed at the disposal of the Public Works Department in October 1894. I am informed that the work has been delayed owing to the Calicut Mercantile mission not having furnished the fire bricks required. The Executive Engineer assures me that, when the material is secured, the cinerator will at once be put on hand. Meanwhile the arrangements for the removal of night-soil and town sweepings have been improved to the best of my resources. To the three night-soil carts in use I added fifteen more; so that there are at present

Inspection Notes.

with a special apparatus for the removal of moisture from fœcal matter by means of the heat generated by the incineration of rubbish. It was pointed out that, seeing manufacture of poudrette made from human fœcal matter was being actually carried on side by side with the production of artificial manure in the town by independent firms for the supply of planters, there was every reason to hope that poudrette-making might prove a profitable undertaking for the municipality. But, with the object of ascertaining how far the scheme would be likely to be successful, it was advised, as an experimental measure, to erect a Silchar incinerator and pursue the Poona system of poudrette making temporarily.

(*b*) The inadequate number of night-soil carts and latrines was also brought to the notice of the municipality. The use of dust-bins was not advised in consideration of the long distances to be traversed; but it was suggested that the system of collection from separate receptacles arranged for under section 219 would prove of utility.

(*c*) Since the forwarding of this report the chairman has exhibited most creditable energy in determining the feasibility of what must be the first step towards obtaining a correct system of conservancy, namely, the making of a suitable tramway. I understand that definite proposals are now before Government on the subject. In my opinion this effort is of great sanitary importance, and I trust that the representations of the municipality will be received with this view by Government.

(*d*) It has too often been assumed—in fact it has been officially stated by Revenue officers in charge of the district of Malabar—that there exists little necessity for any action in the matter of conservancy. If the statistics of Calicut which, I consider, by reason of the liability for burials to occur in parambas without the knowledge of the municipality to be particularly faulty, are to be trusted, the death-rate calculated upon the estimated population amounts to not less than 34·2 per mille per annum. Seeing that it is

Chairman's Remarks.

eighteen night-soil buckets on wheels which convey the night-soil of the public latrines and the houses conserved by the Municipal Agency to the depôt. Each of the buckets has a capacity of $4\frac{1}{3}$ cubic feet or altogether 78 cubic feet. These buckets are in charge of trollymen who pay not less than two visits every day to each public latrine. The private scavengers empty the closed receptacles into the trollies whenever they meet them in their rounds. In the current year I propose to add fifteen more buckets. Inadequate as the present arrangements are, they are far in advance of what they were in 1893–94 when there were only five buckets, of which two were in proper order.

There are also fifteen rubbish carts each carrying $\frac{3}{4}$ of a ton which traverse the street. Rubbish is swept and thrown into these carts.

There are 14 latrines, of which 11 are metal and 3 masonry built.

No night-soil depôt or rubbish depôt has been yet provided. I have several times pointed out that no ground is available within easy reach of the town.

Inspection Notes.

granted that wherever a death-rate of over 17 per mille occurs there also must exist sanitary error, I think, it pretty evident that to attempt to combat disease whilst neglecting the barest attempts at conservancy up to date has not been very successful.

(*e*) *Robinson's Road latrine*—is beyond repair, and is hopelessly filthy. Of twelve buckets employed, I found eight unserviceable. The whole should be abolished; a new latrine of the standard pattern be put in its place.

(*f*) Kerosine open tins are used for conveyance of fœcal matter. Iron-tarred buckets with lids and handles should be provided.

6. *Markets and Slaughter-houses.*—In reference to both these matters, nothing has been done up to date. The Chairman, however, states that action is contemplated; it is decidedly necessary.

7. *Graveyards* (*a*).—In the matter of Máppila graveyards, certain propositions have, I believe, been made to Government by the municipality, and as the matter is under consideration, I do not think it necessary to further allude to this well-worn question, except to suggest the desirability, on the answer from Government being received, that the municipality should lose no time in taking action. The question of the Roman Catholic graveyard is still unsettled though, I believe, the Catholics have now notified their willingness to cease burial within the town, provided a suitable spot be given them outside. The site chosen near the Lunatic Asylum by the municipality was rightly objected to by the Superintendent of that institution. I, however, pointed out a site removed at some distance from the asylum, which, if this be the only feasible direction, will meet sanitary requirements.

(*b*) At the gate of the old European burial-ground is one of the spots where the municipality retains its night-soil buckets. The spot is inappropriate, irrespective of its being in a much frequented part of the town. The night-soil carts are also exposed to public view in other parts of the town at the side of the roads. Other arrangements should be made.

Chairman's Remarks.

The Robinson road latrine has been demolished and a metal latrine on the Horbury pattern erected in its stead.

I shall introduce the use of iron-tarred buckets with lids for the conveyance of fœcal mater.

Proposals are now before the Collector in regard to this subject.

The question of Máppilas' graveyards is pending orders with Government. The site selected for the Roman Catholic burial ground having been again objected to on account of its vicinity to the Lunatic Asylum, a fresh notification for the acquisition of a site not far removed from the town will be shortly submitted. The question of Náyar and Tiya burial grounds is now before a sub-committee of the municipal council.

This is due to the carelessness of one of the scavengers. The night-soil carts are now brought to a place specially selected for them.

Inspection Notes.

(*c*) Many Hindus are buried within their own "parambas." The Chairman has taken the first step towards remedying this state of affairs by purchase of a suitable burial ground for sects pursuing this practice, which should be abolished by the municipality.

Chairman's Remarks.

8. *Infectious Disease Hospital.*—The repair of this was advised in my last report. The municipality has now converted this into a hospital for receipt of cholera cases. I understand, however, that no improvements or repairs have been effected. Both are urgently required to fit it for the function now intended to be fulfilled by it.

The question of an Infectious Disease Hospital has been deferred (*vide* paragraph 45 of letter, dated 22nd December 1894, No. 1536, embodied in G.O., dated 28th February 1895, No. 316, M., Local and Municipal).

9. *Offensive Trades.*—(*a*) On this point I called special attention to the omission from supervision and license of certain trades that were included under section 188.

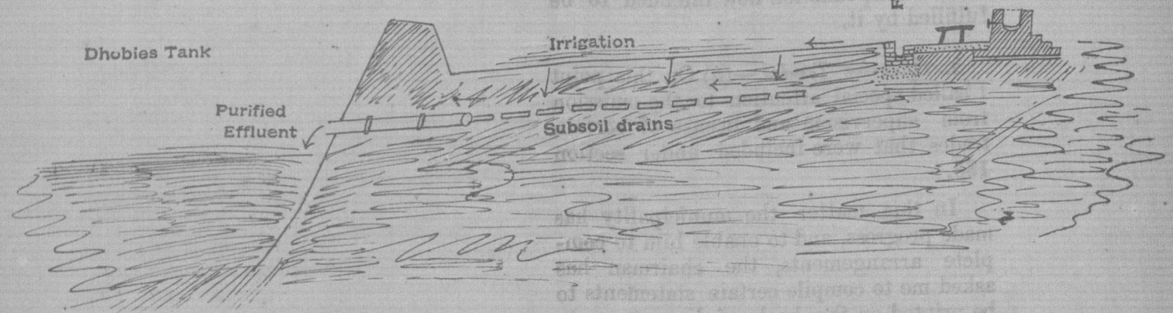
In this matter the municipality has made progress, and to enable him to complete arrangements, the chairman has asked me to compile certain statements to be printed on the back of licenses as to the sanitary conditions under which they are supposed to be granted.

(*b*) A bakery in Pathserata street was found to be licensed. Its condition did not warrant this; the floor was of rammed earth; the whitewash was filthy; a receptacle for rubbish was found immediately below the table of wood for dough making.

(*c*) It ought to be possible for the municipality to arrange that water for dhobies should be lifted from the dhobies' tank and be distributed on the banks for use without their defiling the bulk of the water. It is not likely that any water abstracted would not be replaced by sub-soil flow quick enough; but, if there were difficulty, the municipality could arrange for the water from the dhobies' troughs to flow upon a patch of ground, arranged at the side of the tank for sub-soil filtration. The water would then pass from the gutter, and in a fair state of purification join the body of water. I attach a diagram explaining what is required. This arrangement, together with a well-worked system of inspection of licensed dhobies, ought to afford a most desirable grade of protection.

Improvements to the dhobies' tank will be taken in hand as soon as the more pressing questions are disposed of. I am now cleaning out one by one, the five tanks referred to in the Sanitary Commissioner's notes, dated 5th October 1893.

I have taken in hand the Kuttichira Máppila tank which is the worst and has not been cleaned for over a quarter of a century.



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1895

Inspection Notes.

I found a portion of this tank, where the bank had given way, being filled up with rubbish. This dangerous practice should be stopped, and the present deposit be excavated.

10. *Vaccination.*—The chairman informs me that he has made arrangements for the correct conduct of vaccination, in accordance with G.O., dated 19th October 1894, No. 1502 M., Local and Municipal. Seeing that under this scheme the parents must bring back the children to the depôt for examination, it is hoped that either the Assistant Surgeon or the District Sanitary officer will exercise more supervision than at present in the matter of verification. Only 170 cases were verified from 1st April to the 18th November, and, under the circumstances, the results secured must be open to doubt. On inspecting haphazard on the streets, it was found that of 106 children, 51 were protected and 55 were unprotected; of the latter, 15 had been attacked with small-pox, showing that in past years vaccination has been poorly conducted, and that efforts to reach *children* below ten years of age should at once be made:—

Total births during preceding six months, *i.e.*, from 1st July 1893 to 31st December 1893.	Number vaccinated.		Number vaccinated a second time because first operation proved unsuccessful.		Postponed under medical certificate at the end of six months.	Died.	Left the town.	Unaccounted for.	Ratio of successful vaccination to total births per cent.
	Successfully.	Unsuccessfully for the first time.	Successful.	Unsuccessful.					
1,050	2,089	137	49	6	5	4	20	53	* 203·6

* This result is presumably due to attention to arrears.

11. *Registration.*—The books are kept in the vernacular. Seventy prosecutions for failure to register had been carried out between the 1st of April and my inspection. No "vaccination column" was maintained; but, since this date of inspection, it is reported this has been duly effected with reference to the late G.O., dated 19th October 1894, No. 1502 M., Local and Municipal.

It would be advisable for the municipality to erect boards in the vernacular in various parts of the town, setting forth the usual notification referring to compulsory registration.

The following exhibits the results of registration:—

Chairman's Remarks.

The suggestion of the Sanitary Commissioner regarding the erection of boards will be attended to.

Years.	Ratio of births per mille of estimated population.	Ratio of deaths per mille of estimated population.	Percentage of deaths from						Ratio of deaths of infants under one year of age per mille to registered births in the proceding year.	Ratio per mille of deaths of infants between one and five years of age to population of that age.
			Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	Injuries.	Other causes.		
1892	29·8	32·3	18·7	5·8	10·9	16·3	0·5	47·8	150·1	105·0
1893	34·3	29·4	6·8	1·5	11·1	13·2	0·7	66·7	157·2	44·8
1894	27·4	21·1	..	0·4	13·6	13·0	1·2	71·8	130·9	13·4

These figures show that there has been a decrease of attention to registration during 1894, especially with reference to births and mortality of the child-population. An effort should at once be made to put matters on a more satisfactory footing; a complete re-organization of the existing system is probably requisite.

28*th February* 1895. (Signed) W. G. KING, Surgn.-Lieut.-Col., *Ag. Sanitary Commr. for Madras.*

No. 17 M.

Submitted.

Calicut, 10*th June* 1895. (Signed) S. SWAMINATHA AIYAR, *Hd.-Qr. Deputy Collector.*

C. No. 200 M.

Forwarded with the following remarks on the Sanitary Commissioner's notes.

2. *Paragraph* 6.—The Chairman's statement that proposals as to markets and slaughter-houses are now before me is not correct. I have made some suggestions to the council, and hope, with the aid of the Zamorin and other Rajahs and by means of public subscriptions to raise the necessary funds.

3. *Paragraph* 10.—The District Medical officer has so much work that he cannot supervise vaccination in the town. A deputy inspector of vaccination for the five municipalities is required, and I hope to address Government on the subject ere long.

17*th June* 1895. (Signed) H. MOBERLY, *Ag. Collector.*

Order—dated 31st July 1895, No. 1221 M., Local and Municipal.

Recorded, with the following remarks:—

(1) The municipal council should take action under section 187 of the District Municipalities Act to remedy the overcrowding in the Máppila quarters on the beach.

(2) The council should apply to the Collector if it wishes to be placed in possession of the plots of land at the junctions of roads.

(3) The delay in dealing with the question of water-supply is most unsatisfactory. The matter is urgent and should be disposed of as soon as possible.

(4) The license granted for the bakery in Pathserata street should be suspended or cancelled if the owner does not take the steps necessary to improve its condition.

(5) The Chairman has not reported what action the council proposes to take on the Sanitary Commissioner's remarks regarding the registration of vital statistics. This omission should now be supplied.

(6) The report promised by the Collector in paragraph 3 of his endorsement will be awaited.

(True Extract.)

for *Chief Secretary.*

To the Chairman, Municipal Council, Calicut.
" Collector of Malabar.
" Sanitary Commissioner.
" Sanitary Engineer.
" Public Works Department.
Editors' Table.

Exd. A. Raitt.

P. W. CURRENT No. 6349

Govt. of {1895} Madras.

LOCAL AND MUNICIPAL.

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JULY.

Inspection Notes.

Recording, with remarks, Sanitary Commissioner's — on the Calicut Municipality.

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