27-2-13

[L. & M. (No—10-3-06.)]

Local & Munl. (1896) Department.

PRINTED.

G.O., No. 745 M

DATED 2nd May 1896

[Despatch Abstract.]

Inspection Notes.

Recording, with remarks, Sanitary Commissioner's

------ on the Tinnevelly Municipality.

27-2-13

BACK PAPERS.

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

FURTHER PAPERS.

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

Govt. of {1896} Madras.

LOCAL AND MUNICIPAL.

Issued

Recd. *Encl.*

G.O., No. 745 M., 2nd May 1896.

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No. 745 M., 2ND MAY 1896.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—the following paper :—

From DALAVOY TITARAPPA MUDALIYAR, Chairman-delegate, Municipal Council, Tinnevelly, to the Chief Secretary to Government (through the Collector of Tinnevelly), dated 3rd March 1896, No. 572.

With reference to paragraph 2 of G.O., No. 1765 M., dated 23rd December 1893, I have the honour to forward the inspection notes of the Sanitary Commissioner for Madras for 1895 together with the replies passed by the council at their meeting held on the 29th February 1896, which are entered in the other half-margin so as to face the notes.

2. The resolution of the council on the subject is also enclosed.

ENCLOSURES.

INSPECTION Notes of the Sanitary Commissioner, Madras.

TINNEVELLY DISTRICT.

TINNEVELLY MUNICIPALITY.

Inspected 27th to 30th October 1895.

Population per census of 1891 .. .. .. 24,768.

Inspection Notes.	Chairman's Remarks.
Roads.—The section of several of the roads exhibits a concavity in the centre. Apparently, this is due to the fact that silt removed from the drains is allowed to accumulate at the sides, and that the overseer (who is a mere boy on Rs. 15 a month) allows the roads to be repaired without a thought as to the gradual alteration of shape occurring. The metal I saw for repairs of the roads seemed prepared with little care as to suitability of size, and was thrown on the road with a mere pretence as to "picking up" previously. If it be the intention of the municipality to retain this man, I advise they require that within a certain period [illegible] pass a qualifying examination showing [illegible]e necessary grade of [illegible]dge. I consider it	The overseer is directed to pass the qualifying examination of maistry within the space of three years.

Inspection Notes.

would conduce to economy and efficiency in the making of roads if the Municipalities of Tinnevelly, Palamcottah, and the District Board, Tinnevelly, united in the purchase and upkeep of a steam-roller * for their respective roads in and between the two towns.

2. In a much-fre quented spot is an ornamental lamp-post erected as a token of gratitude to a former Collector, Mr. Silver. The subscription committee apparently presented the post to the town, under the impression that the lamp would be kept burning at public expense. The municipality, however, do not provide lights for it. As it is well situated and would be a public convenience if properly lighted, I suggest that this monument of Tinnevelly gratitude be no longer neglected. A central-draught kerosine light at the great height at which the lamp is placed would be of greater utility than the lamps of smaller dimensions erected in its proximity by the municipality.

3. *Dwellings.*—(*a*) These are crowded to an extent highly inimical to health. An excellent specimen of an over-crowded and insanitary area is to be found immediately at the back of the municipal office. This could be greatly improved without expense to the municipality by demanding removal of the ruined buildings under section 184. These now afford cover for easement and interrupt perflation. I quote this locality as a type of the town generally.

(*b*) Some measure for insisting upon the growing population no longer building "house within house" is essential. Wet cultivation extends all round the town, and the people, it is stated, are afraid to make houses upon the wet land that has been used for wet cultivation, in view of the death of certain persons who had made the attempt. That living in the midst of paddy fields would be unhealthy there can be no doubt, but if action were taken by the municipality under the Land Acquisition Act, it would be possible to take up a considerable area continuous with the town site and by means of surface and sub-soil drains arrange for its being freed from damp, when this objection would not be applicable. I should think, in consideration of the very crowded state of the town, that the chances are that on offering ground so prepared and

Chairman's Remarks.

If the Palamcottah Municipality and District Board, Tinnevelly, agree to the proposal of purchasing a steam-roller, this municipality will pay the proportionate contribution.

Communications are addressed to these bodies to ascertain their views.

A central-draught kerosine light will be put up as suggested.

The instructions will be carried out.

The available nunjah lands within the municipal limits will be acquired under the provisions of the Act.

* The cost of 6, 8 and 10 ton rollers is about Rs. 5,350, Rs. 5,750 and Rs. 6,300 respectively.—W.G.K.

Inspection Notes.

improved, it would be possible for them to sell building sites at a profit.

(*c*) In Kollathadi street, I noticed that the corner of the house of one Peramanaiken Pillai was in a condition dangerous to passers-by. He had been duly warned by the sanitary inspector, but had taken no action. If not already remedied, the municipality should make representations to the District Magistrate.

4. *Sewage.*—(*a*) Seven carts are employed for sewage removal from private cesspools at the expense of the municipality. The up-keep of each cart costs Rs. 11 per mensem. They are furnished with two barrels having a capacity of 40 gallons each. Each cart is said to make five trips daily; so that, presuming the cartman himself collects the sewage, As. 1–6 is paid by the municipality for each 100 gallons removed. This is, therefore, an expensive product, and I would advise the municipality to follow the example of Guntúr, Masulipatam, Bezwada, Ellore, Rajahmundry, Bellary and Máyavaram, and make arrangements with the house-holders to remove the sewage provided they bear the cost; otherwise, they should be compelled to make their own arrangements. It need hardly be said that removal by transport of sewage cannot be conducted on a scale that would benefit any but a very small number of the total tax-payers, if attempted at municipal expense.

(*b*) Several parts of the town are drained after a manner; but there is no system that arranges for complete delivery of the sewage on any definite point. I understand that the municipality are about to open a sewage farm. In this respect, in their remarks on the Deputy Sanitary Commissioner's report embodied in G.O., No. 136 M., dated 29th January 1895, the municipality stated "the land is being bargained for." This was also apparently the state of progress in this matter on my inspection a year subsequently. It would be advisable that some effort be made to conclude the bargain. Further, whilst it would be out of the question to undertake any sewerage system until the urgent matter of giving a water-supply not open to gross contamination has been settled, it should be possible at a reasonable cost to make existing drains of better sanitary utility. These are chiefly formed of regular blocks

Chairman's Remarks.

The dangerous condition referred to has been remedied.

This difficulty will be cleared when the drainage scheme is carried out.

Application has already been made for acquiring certain land under Land Acquisition Act for the opening of a sewage farm during the next official year. As for further suggestions regarding drains, the construction of petty drains has been sanctioned under certain conditions in G.O., Mis. No. 1773 M., dated 28th October 1895.

Inspection Notes.

of granite stones roughly hammer-dressed forming square shaped drains. It should be possible to fill the section with cement concrete drains, cement-plastered, or to use within them Burn's half-tile drains. These cost as follows :—

Diameter.	Cost per lineal foot. RS.	A.	P.
3 inches	0	2	0
4 „	0	3	0
6 „	0	4	0
9 „	0	6	0
12 „	0	10	0
15 „	1	0	0
18 „	1	6	0

The improvement could be worked out by an efficient overseer sufficiently well for practical purposes. One improvement seemed to me obviously requisite—that is, not permitting the sewage from the area above the Ampar mantapam to flow onwards into the drain beyond this point (it being simply intended for removal of storm-water) by diverting all sewage above this into the existing drain conveying flush water from Kondrapan tank.

5. *Water-supply.*—(*a*) It would be difficult to conceive a public water-supply having more evil characteristics than that of this town. To this fact the municipality seemed to have awakened in having consented to undertaking a water-supply scheme in combination with the district board and the municipality of Palamcottah (*vide* G.O., No. 1410 M., dated 9th October 1894). In the meantime, however, certain precautionary measures are essential as to existing sources. Thus, it ought to be possible to prevent the water of the Teppakolam, which is supposed to be protected by a watchman from defilement, being defiled by having communication with the Tamarakolam by means of a sewage channel which runs at its side. It also ought to be possible to arrange that one of the two latrines on the banks of the Neinakolam (which supplies the Teppakolam) should not drain into it direct, and that the contents of a sewage channel in the same area as this latrine should also not discharge direct into the kolam. Such conditions preclude the possibility of the presence of the watchman at Teppakolam being of any marked utility.

Chairman's Remarks.

In the meantime, the necessary precautionary measures will be adopted as suggested.

Inspection Notes.

(*b*) As regards the channels which distribute the supply to the inhabitants, I found the Aruchukolam channel received the surface drainage from the road and fœcal matter in the neighbourhood. Although the Neinakolam channel is regarded as specially reserved for drinking purposes, it receives the sewage and surface flow from foul backyards. At the drinking ghât a watchman was found stationed, but on the steps and within the water at his feet was a human fœcal deposit; in a corner on the ghât steps was a considerable amount of filth, rags, &c., whilst the ground round a small building at the approach to the ghât emitted odours that told unmistakably that it is a customary place of easement, although daily cleansed. The councillor who had kindly accompanied me maintained that, notwithstanding this condition of affairs, considering the length of the channel the man had to look after, he fulfilled his duty well. If this man be "worthy of his hire," it is evident that he should be aided by the appointment of further watchmen. It seems to me that a man who can arrive at a mental condition in which he can stand on guard upon a drinking-water ghât and be not aware that at his feet a human fœcal deposit existed must be culpably over-worked by his employers. To remedy this state of affairs, I advise that the municipality should depute one or more councillors to proceed with the District Sanitary Officer to each source of water-supply, and devise means, as far as feasible, for the diversion of surface drainage from inhabited areas and open latrines. The aid of the police should be asked for to enforce prevention of easement in the neighbourhood of channels.

6. *Conservancy.*—(*a*) The following is the staff employed :—

	RS.	
1 Sanitary inspector (untrained) ..	30	
2 Sub-inspectors (do.) ..	12	each.
6 Peons	5	„
33 Sweepers	5	„
13 Male toties	5	„
1 Female toty	5	
9 Drain-cleaners	5	each.
Pirate Scavenging.		
1 Sub-inspector	10	
19 Toties	5	each.
Total per mensem ..	469	

Chairman's Remarks.

Additional watchman will be appointed and steps be taken for the diversion of surface drainage from inhabited areas and open latrines.

The police will be addressed to prevent nuisances in public bathing ghâts and sides of channels.

Inspection Notes.

The following is what I consider requisite :—

	Rs.
1 Second-grade certificated sanitary inspector	45+15
1 Third-grade certificated sanitary inspector	25+ 7½
25 Sweepers	5 each.
44 Public scavengers	5 „
19 Toties (private scavenging)	5 „
8 Peons (1 for night-soil depôt) ..	7 „
Drain cleaners (nil)	..
Total per mensem ..	588½

The sanitary inspector has not undergone the special training for a sanitary inspector (G.O., No. 1914 M., dated the 10th December 1894). This should be arranged for by the council.

(*b*) *Rubbish Removal.*—The taking of the rubbish to the depôt involves the ascent of a slope with a difficult gradient. Single bullocks seem incapable of effecting the work. An attempt is made to burn the rubbish in two masonry incinerators of a common type, but they fail to effect their purpose, with the result that a large quantity of unburnt rubbish has accumulated. It would save considerable expenditure in carting and the buying of land if Messrs. Burn & Co.'s Roberts' patent natural-draught incinerators were erected by the municipality. These, being inoffensive and effective, could be erected on any vacant space within the town. I enclose a description and diagram for the information of the municipality. If, however, the municipality adheres to its present depôt, it would be well to arrange that a light tramway and loading station be made at this point.

(*c*) *Night-soil Conservancy.*—There are twenty-two latrines—an obviously too small provision for a population of 24,768. The result is that the roads and drinking-water channels are resorted to for easement. A masonry latrine on the bund of the Neinakolam near the Tamarakolam side of the town is much out of repair. It is very badly ventilated. The interior should be cement-plastered on all surfaces exposed to contract with solid or fluid excreta. The latrine on the opposite side of the Neinakolam, which drains into the tank, should be replaced by a standard-plan, roofed latrine. The so-called corrugated-iron latrines merely afford a certain amount of privacy; otherwise, their construction is not better than the common

Chairman's Remarks.

A sub-committee consisting of Messrs. T. K. Tirumalayappa Pillai Avargal, S. Palaniyandi Mudaliyar Avargal and T. S. Pichoomani Aiyar Avargal be appointed to draft a scheme with view to carry out the suggestions under the new rules.

One sanitary inspector has been sent to Madras for being trained.

Messrs. Burn and Co.'s Roberts' patent natural-draught incinerator will be erected.

Additional latrines will be provided and other suggestions will be adopted.

Inspection Notes.

"open space" pattern. The municipality should, in erecting future latrines, obtain plans either from the Sanitary Board or from Mr. Donaldson, Calcutta. Funds should be obtained for the complete remodelling of existing latrines.

(*d*) No effect has been given to the promise made by the council in last year's notes (by the Deputy Sanitary Commissioner) to either start the making of poudrette or to effect disposal by trenching instead of their present unsatisfactory mode of using pits.

(*e*) *Private Scavenging.* — The old system of retention of excreta within private premises still exists in this town. Only 1,160 private latrines of a total of 3,000 within the town are attended to under the private scavenging system. There seems no good reason, with the good example before it afforded by the neighbouring municipality of Palamcottah, that further effort at extirpation of this highly insanitary practice is not made. This is a question in which not only the Chairman but each councillor should endeavour to exert himself. I commend G.O., No. 749 M., dated 13th June 1894, to their perusal.

7. *Markets.*—In the inspection notes of last year (G.O., No. 1410 M., dated 9th October 1894), the Deputy Sanitary Commissioner called attention to the defects of the Pennington market. This matter the municipality accordingly promised to attend to, but I find that, instead of using cement for plastering the brick floors as advised, common lime mortar is being used. This is mere waste of money. No drains are being formed, though their presence is essential. The plans for carrying out of alterations to this market were not placed before the Sanitary Board. It would be advisable that, if the work be not completed, the plans and estimates of the municipality be duly forwarded to it for scrutiny and advice. Notwithstanding the promise to shift the locality for selling salt fish, the same place is retained in use. The vegetable stalls also require improving by giving concrete floors plastered with cement. The wells should be covered after being carefully cleansed. A pump should then be provided for lifting water.

Chairman's Remarks.

The council have stated in reply to the last year's notes that the system now being followed is almost similar to it.

The provisions of section 221 are being enforced and the system is now being much improved.

The plans and estimates regarding alterations in Pennington market were submitted to the Sanitary Board and their approval is obtained, but the work is to be carried out during the next official year.

Inspection Notes.

8. *Graveyards.*—No action seems to have been taken towards remedying the state of affairs already reported to Government—G.O., No. 136 M., dated 29th January 1895, paragraph 9; if so, action is still incomplete.

Chairman's Remarks.

The site selected by the sub-committee has been approved of by the District Medical and Sanitary Officer and application is already made to the Collector for acquiring not less than five acres under the Land Acquisition Act for the removal of Muhammadan burial-ground.

9. *Vaccination.*—The following shows the state of infantile vaccination :—

Total births registered between the 1st January and 30th June 1895.	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 vaccinations to total births per cent.
	Successfully.	Unsuccessfully.	Successful.	Unsuccessful.					
433	285	..	..	..	1	77	54	16	65·0

Of twenty-nine children inspected, 10 per cent. were found unprotected and 7 per cent. affected with small-pox.

The vaccination depôt has no paving. A depôt should be made for the accommodation of the calves and for receiving the people on the plan approved by the Sanitary Board.

The suggestion will be adopted.

10. *Registration.*—The following is the result of registration for the last three years :—

Years.	Birth-rate per mille of the estimated population.	Death-rate per mille of the estimated population.	Percentage of deaths from						Ratio of deaths of infants under one year of age to registered births in the preceding year.	Ratio of deaths of children above one and under five years of age per mille of population of that age.
			Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	Injuries.	Other causes.		
1893 ..	39·6	36·1	9·8	1·0	16·7	14·5	0·5	57·5	274·3	67·0
1894 ..	35·1	39·3	25·0	0·1	9·3	13·7	0·6	51·3	189·9	58·7
1895 ..	35·4	28·3	3·5	0·2	16·3	12·8	0·8	66·4	218·9	36·4

The figures show that registration is not receiving the attention it should at the hands of the council. The decline in the birth-rate can only be attributed to defect in the system pursued.

11. *Provision for Infectious Diseases.*—The cholera shed is in a most unsuitable place, and is absolutely unfit for its functions. Early action on this point is essential. So long as Tinnevelly has a water-supply grossly defiled with sewage and fœcal matter, it stands to reason that suitable provision for treatment of cholera

A cholera shed will be provided in a suitable place outside the town.

Inspection Notes.

cases is most desirable. During the last ten years cholera has attacked the town as follows :—

Years.	No. of deaths.	Rate per 1,000 of census population.
1885	80	3·4
1886	..	..
1887	31	1·3
1888	231	9·9
1889	130	5·5
1890	217	9·3
1891	183	7·9
1892	70	2·8
1893	89	3·6
1894	247	10·0

FORT ST. GEORGE,
29*th January* 1896.

(Signed) W. G. KING, Surgeon-Lieut.-Col.
Sanitary Commissioner for Madras.

Chairman's Remarks.

EXTRACT from the Proceedings of the Councillors of Tinnevelly Municipality under date the 29th February 1896, No. 31.

* * * * *

I.—Read inspection notes of the Sanitary Commissioner for 1895 and Chairman's comments and replies thereon.

Resolution.—The Chairman's replies are approved in all respects, but with reference to paragraph 6, Conservancy, (*a*), a sub-committee, consisting of Messrs. T. K. Tirumalayappa Pillai Avargal, S. Palaniyandi Mudaliyar Avargal and T. S. Pichoomani Aiyar Avargal, be appointed to draft a scheme with view to carry out the suggestions under the new rules.

Forwarded.

5*th March* 1896.

(Signed) A. W. B. HIGGENS,
Collector.

ORDER—No. 745 M., dated 2nd May 1896.

Recorded, with the following remarks :—

(1) It is not desirable that a man without adequate professional knowledge should be employed as overseer for three years more. The present incumbent should be required to pass the examination within one year, or another man should be appointed.

(2) As it is not likely that a scheme for the drainage of the town will be undertaken in the near future, the municipal council's attention will be drawn to the desirability of immediately adopting the Sanitary Commissioner's suggestion in paragraph 4 (*a*) of his notes regarding the cleansing of private cesspools.

(3) The result of the deliberations of the sub-committee appointed to draft a scheme for carrying out the suggestions of the Sanitary Commissioner regarding the conservancy establishments should be reported.

(4) The Sanitary Commissioner's suggestions for the disposal of night-soil should be adopted, and the present system abandoned.

(5) Greater attention should be paid to the registration of vital statistics in future.

(True Extract.)

J. F. PRICE,
Chief Secretary.

To the Chairman, Municipal Council, Tinnevelly.
" Collector of Tinnevelly.
" Sanitary Commissioner.
" Sanitary Engineer.
Editors' Table.

Ed. A. Baitt.

27-2-13

Govt. of {1896} Madras.

LOCAL AND MUNICIPAL.

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Do The chairman, M. C. Tinnevelly 23-4-96
" Collector of
" Sanitary Commissioner
" " Engineer
Editors' Table.

Dispatched 29/5/96

Rejc 4/456

CA 0818

(Municipal order)

Inspection Notes.

Chairman's Remarks.

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Drain cleaners (nil)	..
Total per mensem ..	588½

A sub-committee consisting of Messrs. T. K. Tirumalayappa Pillai Avargal, S. Palaniyandi Mudaliyar Avargal and T. S. Pichoomani Aiyar Avargal be appointed to draft a scheme with view to carry out the suggestions under the new rules.

The sanitary inspector has not undergone the special training for a sanitary inspector (G.O., No. 1914 M., dated the 10th December 1894). This should be arranged for by the council.

One sanitary inspector has been sent to Madras for being trained.

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Messrs. Burn and Co.'s Roberts' patent natural-draught incinerator will be erected.

(*c*) *Night-soil Conservancy.*—There are twenty-two latrines—an obviously too small provision for a population of 24,768. The result is that the roads and drinking-water channels are resorted to for easement. A masonry latrine on the bund of the Neinakolam near the Tamarakolam side of the town is much out of repair. It is very badly ventilated. The interior should be cement-plastered on all surfaces exposed to contract with solid or fluid excreta. The latrine on the opposite side of the Neinakolam, which drains into the tank, should be replaced by a standard-plan, roofed latrine. The so-called corrugated-iron latrines merely afford a certain amount of privacy; otherwise, their construction is not better than the common

Additional latrines will be provided and other suggestions will be adopted.

drinking ghât a watchman was found stationed, but on the steps and within the water at his feet was a human fæcal deposit; in a corner on the ghât steps was a considerable amount of filth, rags, &c., whilst the ground round a small building at the approach to the ghât emitted odours that told unmistakably that it is a customary place of easement, although daily cleansed. The councillor who had kindly accompanied me maintained that, notwithstanding this condition of affairs, considering the length of the channel the man had to look after, he fulfilled his duty well. If this man be "worthy of his hire," it is evident that he should be aided by the appointment of further watchmen. It seems to me that a man who can arrive at a mental condition in which he can stand on guard upon a drinking-water ghât and be not aware that at his feet a human fœcal deposit existed must be culpably over-worked by his employers. To remedy this state of affairs, I advise that the municipality should depute one or more councillors to proceed with the District Sanitary Officer to each source of water-supply, and devise means, as far as feasible, for the diversion of surface drainage from inhabited areas and open latrines. The aid of the police should be asked for to enforce prevention of easement in the neighbourhood of channels.

Additional watchman will be appointed and steps be taken for the diversion of surface drainage from inhabited areas and open latrines.

The police will be addressed to prevent nuisances in public bathing ghâts and sides of channels.

6. *Conservancy.*—(*a*) The following is the staff employed:—

		Rs.	
1 Sanitary inspector	(untrained) ..	30	
2 Sub-inspectors	(do.) ..	12	each.
6 Peons	.. ..	5	,,
33 Sweepers	.. ..	5	,,
13 Male toties	.. ..	5	,,
1 Female toty	.. ..	5	each.
9 Drain-cleaners	.. ..		
Private Scavenging.			
1 Sub-inspector	.. ..	10	
19 Toties	.. ..	5	each.
Total per mensem ..		469	

Diameter.				Cost per lineal foot.		
				RS.	A.	P.
3 inches	..	..	..	0	2	0
4 "	..	..	..	0	3	0
6 "	..	..	..	0	4	0
9 "	..	..	..	0	6	0
12 "	..	..	..	0	10	0
15 "	..	..	..	1	0	0
18 "	..	..	..	1	6	0

The improvement could be worked out by an efficient overseer sufficiently well for practical purposes. One improvement seemed to me obviously requisite—that is, not permitting the sewage from the area above the Ampar mantapam to flow onwards into the drain beyond this point (it being simply intended for removal of storm-water) by diverting all sewage above this into the existing drain conveying flush water from Kondrapan tank.

5. *Water-supply.*—(*a*) It would be difficult to conceive a public water-supply having more evil characteristics than that of this town. To this fact the municipality seemed to have awakened in having consented to undertaking a water-supply scheme in combination with the district board and the municipality of Palamcottah (*vide* G.O., No. 1410 M., dated 9th October 1894). In the meantime, however, certain precautionary measures are essential as to existing sources. Thus, it ought to be possible to prevent the water of the Teppakolam, which is supposed to be protected by a watchman from defilement, being defiled by having communication with the Tamarakolam by means of a sewage channel which runs at its side. It also ought to be possible to arrange that one of the two latrines on the banks of the Neinakolam (which supplies the Teppakolam) should not drain into it direct, and that the contents of a sewage channel in the same area as this latrine should also not discharge direct into the kolam. Such conditions preclude the possibility of the presence of the watchman at Teppakolam being of any marked utility.

(*b*) As regards the channels which distribute the supply to the inhabitants, I found the Aruchukolam channel received the surface drainage from the road and fæcal matter in the neighbourhood. Although the Neinakolam channel is regarded as specially reserved for drinking purposes, it receives the sewage and surface flow from foul backyards. At the

In the meantime, the necessary precautionary measures will be adopted as suggested.

Inspection Notes.

by the sanitary inspector, but had taken no action. If not already remedied, the municipality should make representations to the District Magistrate.

4. *Sewage.*—(*a*) Seven carts are employed for sewage removal from private cesspools at the expense of the municipality. The up-keep of each cart costs Rs. 11 per mensem. They are furnished with two barrels having a capacity of 40 gallons each. Each cart is said to make five trips daily; so that, presuming the cartman himself collects the sewage, As. 1–6 is paid by the municipality for each 100 gallons removed. This is, therefore, an expensive product, and I would advise the municipality to follow the example of Guntúr, Masulipatam, Bezwada, Ellore, Rajahmundry, Bellary and Máyavaram, and make arrangements with the householders to remove the sewage provided they bear the cost; otherwise, they should be compelled to make their own arrangements. It need hardly be said that removal by transport of sewage cannot be conducted on a scale that would benefit any but a very small number of the total tax-payers, if attempted at municipal expense.

(*b*) Several parts of the town are drained after a manner; but there is no system that arranges for complete delivery of the sewage on any definite point. I understand that the municipality are about to open a sewage farm. In this respect, in their remarks on the Deputy Sanitary Commissioner's report embodied in G.O., No. 136 M., dated 29th January 1895, the municipality stated "the land is being bargained for." This was also apparently the state of progress in this matter on my inspection a year subsequently. It would be advisable that some effort be made to conclude the bargain. Further, whilst it would be out of the question to undertake any sewerage system until the urgent matter of giving a water supply not open to gross contamination has been settled, it should be possible at a reasonable cost to make existing drains of better sanitary utility. These are chiefly formed of regular blocks of granite stones roughly hammer-dressed forming square shaped drains. It should be possible to fill the section with cement concrete drains, cement-plastered, or to use within them Burn's half-tile drains. These cost as follows:—

Chairman's Remarks.

This difficulty will be cleared when the drainage scheme is carried out.

Application has already been made for acquiring certain land under Land Acquisition Act for the opening of a sewage farm during the next official year. As for further suggestions regarding drains, the construction of petty drains has been sanctioned under certain conditions in G.O., Mis., No. 1773 M. dated 28th October 1895.

2. In a much-frequented spot is an ornamental lamp-post erected as a token of gratitude to a former Collector, Mr. Silver. The subscription committee apparently presented the post to the town, under the impression that the lamp would be kept burning at public expense. The municipality, however, do not provide lights for it. As it is well situated and would be a public convenience if properly lighted, I suggest that this monument of Tinnevelly gratitude be no longer neglected. A central-draught kerosine light at the great height at which the lamp is placed would be of greater utility than the lamps of smaller dimensions erected in its proximity by the municipality.

A central-draught kerosine light will be put up as suggested.

3. *Dwellings.*—(*a*) These are crowded to an extent highly inimical to health. An excellent specimen of an over-crowded and insanitary area is to be found immediately at the back of the municipal office. This could be greatly improved without expense to the municipality by demanding removal of the ruined buildings under section 184. These now afford cover for easement and interrupt perflation. I quote this locality as a type of the town generally.

The instructions will be carried out.

(*b*) Some measure for insisting upon the growing population no longer building "house within house" is essential. Wet cultivation extends all round the town, and the people, it is stated, are afraid to make houses upon the wet land that has been used for wet cultivation, in view of the death of certain persons who had made the attempt. That living in the midst of paddy fields would be unhealthy there can be no doubt, but if action were taken by the municipality under the Land Acquisition Act, it would be possible to take up a considerable area continuous with the town site and by means of surface and sub-soil drains arrange for its being freed from damp, when this objection would not be applicable. I should think, in consideration of the very crowded state of the town, that the chances are that on offering ground so prepared and improved, it would be possible for them to sell building sites at a profit.

The available nunjah lands within the municipal limits will be acquired under the provisions of the Act.

(*c*) In Kollathidi street, I noticed that the corner of the house of one Peramanaiken Pillai was in a condition dangerous to passers-by. He had been duly warned

The dangerous condition referred to has been remedied.

No. M., April 1896.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

Read—the following paper :—

From DALAVOY THEETHARAPPA MUDALIAR, Chairman-delegate Municipal Council Tinnevelly, to the Chief Secretary to Government (through the Collector of Tinnevelly), dated 3rd March 1896, No. 572.

With reference to paragraph 2 of G.O., No. 1765 M., dated 23rd December 1893, I have the honour to forward the inspection notes of the Sanitary Commissioner for Madras for 1895 together with the replies passed by the council at their meeting held on the 29th February 1896, which are entered in the other half-margin so as to face the notes.

2. The resolution of the council on the subject is also enclosed.

Enclosures.

Inspection Notes of the Sanitary Commissioner, Madras.

TINNEVELLY DISTRICT.

Tinnevelly Municipality.

Inspected

Population per census of 1891 .. .. .. 24,768.

Inspection Notes.	Chairman's Remarks.
Roads.—The section of several of the roads exhibits a concavity in the centre. Apparently, this is due to the fact that silt removed from the drains is allowed to accumulate at the sides, and that the overseer (who is a mere boy on Rs. 15 a month) allows the roads to be repaired without a thought as to the gradual alteration of shape occurring. The metal I saw for repairs of the roads seemed prepared with little care as to suitability of size, and was thrown on the road with a mere pretence as to "picking up" previously. If it be the intention of the municipality to retain this man, I advise they require that within a certain period he pass a qualifying examination showing the possession of the necessary grade of engineering knowledge. I consider it would conduce to economy and efficiency in the making of roads if the municipalities of Tinnevelly, Palamcottah, and the District Board, Tinnevelly, united in the purchase and upkeep of a steam-roller * for their respective roads in and between the two towns.	The overseer is directed to pass the qualifying examination of maistry within the space of three years. If the Palamcottah Municipality and District Board, Tinnevelly, agree to the proposal of purchasing a steam-roller, this municipality will pay the proportionate contribution. Communications are addressed to these bodies to ascertain their views.

* The cost of 6, 8 and 10 ton rollers is about Rs. 5,350, Rs. 5,750 and Rs. 6,300 respectively.—W.G.K.

Govt. of {1896} Madras.

LOCAL AND MUNICIPAL.

Issued

Recd. *Encl.*

G.O., No. 745 M., 2nd May 1896.

MAY.

Inspection Notes.

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

(4) The Sanitary Commissioner's suggestions for the disposal of night-soil should be adopted, and the present system abandoned.

(5) Greater attention should be paid to the registration of vital statistics in future.

(True Extract.)

Under Secretary, P.W.D.;
for *Chief Secretary.*

To the Chairman, Municipal Council, Tinnevelly.
" Collector of Tinnevelly.
" Sanitary Commissioner.
" Sanitary Engineer.
Editors' Table.

Exd. A. Raitt.

Inspection Notes.

8. *Graveyards.*—No action seems to have been taken towards remedying the state of affairs already reported to Government—G.O., No. 136 M., dated 29th January 1895, paragraph 9; if so, action is still incomplete.

Chairman's Remarks.

The site selected by the sub-committee has been approved of by the District Medical and Sanitary Officer and application is already made to the Collector for acquiring not less than five acres under the Land Acquisition Act for the removal of Muhammadan burial-ground.

9. *Vaccination.*—The following shows the state of infantile vaccination :—

Total births registered between the 1st January and 30th June 1894.	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 vaccinations to total births per cent.
	Successfully.	Unsuccessfully.	Successful.	Unsuccessful.					
433	285	..	..	..	1	77	54	16	65·0

Of twenty-nine children inspected, 10 per cent. were found unprotected and 7 per cent. affected with small-pox.

The vaccination depôt has no paving. A depôt should be made for the accommodation of the calves and for receiving the people on the plan approved by the Sanitary Board.

The suggestion will be adopted.

10. *Registration.*—The following is the result of registration for the last three years :—

Years.	Birth-rate per mille of the estimated population.	Death-rate per mille of the estimated population.	Percentage of deaths from						Ratio of deaths of infants under one year of age to registered births in the preceding year.	Ratio of deaths of children above one and under five years of age per mille of population of that age.
			Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	Injuries.	Other causes.		
1893 ..	39·6	36·1	9·8	1·0	16·7	14·5	0·5	57·5	274·3	67·0
1894 ..	35·1	39·3	25·0	0·1	9·3	13·7	0·6	51·3	189·9	58·7
1895 ..	35·4	28·3	3·5	0·2	16·3	12·8	0·8	66·4	218·0	36·4

The figures show that registration is not receiving the attention it should at the hands of the council. The decline in the birth-rate can only be attributed to defect in the system pursued.

11. *Provision for Infectious Diseases.*—The cholera shed is in a most unsuitable place, and is absolutely unfit for its functions. Early action on this point is essential. So long as Tinnevelly has a water-supply grossly defiled with sewage and fœcal matter, it stands to reason that suitable provision for treatment of cholera

A cholera shed will be provided in a suitable place outside the town.

Inspection Notes.

cases is most desirable. During the last ten years cholera has attacked the town as follows :—

Years.	No. of deaths.	Rate per 1,000 of census population.
1885	80	3·4
1886	..	..
1887	31	1·3
1888	231	9·9
1889	130	5·5
1890	217	9·3
1891	183	7·9
1892	70	2·8
1893	89	3·6
1894	247	10·0

FORT ST. GEORGE,
29*th January* 1896.

(Signed) W. G. KING, Surgeon-Lieut.-Col.
Sanitary Commissioner for Madras.

EXTRACT from the Proceedings of the Councillors of Tinnevelly Municipality under date the 29th February 1896, No. 31.

* * * * *

I.—Read inspection notes of the Sanitary Commissioner for 1895 and Chairman's comments and replies thereon.

Resolution.—The Chairman's replies are approved in all respects, but with reference to paragraph 6, Conservancy, (*a*), a sub-committee, consisting of Messrs. T. K. Tirumalayappa Pillai Avargal, S. Palaniyandi Mudaliyar Avargal and T. S. Pichoomani Aiyar Avargal, be appointed to draft a scheme with view to carry out the suggestions under the new rules.

Forwarded.

5*th March* 1896. (Signed) A. W. B. HIGGENS,
Collector.

ORDER—No. 745 M., dated 2nd May 1896.

Recorded, with the following remarks :—

(1) It is not desirable that a man without adequate professional knowledge should be employed as overseer for three years more. The present incumbent should be required to pass the examination within one year, or another man should be appointed.

(2) As it is not likely that a scheme for the drainage of the town will be undertaken in the near future, the municipal council's attention will be drawn to the desirability of immediately adopting the Sanitary Commissioner's suggestion in paragraph 4 (*a*) of his notes regarding the cleansing of private cesspools.

(3) The result of the deliberations of the sub-committee appointed to draft a scheme for carrying out the suggestions of the Sanitary Commissioner regarding the conservancy establishments should be reported.

Inspection Notes.

Chairman's Remarks.

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Inspection Notes.

Chairman's Remarks.

(*b*) As regards the channels which distribute the supply to the inhabitants, I found the Aruchukolam channel received the surface drainage from the road and fœcal matter in the neighbourhood. Although the Neinakolam channel is regarded as specially reserved for drinking purposes, it receives the sewage and surface flow from foul backyards. At the drinking ghât a watchman was found stationed, but on the steps and within the water at his feet was a human fœcal deposit; in a corner on the ghât steps was a considerable amount of filth, rags, &c., whilst the ground round a small building at the approach to the ghât emitted odours that told unmistakably that it is a customary place of easement, although daily cleansed. The councillor who had kindly accompanied me maintained that, notwithstanding this condition of affairs, considering the length of the channel the man had to look after, he fulfilled his duty well. If this man be "worthy of his hire," it is evident that he should be aided by the appointment of further watchmen. It seems to me that a man who can arrive at a mental condition in which he can stand on guard upon a drinking-water ghât and be not aware that at his feet a human fœcal deposit existed must be culpably over-worked by his employers. To remedy this state of affairs, I advise that the municipality should depute one or more councillors to proceed with the District Sanitary Officer to each source of water-supply, and devise means, as far as feasible, for the diversion of surface drainage from inhabited areas and open latrines. The aid of the police should be asked for to enforce prevention of easement in the neighbourhood of channels.

Additional watchman will be appointed and steps be taken for the diversion of surface drainage from inhabited areas and open latrines.

6. *Conservancy.*—(*a*) The following is the staff employed :—

	RS.	
1 Sanitary inspector (untrained) ..	30	
2 Sub-inspectors (do.) ..	12	each.
6 Peons	5	"
33 Sweepers	5	"
13 Male toties	5	"
1 Female toty	5	
9 Drain-cleaners	5	each.
Private Scavenging.		
1 Sub-inspector	10	
19 Toties	5	each.
Total per mensem ..	469	

The police will be addressed to prevent nuisances in public bathing ghâts and sides of channels.

Inspection Notes.

The following is what I consider requisite :—

	Rs.
1 Second-grade certificated sanitary inspector	45+15
1 Third-grade certificated sanitary inspector	25+ 7½
25 Sweepers	5 each.
44 Public scavengers	5 „
19 Toties (private scavenging)	5 „
8 Peons (1 for night-soil depôt)	7 „
Drain cleaners (nil)	
Total per mensem ..	588½

The sanitary inspector has not undergone the special training for a sanitary inspector (G.O., No. 1914 M., dated the 10th December 1894). This should be arranged for by the council.

(*b*) *Rubbish Removal.*—The taking of the rubbish to the depôt involves the ascent of a slope with a difficult gradient. Single bullocks seem incapable of effecting the work. An attempt is made to burn the rubbish in two masonry incinerators of a common type, but they fail to effect their purpose, with the result that a large quantity of unburnt rubbish has accumulated. It would save considerable expenditure in carting and the buying of land if Messrs. Burn & Co.'s Roberts' patent natural-draught incinerators were erected by the municipality. These, being inoffensive and effective, could be erected on any vacant space within the town. I enclose a description and diagram for the information of the municipality. If, however, the municipality adheres to its present depôt, it would be well to arrange that a light tramway and loading station be made at this point.

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One sanitary inspector has been sent to Madras for being trained.

Messrs. Burn and Co.'s Roberts' patent natural-draught incinerator will be erected.

Additional latrines will be provided and other suggestions will be adopted.

Inspection Notes.

"open space" pattern. The municipality should, in erecting future latrines, obtain plans either from the Sanitary Board or from Mr. Donaldson, Calcutta. Funds should be obtained for the complete remodelling of existing latrines.

(*d*) No effect has been given to the promise made by the council in last year's notes (by the Deputy Sanitary Commissioner) to either start the making of poudrette or to effect disposal by trenching instead of their present unsatisfactory mode of using pits.

(*e*) *Private Scavenging.* — The old system of retention of excreta within private premises still exists in this town. Only 1,160 private latrines of a total of 3,000 within the town are attended to under the private scavenging system. There seems no good reason, with the good example before it afforded by the neighbouring municipality of Palamcottah, that further effort at extirpation of this highly insanitary practice is not made. This is a question in which not only the Chairman but each councillor should endeavour to exert himself. I commend G.O., No. 749 M., dated 13th June 1894, to their perusal.

7. *Markets.*—In the inspection notes of last year (G.O., No. 1410 M., dated 9th October 1894), the Deputy Sanitary Commissioner called attention to the defects of the Pennington market. This matter the municipality accordingly promised to attend to, but I find that, instead of using cement for plastering the brick floors as advised, common lime mortar is being used. This is mere waste of money. No drains are being formed, though their presence is essential. The plans for carrying out of alterations to this market were not placed before the Sanitary Board. It would be advisable that, if the work be not completed, the plans and estimates of the municipality be duly forwarded to it for scrutiny and advice. Notwithstanding the promise to shift the locality for selling salt fish, the same place is retained in use. The vegetable stalls also require improving by giving concrete floors plastered with cement. The wells should be covered after being carefully cleansed. A pump should then be provided for lifting water.

Chairman's Remarks.

The council have stated in reply to the last year's notes that the system now being followed is almost similar to it.

The provisions of section 221 are being enforced and the system is now being much improved.

The plans and estimates regarding alterations in Pennington market were submitted to the Sanitary Board and their approval is obtained, but the work is to be carried out during the next official year.

Inspection Notes.

8. *Graveyards.*—No action seems to have been taken towards remedying the state of affairs already reported to Government—G.O., No. 136 M., dated 29th January 1895, paragraph 9; if so, action is still incomplete.

Chairman's Remarks.

The site selected by the sub-committee has been approved of by the District Medical and Sanitary Officer and application is already made to the Collector for acquiring not less than five acres under the Land Acquisition Act for the removal of Muhammadan burial-ground.

9. *Vaccination.*—The following shows the state of infantile vaccination :—

Total births registered between the 1st January and 30th June 1894.	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 vaccinations to total births per cent.
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Of twenty-nine children inspected, 10 per cent. were found unprotected and 7 per cent. affected with small-pox.

The vaccination depôt has no paving. A depôt should be made for the accommodation of the calves and for receiving the people on the plan approved by the Sanitary Board.

The suggestion will be adopted.

10. *Registration.*—The following is the result of registration for the last three years :—

Years.	Birth-rate per mille of the estimated population.	Death-rate per mille of the estimated population.	Percentage of deaths from						Ratio of deaths of infants under one year of age to registered births in the preceding year.	Ratio of deaths of children above one and under five years of age per mille of population of that age.
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The figures show that registration is not receiving the attention it should at the hands of the council. The decline in the birth-rate can only be attributed to defect in the system pursued.

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A cholera shed will be provided in a suitable place outside the town.

Inspection Notes.

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Diameter.	Cost per lineal foot.		
	RS.	A.	P.
3 inches	0	2	0
4 „	0	3	0
6 „	0	4	0
9 „	0	6	0
12 „	0	10	0
15 „	1	0	0
18 „	1	6	0

The improvement could be worked out by an efficient overseer sufficiently well for practical purposes. One improvement seemed to me obviously requisite—that is, not permitting the sewage from the area above the Ampar mantapam to flow onwards into the drain beyond this point (it being simply intended for removal of storm-water) by diverting all sewage above this into the existing drain conveying flush water from Kondrapan tank.

Chairman's Remarks.

5. *Water-supply.*—(*a*) It would be difficult to conceive a public water-supply having more evil characteristics than that of this town. To this fact the municipality seemed to have awakened in having consented to undertaking a water-supply scheme in combination with the district board and the municipality of Palamcottah (*vide* G.O., No. 1410 M., dated 9th October 1894). In the meantime, however, certain precautionary measures are essential as to existing sources. Thus, it ought to be possible to prevent the water of the Teppakolam, which is supposed to be protected by a watchman from defilement, being defiled by having communication with the Tamarakolam by means of a sewage channel which runs at its side. It also ought to be possible to arrange that one of the two latrines on the banks of the Neinakolam (which supplies the Teppakolam) should not drain into it direct, and that the contents of a sewage channel in the same area as this latrine should also not discharge direct into the kolam. Such conditions preclude the possibility of the presence of the watchman at Teppakolam being of any marked utility.

In the meantime, the necessary precautionary measures will be adopted as suggested.

Inspection Notes.

8. *Graveyards.*—No action seems to have been taken towards remedying the state of affairs already reported to Government—G.O., No. 136 M., dated 29th January 1895, paragraph 9; if so, action is still incomplete.

Chairman's Remarks.

The site selected by the sub-committee has been approved of by the District Medical and Sanitary Officer and application is already made to the Collector for acquiring not less than five acres under the Land Acquisition Act for the removal of Muhammadan burial-ground.

9. *Vaccination.*—The following shows the state of infantile vaccination :—

Total births registered between the 1st January and 30th June 1894.	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 vaccinations to total births per cent.
	Successfully.	Unsuccessfully.	Successful.	Unsuccessful.					
433	285	..	..	..	1	77	54	16	65·0

Of twenty-nine children inspected, 10 per cent. were found unprotected and 7 per cent. affected with small-pox.

The vaccination depôt has no paving. A depôt should be made for the accommodation of the calves and for receiving the people on the plan approved by the Sanitary Board.

The suggestion will be adopted.

10. *Registration.*—The following is the result of registration for the last three years :—

Years.	Birth-rate per mille of the estimated population.	Death-rate per mille of the estimated population.	Percentage of deaths from						Ratio of deaths of infants under one year of age to registered births in the preceding year.	Ratio of deaths of children above one and under five years of age per mille of population of that age.
			Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	Injuries.	Other causes.		
1893 ..	39·6	36·1	9·8	1·0	16·7	14·5	0·5	57·5	274·3	67·0
1894 ..	35·1	39·3	25·0	0·1	9·3	13·7	0·6	51·3	189·9	58·7
1895 ..	35·4	28·3	3·5	0·2	16·3	12·8	0·8	66·4	218·0	36·4

The figures show that registration is not receiving the attention it should at the hands of the council. The decline in the birth-rate can only be attributed to defect in the system pursued.

11. *Provision for Infectious Diseases.*—The cholera shed is in a most unsuitable place, and is absolutely unfit for its functions. Early action on this point is essential. So long as Tinnevelly has a water-supply grossly defiled with sewage and fœcal matter, it stands to reason that suitable provision for treatment of cholera

A cholera shed will be provided in a suitable place outside the town.

Please see query on page 186. 15-5-96

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—the following paper :—

From DALAVOY TITTARAPPA MUDALIYAR, Chairman-delegate, Municipal Council, Tinnevelly, to the Chief Secretary to Government (through the Collector of Tinnevelly), dated 3rd March 1896, No. 572.

With reference to paragraph 2 of G.O., No. 1765 M., dated 23rd December 1893, I have the honour to forward the inspection notes of the Sanitary Commissioner for Madras for 1895 together with the replies passed by the council at their meeting held on the 29th February 1896, which are entered in the other half-margin so as to face the notes.

2. The resolution of the council on the subject is also enclosed.

ENCLOSURES.

INSPECTION Notes of the Sanitary Commissioner, Madras.

TINNEVELLY DISTRICT.

TINNEVELLY MUNICIPALITY.

Inspected 27th to 30th October 1895.

Population per census of 1891 .. .. .. 24,768.

Inspection Notes.

Roads.—The section of several of the roads exhibits a concavity in the centre. Apparently, this is due to the fact that silt removed from the drains is allowed to accumulate at the sides, and that the overseer (who is a mere boy on Rs. 15 a month) allows the roads to be repaired without a thought as to the gradual alteration of shape occurring. The metal I saw for repairs of the roads seemed prepared with little care as to suitability of size, and was thrown on the road with a mere pretence as to "picking up" previously. If it be the intention of the municipality to retain this man, I advise they require that within a certain period he pass a qualifying examination showing the possession of the necessary grade of engineering knowledge. I consider it

Chairman's Remarks.

The overseer is directed to pass the qualifying examination of maistry within the space of three years.

Inspection Notes.

would conduce to economy and efficiency in the making of roads if the Municipalities of Tinnevelly, Palamcottah, and the District Board, Tinnevelly, united in the purchase and upkeep of a steam-roller * for their respective roads in and between the two towns.

2. In a much-fre quented spot is an ornamental lamp-post, erected as a token of gratitude to a former Collector, Mr. Silver. The subscription committee apparently presented the post to the town, under the impression that the lamp would be kept burning at public expense. The municipality, however, do not provide lights for it. As it is well situated and would be a public convenience if properly lighted, I suggest that this monument of Tinnevelly gratitude be no longer neglected. A central-draught kerosine light at the great height at which the lamp is placed would be of greater utility than the lamps of smaller dimensions erected in its proximity by the municipality.

3. *Dwellings.*—(*a*) These are crowded to an extent highly inimical to health. An excellent specimen of an over-crowded and insanitary area is to be found immediately at the back of the municipal office. This could be greatly improved without expense to the municipality by demanding removal of the ruined buildings under section 184. These now afford cover for easement and interrupt perflation. I quote this locality as a type of the town generally.

(*b*) Some measure for insisting upon the growing population no longer building "house within house" is essential. Wet cultivation extends all round the town, and the people, it is stated, are afraid to make houses upon the wet land that has been used for wet cultivation, in view of the death of certain persons who had made the attempt. That living in the midst of paddy fields would be unhealthy there can be no doubt, but if action were taken by the municipality under the Land Acquisition Act, it would be possible to take up a considerable area continuous with the town site and by means of surface and sub-soil drains arrange for its being freed from damp, when this objection would not be applicable. I should think, in consideration of the very crowded state of the town, that the chances are that on offering ground so prepared and

Chairman's Remarks.

If the Palamcottah Municipality and District Board, Tinnevelly, agree to the proposal of purchasing a steam-roller, this municipality will pay the proportionate contribution.

Communications are addressed to these bodies to ascertain their views.

A central-draught kerosine light will be put up as suggested.

The instructions will be carried out.

The available nunjah lands within the municipal limits will be acquired under the provisions of the Act.

* The cost of 6, 8 and 10 ton rollers is about Rs. 5,350, Rs. 5,750 and Rs. 6,300 respectively.—W.G.K.

Inspection Notes.

improved, it would be possible for them to sell building sites at a profit.

(*c*) In Kollathadi street, I noticed that the corner of the house of one Peramanaiken Pillai was in a condition dangerous to passers-by. He had been duly warned by the sanitary inspector, but had taken no action. If not already remedied, the municipality should make representations to the District Magistrate.

4. *Sewage.*—(*a*) Seven carts are employed for sewage removal from private cesspools at the expense of the municipality. The up-keep of each cart costs Rs. 11 per mensem. They are furnished with two barrels having a capacity of 40 gallons each. Each cart is said to make five trips daily; so that, presuming the cartman himself collects the sewage, As. 1–6 is paid by the municipality for each 100 gallons removed. This is, therefore, an expensive product, and I would advise the municipality to follow the example of Guntúr, Masulipatam, Bezwada, Ellore, Rajahmundry, Bellary and Máyavaram, and make arrangements with the householders to remove the sewage provided they bear the cost; otherwise, they should be compelled to make their own arrangements. It need hardly be said that removal by transport of sewage cannot be conducted on a scale that would benefit any but a very small number of the total tax-payers, if attempted at municipal expense.

(*b*) Several parts of the town are drained after a manner; but there is no system that arranges for complete delivery of the sewage on any definite point. I understand that the municipality are about to open a sewage farm. In this respect, in their remarks on the Deputy Sanitary Commissioner's report embodied in G.O., No. 136 M., dated 29th January 1895, the municipality stated "the land is being bargained for." This was also apparently the state of progress in this matter on my inspection a year subsequently. It would be advisable that some effort be made to conclude the bargain. Further, whilst it would be out of the question to undertake any sewerage system until the urgent matter of giving a water-supply not open to gross contamination has been settled, it should be possible at a reasonable cost to make existing drains of better sanitary utility. These are chiefly formed of regular blocks

Chairman's Remarks.

The dangerous condition referred to has been remedied.

This difficulty will be cleared when the drainage scheme is carried out.

Application has already been made for acquiring certain land under Land Acquisition Act for the opening of a sewage farm during the next official year. As for further suggestions regarding drains, the construction of petty drains has been sanctioned under certain conditions in G.O., Mis. No. 1773 M., dated 28th October 1895.

Inspection Notes.

of granite stones roughly hammer-dressed forming square shaped drains. It should be possible to fill the section with cement concrete drains, cement-plastered, or to use within them Burn's half-tile drains. These cost as follows :—

Diameter.	Cost per lineal foot. RS.	A.	P.
3 inches	0	2	0
4 "	0	3	0
6 "	0	4	0
9 "	0	6	0
12 "	0	10	0
15 "	1	0	0
18 "	1	6	0

The improvement could be worked out by an efficient overseer sufficiently well for practical purposes. One improvement seemed to me obviously requisite—that is, not permitting the sewage from the area above the Ampar mantapam to flow onwards into the drain beyond this point (it being simply intended for removal of storm-water) by diverting all sewage above this into the existing drain conveying flush water from Kondrapan tank.

5. *Water-supply.*—(*a*) It would be difficult to conceive a public water-supply having more evil characteristics than that of this town. To this fact the municipality seemed to have awakened in having consented to undertaking a water-supply scheme in combination with the district board and the municipality of Palamcottah (*vide* G.O., No. 1410 M., dated 9th October 1894). In the meantime, however, certain precautionary measures are essential as to existing sources. Thus, it ought to be possible to prevent the water of the Teppakolam, which is supposed to be protected by a watchman from defilement, being defiled by having communication with the Tamarakolam by means of a sewage channel which runs at its side. It also ought to be possible to arrange that one of the two latrines on the banks of the Neinakolam (which supplies the Teppakolam) should not drain into it direct, and that the contents of a sewage channel in the same area as this latrine should also not discharge direct into the kolam. Such conditions preclude the possibility of the presence of the watchman at Teppakolam being of any marked utility.

Chairman's Remarks.

In the meantime, the necessary precautionary measures will be adopted as suggested.

TINNEVELLY MUNICIPAL OFFICE.

From

THE CHAIRMAN,

Municipal Council,

TINNEVELLY.

5 MAR 9

To

THE Chief Secretary
to the Government of
Madras
thro the Collector of Tinnevelly

DATED. 3rd March 1896

RECEIVED.

CHIEF SECRETARY 7 MAR 1896 GOVERNMENT OF MADRAS

ENCLOSURE. 2

SUBJECT.

745
2/5/96.

Forwarding the
Inspection Notes of
the Sanitary Commissioner of Madras
for 1895 together
with the Resolutions passed
by the Council at
their meeting held on
the 29th February 1896

13/3

Forwarded
Chairman
Collector
5-3-96

No. 572. Tinnevelly Municipal Office.

From

3rd March 1896

THE CHAIRMAN,

Municipal Council,

TINNEVELLY.

To

THE Chief Secretary
to the Government of
Madras

SIR,

Tinnevelly.

With reference to para 2 of G.O.
No 1765 dated 23rd December 1893
I have the honor to forward the Minutes
Notes of the Sanitary Commissioner
Madras for 1895 together with the
Resolutions passed by the Council
at their meeting held on the 29th
February 1896 which are entered
in the other half Margin Nos to
face the Notes

2 The Resolution of the Council on
the Subject is also enclosed

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

Chairman,
Municipal Council.

Salary Meeting

the Sanitary Commissioners
for 1895. And Chairman's
Comments & Replies thereon

The Chairman's Replies
are approved in all respects
but with reference to para
6 Conservancy (a) a Sub
Committee Consisting of
Messrs T.K. Lowmalayappa
Pillai Avargal, T. Palaniyandi
Pandaleyar Avargal & T.S. Rehos
Mary Ayyar Avargal be
appointed to draft a Scheme with
view to Carry out the suggestions
under the New Rules

X X X

Signed Palaniyandi Thevar Marappa Pandaleyar
Chairman Delegate

True extract

Salary Meeting

Tinnevelly 3rd March 1896. Chairman Delegate

Extract from the Proceedings of the Councillors of Tinnevelly Municipality under date the 29th February 1896 at 5 P.M. No 31

Present

Officials

Non Officials.

M P Rs

" V. Balaraya Sheetharappa Mudaliyar Avargal Chairman Delegate

" A Anandacharlu Avargal

" Kamaraj Nellayappa Pillai Avargal

" A Sankara Sumaru pillai Avargal.

" Kumara Samia pillai Avargal

" T S Pechaimuthu Aiyar Avargal

" S Balaniz Andi Mudaliyar Avargal

" T K Sivanadayappa pillai Avargal

" Seeni Asari Avargal.

I Read Inspection Notes of.

(1)

Robey.

W Ng

Surgn Lieut Col
Sanitary Commissioner
Madras.

Fort St George
29th January 1896

Salaries & Establishments Madras

Chairman
Delegate
3rd March
1896

A Cholera shed will be provided in a suitable place out side the Town

unsuitable place, and is absolutely unfit for its functions. Early action on this point is essential. So long as Timmovelly has a water supply grossly defiled with sewage and fæcal matter, it stands to reason that suitable provision for treatment of cholera cases is — most desirable. During the last 10 years cholera has attacked the town as follows:—

Years	No of deaths	Rate per 1000 of Census Population
1885	50	3·4
1886	.	.
1887	31	1·3
1888	231	9·9
1889	130	5·5
1890	217	9·3
1891	183	7·9
1892	70	2·8
1893	89	3·6
1894	247	10·0

Board.

B. Registration. The following is the result of registration for the last 3 years.

Years	Birth rate per mille of the estimated Population	Death rate per mille of the estimated Population	Percentage of deaths from: Cholera	Enteric fever	Fever.	Dysentery & diarrhœa	Smallpox	Other Causes	Ratio of deaths of infants under one year of age to registered births in the preceding year.	Ratio of deaths of children above one and under four years of age per mille of living children of that age.
1893	39·6	36·1	9·8	1·0	16·7	14·5	0·5	57·5	274·3	67·0
1894	35·1	39·3	25·0	0·1	9·3	13·7	0·6	51·3	189·9	58·7
1895	35·4	28·3	3·5	0·2	16·3	12·8	0·8	66·4	218·0	36·4

The figures show that registration is not receiving the attention it should at the hands of the Council. The decline in the birth rate can only be attributed to defect in the system pursued.

H. Provision for infectious diseases. The cholera shed is in a most — unsuitable

7. not less than 5 acres under Land Requisition Act for the Removal of Mahomedan burial Ground

29th January 1897. para 9 if so, action is still incomplete.

9. Vaccination. The following shows the state of infantile vaccination

Total births registered between the 1st January and 31st December 1896.	Number vaccinated		No. vaccinated a second time because first operation proved unsuccessful						
	Successfully	Unsuccessfully	Successful	Unsuccessful	Postponed on the medical certificate at the end of 6 months	Died	Left the Town	Unaccounted for	Ratio of successful vaccination to total births per cent.
433	285	-	-	-	1	77	54	16	65·0

Of 29 children inspected 10 per cent were found unprotected, and 7 per cent affected with small pox.

The vaccination — depot has no paving. A depot should be made for the accommodation of the calves, and for receiving the people on the plan approved by the Sanitary Board

The suggestion will be adopted

placed before the Sanitary Board. It would be advisable that if the work be not completed the plans and estimates of the Municipality be duly forwarded to it for scrutiny and advice. Notwithstanding the promise to shift the locality for selling salt fish, the same place is retained in use. The vegetable stalls also require improving, by giving concrete floors plastered with cement. The wells should be covered after being carefully cleansed. A trough should be provided for lifting water.

8. Graveyards. No action seems to have been taken towards remedying the state of affairs already reported to Government — G.O. No. 136 M. dated — 29th

The plans & estimates regarding alterations in P. Market were submitted to the Sanitary Board and their approval is obtained but the work is to be carried during the next official year

The site selected by the Sub Committee has been approved of by the Medical and Sanitary Officer & application is already made to the Collector for acquiring

is not made. This is a question in which not only the Chairman, but each Councillor should endeavours to exert himself. I commend G.O. No. 749 M dated 13th June 1894 to their perusal.

7. Markets. In the Inspection Notes of last year (G.O.— No. 1410 M dated 9th Octr 1894), the Dy. Sanitary Commissioner called attention to the defects of the Pennington market. This matter the Municipality accordingly promised to attend to; but I find that instead of using cement for plastering the brick floors as advised, common lime mortar is being used. This is mere waste of money. No drains are being formed though their presence is essential. The plans for carrying out of alterations to this market were not placed

given to the promise made by the Council in last years Notes (by the Dy. Sanitary Commissioner) to either start the making of pondicotta, or to effect disposal by trenching, instead of their present unsatisfactory mode of using pits.

(c) Private scavengering. The old system of retention of excreta within private premises still exists in this town. Only 1160 private latrines of a total of 3000 within the town are attended to under the private scavengering system. There seems no good reason with the good example before it afforded by the neighbouring Municipality of Palamcottah, that further effort at extirpation of this highly unsanitary practice is

The Council have stated in reply to the last years Notes that the System now being followed is almost similar to it

The provisions of Section 221 are being enforced and the System is now being much improved

out of repair. It is very badly ventilated. The interior should be cement plastered on all surfaces exposed to contact with solid or fluid excreta. The latrine on the opposite side of the Neimatolenn, which drains into the tank, should be replaced by a standard plan — roofed latrine. The so-called corrugated iron latrines merely afford a certain amount of privacy; otherwise their construction is not better than the common "open space" pattern. The Municipality should in erecting — future latrines obtain plans either from the Sanitary Board or from Mr. Donaldson, Calcutta. Funds should be obtained for the complete remodelling of existing latrines.

(d) No effect has been given

these being inoffensive and effective could be erected in any vacant space within the town. I enclose a description and diagram for the information of the — Municipality. If, however the Municipality adheres to their present depot, it would be well to arrange that a light tramway and loading platform be made at that point.

(e) Night soil Conservancy. There are 22 latrines — an obviously too small provision for a population of 24,765. The result is that the roads and drinking water channels are resorted to for convenient. A masonry latrine on the bund of the Neimatolenn near the Tamarakolenn side of the town is much

out

Additional latrines will be provided And other suggestions will be adopted

Chas Cleeve sent to Madras for being trained

special training for a Sanitary Inspector (G.O No 1914 in dated 10th Dec 1914). This should be arranged for by the Council.

(4) Rubbish Removal. The taking of the rubbish to the depôt involves the ascent of a slope with a difficult gradient. Single bullocks seem incapable of effecting the work. An attempt is made to burn the rubbish in two masonry incinerators of a common type, but they fail to effect their purpose, with the result that a large quantity of unburnt rubbish has accumulated. It would save considerable expenditure in carting, and the buying of land if Messrs Burn & Co's Roberts patent natural draught incinerators were erected by the Municipality.

Messrs Burn & Co's Roberts patent Natural draught incinerators will be erected

These

employed:-

1 Sanitary Inspector (untrained) — Rs 30.
2 Sub Inspectors (do) — Rs 12 each.
6 Peons — Rs 5 "
33 sweepers — Rs 5 "
13 Female lobies — Rs 5 "
1 Female lady — Rs 5
9 Drain cleaners — Rs 5 "

Private Scavenging

1 Sub Inspector — Rs 10.
19 lobies — Rs 5 each.

Total per mensem Rs 469

The following is what I consider requisite:-

1 2nd grade Certificated Sanitary Inspector — Rs 45+15
1 3rd grade -do — Rs 25+7½
25 sweepers — Rs 5 each
44 Public scavengers — Rs 5 "
19 lobies (Private scavenging) Rs 5 "
8 peons (1 for night soil depôt) — Rs 7 "
Drain cleaners (Nil) — "

Total per mensem Rs 588½

The Sanitary Inspector has not undergone the special

A Sub Committee Consisting of Messrs S K Ramalingam Pillai Saargal, S Palani Saudi Mudaliyar Saargal and S S Pichoomany Iyer Saargal be appointed to draft a scheme with view to Carry out the Suggestions under the New Rules.

One Sanitary Inspector

and

Steps be taken for the diversion of surface drainage from inhabited areas & open latrines

watchmen. It seems to me that a man who can arrive at a mental condition in which he can stand on guard upon a drinking water ghat, and be not aware that at his feet a human faecal deposit existed must be culpably overworked by his employers. To remedy this state of affairs, I advise that the Municipality should delegate one or more Councillors to proceed with the District Sanitary Officer to each source of water supply, and devise means, as far as feasible, for the diversion of surface drainage from inhabited areas and open latrines. The aid of the Police should be asked for to enforce prevention of easement in the neighbourhood of channels.

The Police will be addressed to prevent nuisances in Public bathing ghats & sides of Channels.

6. Conservancy (a) The following is the staff and

found stationed, but on the steps and within the water at his feet was a human faecal deposit! in a corner on the ghat steps was a considerable amount of filth, rags &c, whilst the ground around a small building at the approach to the ghat, emitted odours that told unmistakably that it is a customary place of easement, although daily cleansed. The Councillor who had kindly accompanied me maintained that notwithstanding this condition of affairs, considering the length of the channel the man had to look after, he fulfilled his duty well. If this man be "worthy of his hire", it is evident that he should be aided by the appointment of further watchmen

Additional watchman will be appointed and

contents of a sewage channel in the same area as this latrine should also not discharge direct into the kolam. Such conditions precludes the possibility of the presence of the watchman at Teppakolam being of any marked utility.

(b) As regards the channels which distribute the supply to the inhabitants, I found the Arachukolam channel received the surface drainage from the road and faecal matter in the neighbourhood. Although the Veinakolam channel is regarded as specially reserved for drinking purposes, it receives the sewage and surface flow from foul backyards. At the drinking ghat a watchman was found

District Board and the Municipality of Palamcottah (vide Es. No 1410 In dated 9th Oct 1894). In the meantime, however, certain precautionary measures are essential as to existing sources. Thus it ought to be possible to prevent the waters of the Teppakolam, which is supposed to be protected by a watchman from defilement, being defiled by having communication with the Tamarakolam by means of a sewage channel, which runs at its side. It also ought to be possible to arrange that one of the two latrines on the banks of the Veinakolam (which supplies the Teppakolam) should not drain into it direct, and that the contents

In the meantime, the necessary precautionary measures will be adopted as suggested

The improvement could be worked out by an efficient Overseer sufficiently well for practical purposes. One improvement seemed to me obviously requisite; that is, not permitting the sewage from the area above the Ampar Maniapam to flow onwards into the drain beyond this point (it being simply intended for removal of storm water) by diverting all sewage above this into the existing drain conveying flush water from Kondrapan tank.

5. Water supply (a) It would be difficult to conceive a public water supply having more evil characteristics than that of this town. To this fact the Municipality seemed to have awakened, in having consented to undertaking a water supply scheme in combination with the

in this matter on my inspection a year subsequently. It would be advisable that some effort be made to conclude the bargain. Further, whilst it would be out of the question to undertake any sewerage system until the urgent matter of giving a water supply not open to gross contamination has been settled, it should be possible at a reasonable cost to make existing drains of better sanitary utility. These are chiefly formed of regular blocks of granite stones roughly hammer-dressed forming square shaped drains. It should be possible to fill the seats in with cement concrete drains cement plastered, or to use within them — Burn's half tile drains. These cost as per margin.

The Application has already been made for acquiring certain land under Land Acquisition Act for the opening of a sewage farm during the next Official Year. As for further suggestions regarding drains. the Construction of pettu drains has been sanctioned under certain conditions in G.O. No 1773 Pub Wks dated 28th October 1895

Per lineal foot

Diameter.	3"	4"	6"	9"	12"	15"	18"
Cost	2As	3As	4As	6As	10As	R1	R1-6

they should be compelled to make their own arrangements. It need hardly be said that removal by transport of sewage cannot be conducted on a scale that would benefit any but a very small number of the total tax payers, if attempted at Municipal expense.

(b) Several parts of the town are drained after a manner, but there is no system that arranges for complete delivery of the sewage at any definite point. I understand that the Municipality are about to open a sewage farm. In this respect, in their remarks on the Deputy Sanitary Commissioners' report embodied in G.O. No. 136 M dated 29th January 1895, the Municipality stated "the land is being bargained for." This was also apparently the state of progress

Sewage. (c) Seven carts are employed for sewage removal from private cesspools, at the expense of the Municipality. The up-keep of each cart costs Rs 11 per mensem. They are furnished with two barrels having a capacity of 40 gallons each. Each cart is said to make 5 trips daily; so that, presuming the cartman himself collects the sewage, Annas 1.6 is paid by the Municipality for each 100 gallons removed. This is therefore an expensive product, and I would advise the Municipality to follow the example of Guntur, Masulipatam, Bezwada, Ellore, Rajahmundry, Bellary and Mayaveram, and make arrangements with the householders to remove the sewage provided they bear the cost; otherwise,

they

This difficulty will be cleared when the Drainage Scheme is carried out

to take up a considerable area contiguous with the town site, and by means of surface and sub soil drains arrange for its being freed from damp, when this objection would not be applicable. I should think, in consideration of the very crowded state of the town, that the chances are that on offering ground so prepared and improved, it would be possible for them to sell building sites at a profit.

(c) In Kollathidi street I noticed that the corner of the house of one Peramanaiken Pillai was in a condition dangerous to passers by. He had been duly warned by the Sanitary Inspector, but had taken no action. If not already remedied, the Municipality should make representations to the District Magistrate.

H. Sewage.

The dangerous Condition referred to has been remedied

use to the Municipality demanding removal the ruined buildings under Section 184. These now afford cover for accument and interruptperflation. I quote this reality as a type of the town generally.

) Some measure for visiting upon the growing population no longer building "house within house" is essential. Wet cultivation extends all round the town and the people, it is stated, are afraid to make homes upon the wet land that has been used for wet cultivation, in view of the death of certain persons who had made the attempt. That living in the midst of paddy fields would be unhealthy there can be no doubt, but if action were taken by the Municipality under the Land Requisition Act it would be possible to

The necessary Sewage works will be carried out

The available Government lands within the Municipal limits will be acquired under the provisions of the Act

the impression that the lamps would be kept burning at public expense. The Municipality, however, do not provide lights for it. As it is well situated, and would be a public convenience if properly lighted, I suggest that this monument of Tinnevelly gratitude be no longer neglected. A central draught kerosene light at the great height at which the lamps is placed would be of greater utility than the lamps of smaller dimensions erected in its proximity by the Municipality.

A central draught Kerosene light will be put up as suggested

3. Dwellings. Three are — crowded to an extent — highly inimical to health. An excellent specimen of an overcrowded and insanitary area is to be found immediately at the back of the Municipal Office. This could be greatly improved without expense

intention of the Municipality to retain this man, I advise they require that within a certain period he pass a qualifying examination shewing the possession of the necessary grade of Engineering knowledge. I consider it would conduce to economy and efficiency in the making of roads if the Municipalities of Tinnevelly, Palamcottah, and the District Board Tinnevelly united in the purchase and upkeep of a steam roller for their respective roads in and between the two towns.

2. In a much frequented spot is an ornamental lamp post erected as a token of gratitude to a former Collector, Mr. Silver. The subscription committee apparently presented the post to the town, under the

The overseer is directed to pass the qualifying examination of Mistries within the Space of 3 years

If the Palamcotta Municipality & Dist Board Tinnevelly agree to the proposal of purchasing a Steam Roller, this Municipality will pay the proportionate Contribution.

Communications are addressed to these bodies & ascertain their views

* The cost of 6, 8 and 10 ton rollers is about Rs 5,350 Rs 5750 and Rs 6300 respectively W.C.K.

Inspection Notes of the Sanitary Commissioner, Madras.

Tinnevelly District.

Tinnevelly Municipality.

Inspected

Population per census of 1891 — 24,765

Roads. The section of several of the roads exhibits a concavity in the centre. Apparently, this is due to the fact that silt removed from the drains is allowed to accumulate at the sides, and that the overseer (who is a mere boy on Rs 15 a month) allows the roads to be repaired, without attempting as to the gradual alteration of shape occurring. The metal I saw for repair of the roads seemed prepared with little care as to suitability of size, and was thrown on the road with a mere pretence as to "picking up" previously. If it be the intention

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