8-8-865

4308

[L. & M. 1,700—10-8-96.]

Local & Muni. (1897) Department.

INDEXED.

PRINTED.

G.O., No. 1141 M

DATED 10.8.97

DESPATCHED

[Despatch Abstract.]

Inspection Notes

Recording, both remarks, the Sanitary Commr's — on the Chi-
dambaram Municipality

BACK PAPERS.

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

FURTHER PAPERS.

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

Government {1897} of Madras.

LOCAL AND MUNICIPAL.

Recd. } 1897. *Enclosures*

Regd. } *Spare copies*

G.O., No. 1141 M., 10th May 1897.

MAY.

Inspection Notes.

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

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—the following papers :—

Inspection Notes of the Sanitary Commissioner for Madras.

SOUTH ARCOT DISTRICT.

CHIDAMBARAM MUNICIPALITY.

Inspected 30th September, 1st, 2nd, 3rd, 5th and 10th October 1896.

Population as per census of	Males	.. ..	9,079
	Females	.. ..	9,561
		Total ..	18,640

Inspection Notes.

Dwellings.—The town looks in a most dilapidated condition on account of the very poor character of bricks used in the buildings and the close proximity, at certain seasons, of the sub-soil water. In sanctioning the construction of new dwellings, the council should do their best to explain the advantages, both as to longevity of the building and of human life, to be secured by using "damp-proof courses." The council should apply to the Sanitary Board for the necessary plans.

2. *Roads.*—These are in very bad condition. The metal is brought by rail from near Cuddalore. It is laid at the sides of the road in cakes varying from an inch to three and four. The Chairman informed me that the metal I saw had not been finally "passed", but I nevertheless think from what I saw of the roads that care as to size of metal is requisite and, generally, that the method of road-making requires reconsideration. Good granite chips are now obtainable from the temple ; these mixed with other debris are laid on the road. It was maintained that this was for the "foundation" only. Still, even if this be so, it would be advisable to separate the good metal by passing it through a large sieve. Where mere flat

Chairman's Remarks.

In sanctioning construction of new buildings, notices are now given requiring fulfilment under section 180 of the Act. The council is also prepared to enforce, as far as circumstances permit, the use of damp-proof courses and will apply to the Sanitary Board for necessary plans.

Inspection Notes.

portions are found, these should be duly broken into cubes. Separated into their component parts in this way, the temple debris would be of value to the municipality. In transporting metal by rail, it seems to me the cheaper course would be to see the metal was duly broken at the quarry, and not after arrival in the town.

3. *Surface Drainage.*—Some attempt is being made to improve surface drainage near Pacheappah's high school. The council had apparently not consulted any engineering authority on the matter, and from the appearance of the structure I think it would have been advisable that they should have done so. This structure is noteworthy, as with the exception of this small work (cost Rs. 120) and the placing of some boughs round tanks so as to afford them some grade of protection, I found no sanitary works had been effected since I last inspected the town in 1894.

4. *Water-supply*—(*a*) *Aiyar kolam.*—This is reserved for drinking purposes. The certificated sanitary inspector lately appointed has had placed here buckets, with the hope that persons will use these instead of drawing water direct. Although, of course, these are not used by all, the result is at least to diminish the amount of filth reaching the tank. The earthen bund round the tank requires repair, so as to prevent entrance of surface-water. The latrine taken objection to in my notes of 1894 remains undisturbed.

(*b*) To save repetition, I may here state that to this and other tanks within the municipality used for drinking purposes it is essential that means should be adopted to prevent contamination by hands, feet, ropes and chatties of persons drawing water direct. These are the most common methods of spread of cholera, and considering that statistics show that out of a total of twelve months in only three has Chidambaram been free from this disease during 1895, and that during this period not less than 216 of its inhabitants have died of it, it is high time that some effort towards protection from specific contamination was undertaken. So long as existing sources are employed, the choice must lie between making platforms (an indifferent way), using pumps for direct lifting into cisterns, or using wells at the site, which at least would minimise the risk. Of wells, undoubtedly, the best form the council can adopt is the ordinary

Chairman's Remarks.

The suggestions of the Sanitary Commissioner as regards having the metal broken up at the quarry, instead of after its being carted into the town, will receive the attention of the council.

The council regrets that funds do not permit its carrying out any systematic drainage work.

The council feels the necessity that exists for a reliable drinking-water supply for the town and as far as funds will permit will carry out the following :—

(1) Trying a deep well ; sinking pot-wells.

(2) Sinking one or more wells by the side of bathing tanks [(*c*) and (*f*)].

(3) Substantially fencing drinking-water sources.

These require the help of competent engineering authorities, which the council trusts the Government will afford when necessary.

The latrine referred to was not removed owing to the council's inability to secure another place, but this will also be attended to. Levels will be submitted to the Sanitary Board in connection with furnishing glazed earthenware pipes for the Periannakolam inlet [Tank (*d*)].

The Government has been addressed on the subject of the water-supply scheme.

Inspection Notes.

"tube well." A single driving apparatus, the cost of which might be shared by the district board, would only be Rs. 225, and each well with pump complete would only cost Rs. 70 to Rs. 90 according to size employed. No better method of protection could be devised than sinking these immediately at the side of the bund, as the water of the tank would be received after filtration through the earth and in a well purified condition. Ordinary "pot-wells" would be better than nothing, or wells may be dug and covered and then be supplied with pumps. I enclose a diagram of a pot-well sunk under my direction at the side of a tank elsewhere.

(*c*) *Nagacheri Kulam.*—This is a fine sheet of water, but is deliberately contaminated, notwithstanding the presence of a watchman, by the washing of clothing. If this place must be used for washing, there can be no reason why the whole tank water should thus be defiled. It would be a simple matter to make special washing surfaces round the tank, as per diagram herewith. This arranges for the use of the water and its return into the tank after filtration. If it be thought the water can be spared, instead of allowing it to return to the tank it should be sent into the adjoining fields without filtration by means of a special surface drain.

(*d*) *Periya Kulam.*—This tank is subjected to the same dangers as formerly described. The supply channel is not only defiled by persons using it for easement, but it receives the washings of two latrines. It is merely to beg the question to say that only at certain times the sluice is open. After special correspondence on the subject, the municipality has consented to run pipes through this exposed part of the channel. The plans and estimates have not yet been sanctioned by the Sanitary Board on account of a small piece of information required as to the levels. I trust this will be supplied by the council without delay.

(*e*) *Tillaiammankovil Bathing Tank.*—This is held sacred; but is very foul. The temple authorities should be required to take out the silt and build a protecting bund. It is worth placing on record that here the people during the annual festival were persuaded not to enter the sacred water until they had bathed outside the tank.

Chairman's Remarks.

Inspection Notes.

(*f*) *Ganapragasam Tank.*—This is supposed to be reserved for bathing, but, as a matter of fact, the people withdraw water freely for drinking purposes. If this place is to be used for bathing, it could cheaply be made fit for its purpose by the arrangement mentioned under the Nagacheri kolam.

(*g*) *A public Water-supply for Chidambaram.*—The Collector of the district, Mr. Castlestuart Stuart, has frequently held before the council the importance of securing a public water-supply as the only means of getting rid of the frequent losses from cholera. The Sanitary Engineer has stated that he possesses two schemes for the supply of this town. Of their nature, I have not been informed; it is desirable the council should make enquiries of him on the subject. So far as I can judge (G.O., No. 1709 M., dated 7th October 1896), any scheme that depended either upon tanks or the neighbouring channels would be unsatisfactory from a sanitary point of view, and, as stated in my report for 1894, I consider the town affords a typical instance of the possibility of obtaining a good supply from deep wells. No excavation has yet been made on the town site or its vicinity that would enable it to be judged precisely of what depth the clay supporting the sub-soil water stratum is. But the chances are that alternate bands of sand and clay would be found, and that subterranean water would be obtained cut off from the impurities of the sub-soil effectually. Having regard to the occurrence of springs in certain parts of this district, the configuration of the coast line and the propinquity of Pondicherry, there is no reason the subterranean water should not be found under sufficient pressure to ensure over-flowing or so-called artesian wells; but exploration should not be conducted with this fixed idea. If exploration by boring proved the existence of a sufficiently thick layer of clay between the sub-soil and subterranean water, there is no reason why the site of the deep wells should not be within the town; an alternative site, however, might be found near Lalpuram about one-and-a-half mile from the town. Having secured water in these deep wells, it is of course understood that lifting by pumping and distribution in pipes under ordinary conditions direct or from elevated reservoirs would be followed. If it were found that good and abundant water

Chairman's Remarks.

Inspection Notes.

"tube well." A single driving apparatus, the cost of which might be shared by the district board, would only be Rs. 225, and each well with pump complete would only cost Rs. 70 to Rs. 90 according to size employed. No better method of protection could be devised than sinking these immediately at the side of the bund, as the water of the tank would be received after filtration through the earth and in a well purified condition. Ordinary "pot-wells" would be better than nothing, or wells may be dug and covered and then be supplied with pumps. I enclose a diagram of a pot-well sunk under my direction at the side of a tank elsewhere.

(*c*) *Nagacheri Kulam.*—This is a fine sheet of water, but is deliberately contaminated, notwithstanding the presence of a watchman, by the washing of clothing. If this place must be used for washing, there can be no reason why the whole tank water should thus be defiled. It would be a simple matter to make special washing surfaces round the tank, as per diagram herewith. This arranges for the use of the water and its return into the tank after filtration. If it be thought the water can be spared, instead of allowing it to return to the tank it should be sent into the adjoining fields without filtration by means of a special surface drain.

(*d*) *Periya Kulam.*—This tank is subjected to the same dangers as formerly described. The supply channel is not only defiled by persons using it for easement, but it receives the washings of two latrines. It is merely to beg the question to say that only at certain times the sluice is open. After special correspondence on the subject, the municipality has consented to run pipes through this exposed part of the channel. The plans and estimates have not yet been sanctioned by the Sanitary Board on account of a small piece of information required as to the levels. I trust this will be supplied by the council without delay.

(*e*) *Tillaiammankovil Bathing Tank.*—This is held sacred; but is very foul. The temple authorities should be required to take out the silt and build a protecting bund. It is worth placing on record that here the people during the annual festival were persuaded not to enter the sacred water until they had bathed outside the tank.

Chairman's Remarks.

Inspection Notes.

(*f*) *Ganapragasam Tank.*—This is supposed to be reserved for bathing, but, as a matter of fact, the people withdraw water freely for drinking purposes. If this place is to be used for bathing, it could cheaply be made fit for its purpose by the arrangement mentioned under the Nagacheri kolam.

(*g*) *A public Water-supply for Chidambaram.*—The Collector of the district, Mr. Castlestuart Stuart, has frequently held before the council the importance of securing a public water-supply as the only means of getting rid of the frequent losses from cholera. The Sanitary Engineer has stated that he possesses two schemes for the supply of this town. Of their nature, I have not been informed; it is desirable the council should make enquiries of him on the subject. So far as I can judge (G.O., No. 1709 M., dated 7th October 1896), any scheme that depended either upon tanks or the neighbouring channels would be unsatisfactory from a sanitary point of view, and, as stated in my report for 1894, I consider the town affords a typical instance of the possibility of obtaining a good supply from deep wells. No excavation has yet been made on the town site or its vicinity that would enable it to be judged precisely of what depth the clay supporting the sub-soil water stratum is. But the chances are that alternate bands of sand and clay would be found, and that subterranean water would be obtained cut off from the impurities of the sub-soil effectually. Having regard to the occurrence of springs in certain parts of this district, the configuration of the coast line and the propinquity of Pondicherry, there is no reason the subterranean water should not be found under sufficient pressure to ensure over-flowing or so-called artesian wells; but exploration should not be conducted with this fixed idea. If exploration by boring proved the existence of a sufficiently thick layer of clay between the sub-soil and subterranean water, there is no reason why the site of the deep wells should not be within the town; an alternative site, however, might be found near Lalpuram about one-and-a-half mile from the town. Having secured water in these deep wells, it is of course understood that lifting by pumping and distribution in pipes under ordinary conditions direct or from elevated reservoirs would be followed. If it were found that good and abundant water

Chairman's Remarks.

Inspection Notes.

were obtained, such a scheme would certainly prove very cheap. I consider a scheme of this description should certainly be investigated before proceeding to the other alternatives mentioned, which must imply a large settling reservoir, expensive filter-beds, in addition to pumping, which will presumably be necessary in any case. The municipality has now in hand Rs. 1,500 intended for the purpose of conducting exploration [G.O., No. 402 M., dated 11th March 1896, paragraph 4 (2)], and I do not think it could do better, should the Sanitary Board's approval be obtained, than sinking a deep well at once as far as practicable by digging and lining and subsequently boring. According to the Collector, "M.R.Ry. Muttu Chettiyar Avargal, who has expended much money in improving the local temple, has expressed his willingness to contribute half the cost of a well-considered scheme, provided the municipality will pay the other half." It is understood that the Nattukottai Chetties, who have been liberal in contributions towards the Chidambaram temple, are also willing to subscribe. At the special meeting in which I addressed the council as to the necessity that existed for a water-supply, it not only promised to take immediate steps on the subject, but the opinion was freely expressed that the want was sufficiently felt in the town to induce all classes to aid by subscriptions. If, therefore, Government sanctioned in this case aid such as has been afforded to other municipalities by allowing one half the cost, the chances are sufficient would be obtained to prevent subsequent taxation proving more than perceptible to the people.

Chairman's Remarks.

5. *Night-soil Conservancy.*—(*a*) There are only eight latrines within the town. One hundred and ninety houses are conserved under the private scavengering system out of a total of 3,648. One trip daily is performed by a lorrie on which are placed nine conservancy buckets of $2\frac{1}{2}$ cubic feet capacity. Taking the population at the last census figure (18,640), there is therefore left unremoved from the town-site daily 163·5 cubic feet of night-soil, or 59,577·5 cubic feet per annum. In short, the night-soil conservancy arrangements are futile.

Half the number of people resort to the fields for purposes of nature and the plant existing, the council thinks, would answer. Besides, there are available five hand night-soil carts, not entered in the inspection notes. However, to meet contingencies and for use during festival times, one cart, 10 cubic feet, drawn by bulls, will be sent for. One extra private scavenging toti has already been sanctioned. The council thinks that the present number of carts, if kept in good order and worked two trips a day, would answer. The Korapet depôt will be removed as soon as the council succeeds in getting a better site. Extra toties have been sanctioned to be entertained from April next.

Inspection Notes.

(*b*) The following table contrasts the menial conservancy staff, the supervising sanitary staff, and plant requisite for the correct working of the municipality with those now employed:—

EXISTING STAFF AND PLANT.

	Cost per mensem.
Conservancy Staff.	Rs.
1 sanitary inspector on Rs. 27 ..	27
4 maistries on Rs. 6 each	24
16 scavengers on Rs. 5 each	80
22 sweepers " "	110
1 talayari on Rs. 3	3
Private Scavenging Staff.	
1 maistri on Rs. 6	6
5 scavengers on Rs. 5 each	25
Total ..	275

Conservancy Plant.

1 lorry holding nine buckets, each of $2\frac{1}{2}$ cubic feet capacity.
11 rubbish carts of 27 cubic feet each.

PROPOSED STAFF AND PLANT.

	Cost per mensem.
Conservancy Staff.	Rs.
1 sanitary inspector on Rs. 27 ..	27
5 peons on Rs. 6 each	30
19 sweepers on Rs. 5 each	95
30 scavengers on Rs. 5 each	150
Total ..	302

Conservancy Plant.

16 rubbish carts of 27 cubic feet each performing two trips daily.
6 night-soil carts, each of 16 cubic feet capacity, performing two trips daily.

(*c*) *Rubbish.*—There are eleven carts employed against sixteen requisite.

(*d*) *Night-soil and Rubbish disposal.*—The sale of town-sweepings fetched Rs. 339 last year. One of the rubbish depôts near the railway station has lately been removed from an objectionable position. The Korapet depôt, however (against which I animadverted in my last notes), remains in the same insanitary state close to the road.

(*e*) *Sewage collection and disposal.*—The method of disposal is chiefly by soakage of the sub-soil through pervious cesspools. The council has been fully furnished with my views on this subject—*vide* this office circular, dated 20th February 1896.

Chairman's Remarks.

The council would consider the opening of a sewage farm.

6. *Meat Market.*—This is a brick and mud structure plastered with chunam. Improvement might be effected by the council forwarding the plan to the Sanitary Board. In the meantime, the pyals and walls up to 4′ 6″ should be plastered with Portland cement, and cement-lined or glazed-tile drains should be made. Old boxes and ropes should be abolished in favour of steel hooks and bars and polished Cuddapah slabs.

Attention will be paid to the suggestions in the inspection notes.

7. *Graveyards.*—The Hindu burial and burning grounds are outside municipal limits. The sanitary aspects of the graveyards of Muhammadans which are within

The question of removing the Muhammadan burial-grounds in the heart of the town is under consideration.

Inspection Notes.

the town have been discussed in this office letter, No. 2177-S., dated 20th November 1896, addressed to Government.

8. *Registration.*—The following figures (having regard to the birth-rates) show that registration is not conducted with sufficient care. It is therefore probable, notwithstanding the high death-rate from "all causes" here shown, the people of Chidambaram die even more quickly than this would demonstrate. It is noteworthy in this connection that no increase of population was shown at the last intercensal period. The persistence of cholera and the high rate of infantile mortality and from bowel affections also point conclusively to the contaminated condition of water-supply and the urgency which exists for the introduction of protected water under modern conditions :—

Chairman's Remarks.

Improved registration is expected, as the council has resolved to pay a sort of remuneration to municipal servants for cases brought to notice and prosecuted successfully. The non-increase of population in the last census is due to the exclusion of two villages from the municipal circle originally consisting of nine.

Years.	Births registered during the year—ratio per mille of the population as per census of 1891.	Deaths from all causes—ratio per mille of the population as per census of 1891.	Percentage of deaths from						Ratio of deaths of infants under one year of age per mille of those born in the preceding year.	Ratio of total deaths of children between one and five years of age per mille of population of that age.
			Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.	Injuries.	All other causes.		
1892	25·2	24·6	7·0	1·1	29·3	10·0	2·4	50·4	185·8	26·4
1893	29·9	31·4	18·5	3·3	23·2	12·4	0·9	41·7	234·0	36·1
1894	28·5	31·4	16·4	0·7	33·8	6·3	1·2	41·6	204·3	26·4
1895	24·0	35·2	32·7	1·1	28·9	5·8	1·8	29·7	133·5	49·4
1896 up to September	25·7	30·7	17·7	0·2	24·2	12·2	9·6	36·1	243·3	33·8

Vaccination.—The following are the results exhibited by the form required under G.O., No. 1502 M., dated 19th October 1894. They are satisfactory :—

Total births available for vaccination during 1895-96.	Number died.	Number left the town.	Number vaccinated successfully.	Number successfully vaccinated under one year according to monthly returns.	Number remaining to be disposed of at the end of December 1895.
407	96	76	221	372	8

10. *Sanitary Administration.*—This municipality has been in existence for twenty-three years. The simple matter of conservancy has not, however, been more than perfunctorily attended to during that period. The council is composed largely of well-educated men, and I trust, as I was

The council's attention will be given to the reserving of water for drinking, to the question of disposal of sewage and night-soil to the best advantage, and improving drainage with skilled advice as far as it is able. In this connection the council begs to note the following :—

Inspection Notes.

able at the special meeting to point out what really is their duty in this matter, that an united effort to put both the conservancy and water-supply arrangements of the town in a safe condition will result. It must be remembered that a stream of pilgrims is constantly passing through this town, and that it is in great part owing to the evil sanitary condition of Chidambaram the persistent residence in South Arcot of cholera must be ascribed. It is quite within the power of the Chidambaram Municipality by adoption of sanitary measures to feel confident that not only will cholera not spread amongst the inhabitants even if imported, but that it shall also not become a source of death to, and well-earned reproach by, the rest of the district. Whilst expressing these views, I have also the pleasure of placing on record the fact that at the last festival under the supervision of Surgeon-Major Marsden, and with the cordial co-operation of the council, genuine efforts were made to keep the town in a sanitarily sound condition, and that old prejudices as to the necessity of defiling sacred tanks by bathing in them direct were replaced by the demand for a primary washing by the bather—a method in accord at once with the modern sanitary requirements and the Hindu religion.

FORT ST. GEORGE, 20*th November* 1896. (Signed) W. G. KING, Surgn.-Lieut.-Col., *Sanitary Commissioner for Madras.*

Chairman's Remarks.

The low situation of many parts of the town rendering drainage almost impossible, and difficulty in acquiring sites for municipal purposes.

From G. A. W. VELLOMS, Esq., Chairman-delegate, Municipal Council, Chidambaram, to the Secretary to Government, Local and Municipal Department (through the Head Assistant Collector and Collector of South Arcot), dated 9th February 1897, No. 592.

I have the honour to forward herewith the Sanitary Commissioner's inspection notes on this municipality, dated 20th November 1896, duly answered in the half margin provided for the purpose. The answers were approved by the council at its meeting held on the 6th instant.

Cur. No. 576.

Submitted to the Collector of South Arcot.

13*th February* 1897. (Signed) S. W. G. I. MACIVER, *Ag. Head Asst. Collector.*

No. 206-Eng.

Forwarded.

2. The roads of the Chidambaram Municipality are not in good order, with the exception of the main roads from the railway station to the district board roads leading outside the municipality. It is true good metal has to be obtained from a distance. The suggestion of the Sanitary Commissioner regarding the temple debris has not been noted by the council (*paragraph 2 of the notes*).

3. *Paragraph* 4, *&c.*—The municipality should take much greater care with the several tanks which are sources of drinking-water supply. The council's attention has frequently been drawn to the importance of this matter, but it has hitherto failed to take really effective action. The latrine referred to in paragraph 4 (*a*) should have been removed long ago. The inability to secure a place is not a satisfactory excuse for polluting a source of drinking-water supply. The Nagacheri kolam is reported to be *deliberately* contaminated. The defilers should be prosecuted. The promise of the council to carry out certain works in paragraph 4 of its answer should be fulfilled at an early date.

4. *A public Water-supply.*—As soon as a proper scheme can be worked out, this subject should be dealt with.

5. The method of sewage disposal is most unsatisfactory, as it is by soakage of the sub-soil through pervious cesspools, which gradually pollutes the soil and endangers public health.

6. The council, though composed mostly of educated members, has not worked well. The council requires an *energetic* and strong *Chairman* whom a factious majority cannot terrify. A new Chairman has lately been nominated, and, should he be elected, it is hoped that marked improvement will be visible.

(Signed) A. E. CASTLESTUART STUART,
Collector.

12*th March* 1897.

ORDER—No. 1141 M., dated 10th May 1897.

Recorded, with the following remarks:—

(1) The attention of the municipal council is drawn to the remarks of the Collector in paragraphs 2, 3 and 5 of his endorsement and to those of the Sanitary Commissioner in paragraph 5 (*b*) of his inspection notes.

(2) As regards the works referred to in the Chairman's remarks on paragraph 4 of the inspection notes, the municipal council can consult the Sanitary authorities as laid down in the rules issued in G.O., No. 1698 L., dated 18th September 1896.

(3) The council's request regarding the preparation of a water-supply scheme has been disposed of in G.O., No. 256 M., dated 20th February 1897.

(4) The temple authorities should be addressed with the request to remove silt from the Tillaiammankovil tank and to construct a protecting bund.

(5) No time should be lost in improving the conservancy arrangements.

(True Extract.)

G. S. FORBES,
Secretary to Government.

To the Chairman, Municipal Council, Chidambaram.
„ Collector of South Arcot.
„ Sanitary Board.
„ Sanitary Commissioner.
„ Sanitary Engineer.
Editors' Table.

d. A. Raitt.

Proof 19/5

Government {1897} of Madras.

Rec'd 20/5/97.

LOCAL AND MUNICIPAL.

Proof for approval.

Press
Struck off
as revised
VK 21/5/97

Recd. } 1897. Enclosures
Regd. } Spare copies

G.O., No. 1141 M., 10th May 1897.

MAY.

Inspection Notes.

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

12/5

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—the following papers :—

Inspection Notes of the Sanitary Commissioner for Madras.

SOUTH ARCOT DISTRICT.

CHIDAMBARAM MUNICIPALITY.

Inspected 30th September, 1st, 2nd, 3rd, 5th and 10th October 1896.

Population as per census of	Males	9,079
	Females	9,561
	Total ..	18,640

Inspection Notes.

Dwellings.—The town looks in a most dilapidated condition on account of the very poor character of bricks used in the buildings and the close proximity, at certain seasons, of the sub-soil water. In sanctioning the construction of new dwellings, the council should do their best to explain the advantages, both as to longevity of the building and of human life, to be secured by using "damp-proof courses." The council should apply to the Sanitary Board for the necessary plans.

2. *Roads.*—These are in very bad condition. The metal is brought by rail from near Cuddalore. It is laid at the sides of the road in cakes varying from an inch to three and four. The Chairman informed me that the metal I saw had not been finally "passed", but I nevertheless think from what I saw of the roads that care as to size of metal is requisite and, generally, that the method of road-making requires reconsideration. Good granite chips are now obtainable from the temple; these mixed with other debris are laid on the road. It was maintained that this was for the "foundation" only. Still, even if this be so, it would be advisable to separate the good metal by passing it through a large sieve. Where mere flat

Chairman's Remarks.

In sanctioning construction of new buildings, notices are now given requiring fulfilment under section 180 of the Act. The council is also prepared to enforce, as far as circumstances permit, the use of damp-proof courses and will apply to the Sanitary Board for necessary plans.

Inspection Notes.

portions are found, these should be duly broken into cubes. Separated into their component parts in this way, the temple debris would be of value to the municipality. In transporting metal by rail, it seems to me the cheaper course would be to see the metal was duly broken at the quarry, and not after arrival in the town.

3. *Surface Drainage.*—Some attempt is being made to improve surface drainage near Pacheappah's high school. The council had apparently not consulted any engineering authority on the matter, and from the appearance of the structure I think it would have been advisable that they should have done so. This structure is noteworthy, as with the exception of this small work (cost Rs. 120) and the placing of some boughs round tanks so as to afford them some grade of protection, I found no sanitary works had been effected since I last inspected the town in 1894.

4. *Water-supply*—(*a*) *Aiyar kolam.*—This is reserved for drinking purposes. The certificated sanitary inspector lately appointed has had placed here buckets, with the hope that persons will use these instead of drawing water direct. Although, of course, these are not used by all, the result is at least to diminish the amount of filth reaching the tank. The earthen bund round the tank requires repair, so as to prevent entrance of surface-water. The latrine taken objection to in my notes of 1894 remains undisturbed.

(*b*) To save repetition, I may here state that to this and other tanks within the municipality used for drinking purposes it is essential that means should be adopted to prevent contamination by hands, feet, ropes and chatties of persons drawing water direct. These are the most common methods of spread of cholera, and considering that statistics show that out of a total of twelve months in only three has Chidambaram been free from this disease during 1895, and that during this period not less than 216 of its inhabitants have died of it, it is high time that some effort towards protection from specific contamination was undertaken. So long as existing sources are employed, the choice must lie between making platforms (an indifferent way), using pumps for direct lifting into cisterns, or using wells at the site, which at least would minimise the risk. Of wells, undoubtedly, the best form the council can adopt is the ordinary

Chairman's Remarks.

The suggestions of the Sanitary Commissioner as regards having the metal broken up at the quarry, instead of after its being carted into the town, will receive the attention of the council.

The council regrets that funds do not permit its carrying out any systematic drainage work.

The council feels the necessity that exists for a reliable drinking-water supply for the town and as far as funds will permit will carry out the following :—

(1) Trying a deep well; sinking pot-wells.

(2) Sinking one or more wells by the side of bathing tanks [(*c*) and (*f*)].

(3) Substantially fencing drinking-water sources.

These require the help of competent engineering authorities, which the council trusts the Government will afford when necessary.

The latrine referred to was not removed owing to the council's inability to secure another place, but this will also be attended to. Levels will be submitted to the Sanitary Board in connection with furnishing glazed earthenware pipes for the Periannakolam inlet [Tank (*d*)].

The Government has been addressed on the subject of the water-supply scheme.

Inspection Notes.

Chairman's Remarks.

"tube well." A single driving apparatus, the cost of which might be shared by the district board, would only be Rs. 225, and each well with pump complete would only cost Rs. 70 to Rs. 90 according to size employed. No better method of protection could be devised than sinking these immediately at the side of the bund, as the water of the tank would be received after filtration through the earth and in a well purified condition. Ordinary "pot-wells" would be better than nothing, or wells may be dug and covered and then be supplied with pumps. I enclose a diagram of a pot-well sunk under my direction at the side of a tank elsewhere.

(*c*) *Nagacheri Kolam.*—This is a fine sheet of water, but is deliberately contaminated, notwithstanding the presence of a watchman, by the washing of clothing. If this place must be used for washing, there can be no reason why the whole tank water should thus be defiled. It would be a simple matter to make special washing surfaces round the tank, as per diagram herewith. This arranges for the use of the water and its return into the tank after filtration. If it be thought the water can be spared, instead of allowing it to return to the tank it should be sent into the adjoining fields without filtration by means of a special surface drain.

(*d*) *Periya Kolam.*—This tank is subjected to the same dangers as formerly described. The supply channel is not only defiled by persons using it for easement, but it receives the washings of two latrines. It is merely to beg the question to say that only at certain times the sluice is open. After special correspondence on the subject, the municipality has consented to run pipes through this exposed part of the channel. The plans and estimates have not yet been sanctioned by the Sanitary Board on account of a small piece of information required as to the levels. I trust this will be supplied by the council without delay.

(*e*) *Tillaiammancoil Bathing Tank.*—This is held sacred; but is very foul. The temple authorities should be required to take out the silt and build a protecting bund. It is worth placing on record that here the people during the annual festival were persuaded not to enter the sacred water until they had bathed outside the tank.

Inspection Notes.

Chairman's Remarks.

(*f*) *Ganapragasam Tank.*—This is supposed to be reserved for bathing, but, as a matter of fact, the people withdraw water freely for drinking purposes. If this place is to be used for bathing, it could cheaply be made fit for its purpose by the arrangement mentioned under the Nagacheri kolam.

(*g*) *A public Water-supply for Chidambaram.*—The Collector of the district, Mr. Castlestuart Stuart, has frequently held before the council the importance of securing a public water-supply as the only means of getting rid of the frequent losses from cholera. The Sanitary Engineer has stated that he possesses two schemes for the supply of this town. Of their nature, I have not been informed; it is desirable the council should make enquiries of him on the subject. So far as I can judge (G.O., No. 1709 M., dated 7th October 1896), any scheme that depended either upon tanks or the neighbouring channels would be unsatisfactory from a sanitary point of view, and, as stated in my report for 1894, I consider the town affords a typical instance of the possibility of obtaining a good supply from deep wells. No excavation has yet been made on the town site or its vicinity that would enable it to be judged precisely of what depth the clay supporting the sub-soil water stratum is. But the chances are that alternate bands of sand and clay would be found, and that subterranean water would be obtained cut off from the impurities of the sub-soil effectually. Having regard to the occurrence of springs in certain parts of this district, the configuration of the coast line and the propinquity of Pondicherry, there is no reason the subterranean water should not be found under sufficient pressure to ensure over-flowing or so-called artesian wells; but exploration should not be conducted with this fixed idea. If exploration by boring proved the existence of a sufficiently thick layer of clay between the sub-soil and subterranean water, there is no reason why the site of the deep wells should not be within the town; an alternative site, however, might be found near Lalpuram about one-and-a-half mile from the town. Having secured water in these deep wells, it is of course understood that lifting by pumping and distribution in pipes under ordinary conditions direct or from elevated reservoirs would be followed. If it were found that good and abundant water

Inspection Notes.

were obtained, such a scheme would certainly prove very cheap. I consider a scheme of this description should certainly be investigated before proceeding to the other alternatives mentioned, which must imply a large settling reservoir, expensive filter-beds, in addition to pumping, which will presumably be necessary in any case. The municipality has now in hand Rs. 1,500 intended for the purpose of conducting exploration [G.O., No. 402 M., dated 11th March 1896, paragraph 4 (2)], and I do not think it could do better, should the Sanitary Board's approval be obtained, than sinking a deep well at once as far as practicable by digging and lining and subsequently boring. According to the Collector, "M.R.Ry. Muttu Chettiyar Avargal, who has expended much money in improving the local temple, has expressed his willingness to contribute half the cost of a well-considered scheme, provided the municipality will pay the other half." It is understood that the Nattukottai Chetties, who have been liberal in contributions towards the Chidambaram temple, are also willing to subscribe. At the special meeting in which I addressed the council as to the necessity that existed for a water-supply, it not only promised to take immediate steps on the subject, but the opinion was freely expressed that the want was sufficiently felt in the town to induce all classes to aid by subscriptions. If, therefore, Government sanctioned in this case aid such as has been afforded to other municipalities by allowing one half the cost, the chances are sufficient would be obtained to prevent subsequent taxation proving more than perceptible to the people.

Chairman's Remarks.

5. *Night-soil Conservancy.*—(*a*) There are only eight latrines within the town. One hundred and ninety houses are conserved under the private scavengering system out of a total of 3,648. One trip daily is performed by a lorrie on which are placed nine conservancy buckets of $2\frac{1}{2}$ cubic feet capacity. Taking the population at the last census figure (18,640), there is therefore left unremoved from the town-site daily 163·5 cubic feet of night-soil, or 59,577·5 cubic feet per annum. In short, the night-soil conservancy arrangements are futile.

Half the number of people resort to the fields for purposes of nature and the plant existing, the council thinks, would answer. Besides, there are available five hand night-soil carts, not entered in the inspection notes. However, to meet contingencies and for use during festival times, one cart, 10 cubic feet, drawn by bulls, will be sent for. One extra private scavenging toti has already been sanctioned. The council thinks that the present number of carts, if kept in good order and worked two trips a day, would answer. The Korapet depôt will be removed as soon as the council succeeds in getting a better site. Extra toties have been sanctioned to be entertained from April next.

Inspection Notes.

(*b*) The following table contrasts the menial conservancy staff, the supervising sanitary staff, and plant requisite for the correct working of the municipality with those now employed:—

EXISTING STAFF AND PLANT.

	Cost per mensem.
Conservancy Staff.	RS.
1 sanitary inspector on Rs. 27	.. 27
4 maistries on Rs. 6 each ..	.. 24
16 scavengers on Rs. 5 each ..	.. 80
22 sweepers " " ..	.. 110
1 talayari on Rs. 3	.. 3
Private Scavenging Staff.	
1 maistry on Rs. 6	.. 6
5 scavengers on Rs. 5 each ..	.. 25
Total ..	275

Conservancy Plant.

1 lorry holding nine buckets, each of $2\frac{1}{2}$ cubic feet capacity.
11 rubbish carts of 27 cubic feet each.

(*c*) *Rubbish.*—There are eleven carts employed against sixteen requisite.

(*d*) *Night-soil and Rubbish disposal.*—The sale of town-sweepings fetched Rs. 339 last year. One of the rubbish depôts near the railway station has lately been removed from an objectionable position. The Korapet depôt, however (against which I animadverted in my last notes), remains in the same insanitary state close to the road.

(*e*) *Sewage collection and disposal.*—The method of disposal is chiefly by soakage of the sub-soil through pervious cesspools. The council has been fully furnished with my views on this subject—*vide* this office circular, dated 20th February 1896.

6. *Meat Market.*—This is a brick and mud structure plastered with chunam. Improvement might be effected by the council forwarding the plan to the Sanitary Board. In the meantime, the pyals and walls up to 4′ 6″ should be plastered with Portland cement, and cement-lined or glazed-tile drains should be made. Old boxes and ropes should be abolished in favour of steel hooks and bars and polished Cuddapah slabs.

7. *Graveyards.*—The Hindu burial and burning grounds are outside municipal limits. The sanitary aspects of the graveyards of Muhammadans which are within

Chairman's Remarks.

PROPOSED STAFF AND PLANT.

	Cost per mensem.
Conservancy Staff.	RS.
1 sanitary inspector on Rs. 27	.. 27
5 peons on Rs. 6 each	.. 30
19 sweepers on Rs. 5 each ..	.. 95
30 scavengers on Rs. 5 each ..	.. 150
Total ..	302

Conservancy Plant.

16 rubbish carts of 27 cubic feet each performing two trips daily.
6 night-soil carts, each of 16 cubic feet capacity, performing two trips daily.

The council would consider the opening of a sewage farm.

Attention will be paid to the suggestions in the inspection notes.

The question of removing the Muhammadan burial-grounds in the heart of the town is under consideration.

Inspection Notes.

were obtained, such a scheme would certainly prove very cheap. I consider a scheme of this description should certainly be investigated before proceeding to the other alternatives mentioned, which must imply a large settling reservoir, expensive filter-beds, in addition to pumping, which will presumably be necessary in any case. The municipality has now in hand Rs. 1,500 intended for the purpose of conducting exploration [G.O., No. 402 M., dated 11th March 1896, paragraph 4 (2)], and I do not think it could do better, should the Sanitary Board's approval be obtained, than sinking a deep well at once as far as practicable by digging and lining and subsequently boring. According to the Collector, "M.R.Ry. Muttu Chettiyar Avargal, who has expended much money in improving the local temple, has expressed his willingness to contribute half the cost of a well-considered scheme, provided the municipality will pay the other half." It is understood that the Nattukottai Chetties, who have been liberal in contributions towards the Chidambaram temple, are also willing to subscribe. At the special meeting in which I addressed the council as to the necessity that existed for a water-supply, it not only promised to take immediate steps on the subject, but the opinion was freely expressed that the want was sufficiently felt in the town to induce all classes to aid by subscriptions. If, therefore, Government sanctioned in this case aid such as has been afforded to other municipalities by allowing one half the cost, the chances are sufficient would be obtained to prevent subsequent taxation proving more than perceptible to the people.

Chairman's Remarks.

5. *Night-soil Conservancy.*—(*a*) There are only eight latrines within the town. One hundred and ninety houses are conserved under the private scavengering system out of a total of 3,648. One trip daily is performed by a lorrie on which are placed nine conservancy buckets of $2\frac{1}{2}$ cubic feet capacity. Taking the population at the last census figure (18,640), there is therefore left unremoved from the town-site daily 163·5 cubic feet of night-soil, or 59,577·5 cubic feet per annum. In short, the night-soil conservancy arrangements are futile.

Half the number of people resort to the fields for purposes of nature and the plant existing, the council thinks, would answer. Besides, there are available five hand night-soil carts, not entered in the inspection notes. However, to meet contingencies and for use during festival times, one cart, 10 cubic feet, drawn by bulls, will be sent for. One extra private scavenging toti has already been sanctioned. The council thinks that the present number of carts, if kept in good order and worked two trips a day, would answer. The Korapet depôt will be removed as soon as the council succeeds in getting a better site. Extra toties have been sanctioned to be entertained from April next.

Inspection Notes.

(*b*) The following table contrasts the menial conservancy staff, the supervising sanitary staff, and plant requisite for the correct working of the municipality with those now employed:—

EXISTING STAFF AND PLANT.

	Cost per mensem.
	RS.
Conservancy Staff.	
1 sanitary inspector on Rs. 27 ..	.. 27
4 maistries on Rs. 6 each ..	.. 24
16 scavengers on Rs. 5 each ..	.. 80
22 sweepers " " ..	.. 110
1 talayari on Rs. 3	.. 3
Private Scavenging Staff.	
1 maistry on Rs. 6	.. 6
5 scavengers on Rs. 5 each ..	.. 25
Total ..	275

Conservancy Plant.

1 lorry holding nine buckets, each of $2\frac{1}{2}$ cubic feet capacity.
11 rubbish carts of 27 cubic feet each.

(*c*) *Rubbish.*—There are eleven carts employed against sixteen requisite.

(*d*) *Night-soil and Rubbish disposal.*—The sale of town-sweepings fetched Rs. 339 last year. One of the rubbish depôts near the railway station has lately been removed from an objectionable position. The Korapet depôt, however (against which I animadverted in my last notes), remains in the same insanitary state close to the road.

(*e*) *Sewage collection and disposal.*—The method of disposal is chiefly by soakage of the sub-soil through pervious cesspools. The council has been fully furnished with my views on this subject—*vide* this office circular, dated 20th February 1896.

6. *Meat Market.*—This is a brick and mud structure plastered with chunam. Improvement might be effected by the council forwarding the plan to the Sanitary Board. In the meantime, the pyals and walls up to 4′ 6″ should be plastered with Portland cement, and cement-lined or glazed-tile drains should be made. Old boxes and ropes should be abolished in favour of steel hooks and bars and polished Cuddapah slabs.

7. *Graveyards.*—The Hindu burial and burning grounds are outside municipal limits. The sanitary aspects of the graveyards of Muhammadans which are within

Chairman's Remarks.

PROPOSED STAFF AND PLANT.

	Cost per mensem.
	RS.
Conservancy Staff.	
1 sanitary inspector on Rs. 27 ..	.. 27
5 peons on Rs. 6 each	.. 30
19 sweepers on Rs. 5 each ..	.. 95
30 scavengers on Rs. 5 each ..	.. 150
Total ..	302

Conservancy Plant.

16 rubbish carts of 27 cubic feet each performing two trips daily.
6 night-soil carts, each of 16 cubic feet capacity, performing two trips daily.

The council would consider the opening of a sewage farm.

Attention will be paid to the suggestions in the inspection notes.

The question of removing the Muhammadan burial-grounds in the heart of the town is under consideration.

Inspection Notes.

the town have been discussed in this office letter, No. 2177-S., dated 20th November 1896, addressed to Government.

8. *Registration.*—The following figures (having regard to the birth-rates) show that registration is not conducted with sufficient care. It is therefore probable, notwithstanding the high death-rate from "all causes" here shown, the people of Chidambaram die even more quickly than this would demonstrate. It is noteworthy in this connection that no increase of population was shown at the last intercensal period. The persistence of cholera and the high rate of infantile mortality and from bowel affections also point conclusively to the contaminated condition of water-supply and the urgency which exists for the introduction of protected water under modern conditions :—

Chairman's Remarks.

Improved registration is expected, as the council has resolved to pay a sort of remuneration to municipal servants for cases brought to notice and prosecuted successfully. The non-increase of population in the last census is due to the exclusion of two villages from the municipal circle originally consisting of nine.

Years.	Births registered during the year—ratio per mille of the population as per census of 1891.	Deaths from all causes—ratio per mille of the population as per census of 1891.	Percentage of deaths from						Ratio of deaths of infants under one year of age per mille of those born in the preceding year.	Ratio of total deaths of children between one and five years of age per mille of population of that age.
			Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.	Injuries.	All other causes.		
1892	25·2	24·6	7·0	1·1	29·3	10·0	2·4	50·4	185·8	26·4
1893	29·9	31·4	18·5	3·3	23·2	12·4	0·9	41·7	234·0	36·1
1894	28·5	31·4	16·4	0·7	33·8	6 3	1·2	41·6	204·3	26·4
1895	24·0	35·2	32·7	1·1	28·9	5·8	1·8	29·7	133·5	49·4
1896 up to September	25·7	30·7	17·7	0·2	24·2	12·2	9·6	36·1	243·3	33·8

Vaccination.—The following are the results exhibited by the form required under G.O., No. 1502 M., dated 19th October 1894. They are satisfactory :—

Total births available for vaccination during 1895-96.	Number died.	Number left the town.	Number vaccinated successfully.	Number successfully vaccinated under one year according to monthly returns.	Number remaining to be disposed of at the end of December 1895.
407	96	76	221	372	8

10. *Sanitary Administration.*—This municipality has been in existence for twenty-three years. The simple matter of conservancy has not, however, been more than perfunctorily attended to during that period. The council is composed largely of well-educated men, and I trust, as I was able at the special meeting to point out what really is their duty in this matter, that an united effort to put both the conservancy and water-supply arrangements of the town in a safe condition will result. It must be remembered that a stream of pilgrims is constantly passing through this town, and that it is in great part owing to the evil sanitary condition of Chidambaram the persistent residence in South Arcot of cholera must be ascribed. It is quite within the power of the Chidambaram Municipality by adoption of sanitary measures to feel confident that not only will cholera not spread amongst the inhabitants even if imported, but that it shall also not become a source of death to, and well-earned reproach by, the rest of the district. Whilst expressing these views, I have also the pleasure of placing on record the fact that at the last festival under the supervision of Surgeon-Major Marsden, and with the cordial co-operation of the council, genuine efforts were made to keep the town in a sanitarily sound condition, and that old prejudices as to the necessity of defiling sacred tanks by bathing in them direct were replaced by the demand for a primary washing by the bather—a method in accord at once with the modern sanitary requirements and the Hindu religion.

The council's attention will be given to the reserving of water for drinking, to the question of disposal of sewage and night-soil to the best advantage, and improving drainage with skilled advice as far as it is able. In this connection the council begs to note the following :—

The low situation of many parts of the town rendering drainage almost impossible, and difficulty in acquiring sites for municipal purposes.

FORT ST. GEORGE,
20*th November* 1896.

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

From G. A. W. VELLOMS, Esq., Chairman-delegate, Municipal Council, Chidambaram, to the Secretary to Government, Local and Municipal Department (through the Head Assistant Collector and Collector of South Arcot), dated 9th February 1897, No. 592.

I have the honour to forward herewith the Sanitary Commissioner's inspection notes on this municipality, dated 20th November 1896, duly answered in the half margin provided for the purpose. The answers were approved by the council at its meeting held on the 6th instant.

Cur. No. 576.

Submitted to the Collector of South Arcot.

(Signed) S. W. G. I. MACIVER,
Ag. Head Asst. Collector.

13*th February* 1897.

No. 206-Eng.

Forwarded.

2. The roads of the Chidambaram Municipality are not in good order, with the exception of the main roads from the railway station to the district board roads leading outside the municipality. It is true good metal has to be obtained from a distance. The suggestion of the Sanitary Commissioner regarding the temple debris has not been noted by the council (*paragraph* 2 *of the notes*).

Inspection Notes.

Chairman's Remarks.

3. *Paragraph* 4, *&c.*—The municipality should take much greater care with the several tanks which are sources of drinking-water supply. The council's attention has frequently been drawn to the importance of this matter, but it has hitherto failed to take really effective action. The latrine referred to in paragraph 4 (*a*) should have been removed long ago. The inability to secure a place is not a satisfactory excuse for polluting a source of drinking-water supply. The Nagacheri kolam is reported to be *deliberately* contaminated. The defilers should be prosecuted. The promise of the council to carry out certain works in paragraph 4 of its answer should be fulfilled at an early date.

4. *A public Water-supply.*—As soon as a proper scheme can be worked out, this subject should be dealt with.

5. The method of sewage disposal is most unsatisfactory, as it is by soakage of the sub-soil through pervious cesspools, which gradually pollutes the soil and endangers public health.

6. The council, though composed mostly of educated members, has not worked well. The council requires an *energetic* and strong *Chairman* whom a factious majority cannot terrify. A new Chairman has lately been nominated, and, should he be elected, it is hoped that marked improvement will be visible.

(Signed) A. E. CASTLESTUART STUART,
Collector.

12*th March* 1897.

ORDER—No. 1141 M., dated 10th May 1897.

Recorded, with the following remarks:—

(1) The attention of the municipal council is drawn to the remarks of the Collector in paragraphs 2, 3 and 5 of his endorsement and to those of the Sanitary Commissioner in paragraph 5 (*b*) of his inspection notes.

(2) As regards the works referred to in the Chairman's remarks on paragraph 4 of the inspection notes, the municipal council can consult the Sanitary authorities as laid down in the rules issued in G.O., No. 1698 L., dated 18th September 1896.

(3) The council's request regarding the preparation of a water-supply scheme has been disposed of in G.O., No. 256 M., dated 20th February 1897.

(4) The temple authorities should be addressed with the request to remove silt from the Tillaiammaneoil tank and to construct a protecting bund.

(5) No time should be lost in improving the conservancy arrangements.

(True Extract.)

Secretary to Government.

To the Chairman, Municipal Council, Chidambaram.
" Collector of South Arcot.
" Sanitary Board.
" Sanitary Commissioner.
" Sanitary Engineer.
Editors' Table.

Exd. A. Raitt.

No. M., MARCH 1897.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—the following papers:—

Inspection Notes of the Sanitary Commissioner for Madras.

SOUTH ARCOT DISTRICT.

CHIDAMBARAM MUNICIPALITY.

Inspected 30th September, 1st, 2nd, 3rd, 5th and 10th October 1896.

Population as per census of	Males	9,079
	Females	9,561
	Total ..	18,640

Inspection Notes.

Dwellings.—The town looks in a most dilapidated condition on account of the very poor character of bricks used in the buildings and the close proximity, at certain seasons, of the sub-soil water. In sanctioning the construction of new dwellings, the council should do their best to explain the advantages, both as to longevity of the building and of human life, to be secured by using "damp-proof courses." The council should apply to the Sanitary Board for the necessary plans.

2. *Roads.*—These are in very bad condition. The metal is brought by rail from near Cuddalore. It is laid at the sides of the road in cakes varying from an inch to three and four. The Chairman informed me that the metal I saw had not been finally "passed", but I nevertheless think from what I saw of the roads that care as to size of metal is requisite and, generally, that the method of road-making requires reconsideration. Good granite chips are now obtainable from the temple; these mixed with other debris are laid on the road. It was maintained that this was for the "foundation" only. Still, even if this be so, it would be advisable to separate the good metal by passing it through a large sieve. Where mere flat portions are found, these should be duly broken into cubes. Separated into their component parts in this way, the temple

Chairman's Remarks.

In sanctioning construction of new buildings, notices are now given requiring fulfilment under section 180 of the Act. The council is also prepared to enforce, as far as circumstances permit, the use of damp-proof courses and will apply to the Sanitary Board for necessary plans.

Inspection Noter.

debris would be of value to the municipality. In transporting metal by rail, it seems to me the cheaper course would be to see the metal was duly broken at the quarry, and not after arrival in the town.

3. *Surface Drainage.*—Some attempt is being made to improve surface drainage near Pacheappah's high school. The council had apparently not consulted any engineering authority on the matter, and from the appearance of the structure I think it would have been advisable that they should have done so. This structure is noteworthy, as with the exception of this small work (cost Rs. 120) and the placing of some boughs round tanks so as to afford them some grade of protection, I found no sanitary works had been effected since I last inspected the town in 1894.

4. *Water-supply*—(*a*) *Ayér kolam.*—This is reserved for drinking purposes. The certificated sanitary inspector lately appointed has had placed here buckets, with the hope that persons will use these instead of drawing water direct. Although, of course, these are not used by all, the result is at least to diminish the amount of filth reaching the tank. The earthen bund round the tank requires repair, so as to prevent entrance of surface-water. The latrine taken objection to in my notes of 1894 remains undisturbed.

(*b*) To save repetition, I may here state that to this and other tanks within the municipality used for drinking purposes it is essential that means should be adopted to prevent contamination by hands, feet, ropes and chatties of persons drawing water direct. These are the most common methods of spread of cholera, and considering that statistics show that out of a total of twelve months in only three has Chidambaram been free from this disease during 1895, and that during this period not less than 216 of its inhabitants have died of it, it is high time that some effort towards protection from specific contamination was undertaken. So long as existing sources are employed, the choice must lie between making platforms (an indifferent way), using pumps for direct lifting into cisterns, or using wells at the site, which at least would minimise the risk. Of wells, undoubtedly, the best form the council can adopt is the ordinary "tube well." A single driving apparatus, the cost of which might be shared by the district board, would only be Rs. 225, and each well with pump complete would only cost Rs. 70 to Rs. 90 according to

Chairman's Remarks.

The suggestions of the Sanitary Commissioner as regards having the metal broken up at the quarry, instead of after its being carted into the town, will receive the attention of the council.

The council regrets that funds do not permit its carrying out any systematic drainage work.

The council feels the necessity that exists for a reliable drinking-water supply for the town and as far as funds will permit will carry out the following :—

(1) Trying a deep well ; sinking pot-wells.

(2) Sinking one or more wells by the side of bathing tanks [(*c*) and (*f*)].

(3) Substantially fencing drinking-water sources.

These require the help of competent engineering authorities, which the council trusts the Government will afford when necessary.

The latrine referred to was not removed owing to the council's inability to secure another place, but this will also be attended to. Levels will be submitted to the Sanitary Board in connection with furnishing glazed earthenware pipes for the Periannakolam inlet [Tank (*d*)].

The Government has been addressed on the subject of the water-supply scheme.

size employed. No better method of protection could be devised than sinking these immediately at the side of the bund, as the water of the tank would be received after filtration through the earth and in a well purified condition. Ordinary "pot-wells" would be better than nothing, or wells may be dug and covered and then be supplied with pumps. I enclose a diagram of a pot-well sunk under my direction at the side of a tank elsewhere.

(*c*) *Nagachari Kolam.*—This is a fine sheet of water, but is deliberately contaminated, notwithstanding the presence of a watchman, by the washing of clothing. If this place must be used for washing, there can be no reason why the whole tank water should thus be defiled. It would be a simple matter to make special washing surfaces round the tank, as per diagram herewith. This arranges for the use of the water and its return into the tank after filtration. If it be thought the water can be spared, instead of allowing it to return to the tank it should be sent into the adjoining fields without filtration by means of a special suface drain.

(*d*) *Periá Kolam.*—This tank is subjected to the same dangers as formerly described. The supply channel is not only defiled by persons using it for easement, but it receives the washings of two latrines. It is merely to beg the question to say that only at certain times the sluice is open. After special correspondence on the subject, the municipality has consented to run pipes through this exposed part of the channel. The plans and estimates have not yet been sanctioned by the Sanitary Board on account of a small piece of information required as to the levels. I trust this will be supplied by the council without delay.

(*e*) *Tillaiammancoil Bathing Tank.*—This is held sacred; but is very foul. The temple authorities should be required to take out the silt and build a protecting bund. It is worth placing on record that here the people during the annual festival were persuaded not to enter the sacred water until they had bathed outside the tank.

(*f*) *Ganapragasam Tank.*—This is supposed to be reserved for bathing, but, as a matter of fact, the people withdraw water freely for drinking purposes. If this place is to be used for bathing, it

could cheaply be made fit for its purpose by the arrangement mentioned under the Nagacheri kolam.

(*g*) *A public Water-supply for Chidambaram.* — The Collector of the district, Mr. Castlestuart Stuart, has frequently held before the council the importance of securing a public water-supply as the only means of getting rid of the frequent losses from cholera. The Sanitary Engineer has stated that he possesses two schemes for the supply of this town. Of their nature, I have not been informed; it is desirable the council should make enquiries of him on the subject. So far as I can judge (G.O., No. 1709 M., dated 7th October 1896), any scheme that depended either upon tanks or the neighbouring channels would be unsatisfactory from a sanitary point of view, and, as stated in my report for 1894, I consider the town affords a typical instance of the possibility of obtaining a good supply from deep wells. No excavation has yet been made on the town site or its vicinity that would enable it to be judged precisely of what depth the clay supporting the sub-soil water stratum is. But the chances are that alternate bands of sand and clay would be found, and that subterranean water would be obtained cut off from the impurities of the sub-soil effectually. Having regard to the occurrence of springs in certain parts of this district, the configuration of the coast line and the propinquity of Pondicherry, there is no reason the subterranean water should not be found under sufficient pressure to ensure over-flowing or so-called artesian wells; but exploration should not be conducted with this fixed idea. If exploration by boring proved the existence of a sufficiently thick layer of clay between the sub-soil and subterranean water, there is no reason why the site of the deep wells should not be within the town; an alternative site, however, might be found near Lalpuram about one-and-a-half mile from the town. Having secured water in these deep wells, it is of course understood that lifting by pumping and distribution in pipes under ordinary conditions direct or from elevated reservoirs would be followed. If it were found that good and abundant water were obtained, such a scheme would certainly prove very cheap. I consider a scheme of this description should certainly be investigated before proceeding to

could cheaply be made fit for its purpose by the arrangement mentioned under the Nagacheri kolam.

(*g*) *A public Water-supply for Chidambaram.* — The Collector of the district, Mr. Castlestuart Stuart, has frequently held before the council the importance of securing a public water-supply as the only means of getting rid of the frequent losses from cholera. The Sanitary Engineer has stated that he possesses two schemes for the supply of this town. Of their nature, I have not been informed; it is desirable the council should make enquiries of him on the subject. So far as I can judge (G.O., No. 1709 M., dated 7th October 1896), any scheme that depended either upon tanks or the neighbouring channels would be unsatisfactory from a sanitary point of view, and, as stated in my report for 1894, I consider the town affords a typical instance of the possibility of obtaining a good supply from deep wells. No excavation has yet been made on the town site or its vicinity that would enable it to be judged precisely of what depth the clay supporting the sub-soil water stratum is. But the chances are that alternate bands of sand and clay would be found, and that subterranean water would be obtained cut off from the impurities of the sub-soil effectually. Having regard to the occurrence of springs in certain parts of this district, the configuration of the coast line and the propinquity of Pondicherry, there is no reason the subterranean water should not be found under sufficient pressure to ensure over-flowing or so-called artesian wells; but exploration should not be conducted with this fixed idea. If exploration by boring proved the existence of a sufficiently thick layer of clay between the sub-soil and subterranean water, there is no reason why the site of the deep wells should not be within the town; an alternative site, however, might be found near Lalpuram about one-and-a-half mile from the town. Having secured water in these deep wells, it is of course understood that lifting by pumping and distribution in pipes under ordinary conditions direct or from elevated reservoirs would be followed. If it were found that good and abundant water were obtained, such a scheme would certainly prove very cheap. I consider a scheme of this description should certainly be investigated before proceeding to

the other alternatives mentioned, which must imply a large settling reservoir, expensive filter-beds, in addition to pumping, which will presumably be necessary in any case. The municipality has now in hand Rs. 1,500 intended for the purpose of conducting exploration [G.O., No. 402 M., dated 11th March 1896, paragraph 4 (2)], and I do not think it could do better, should the Sanitary Board's approval be obtained, than sinking a deep well at once as far as practicable by digging and lining and subsequently boring. According to the Collector, "M.R.Ry. Muthu Chettyar Avargal, who has expended much money in improving the local temple, has expressed his willingness to contribute half the cost of a well-considered scheme, provided the municipality will pay the other half." It is understood that the Nattukottai Chetties, who have been liberal in contributions towards the Chidambaram temple, are also willing to subscribe. At the special meeting in which I addressed the council as to the necessity that existed for a water-supply, it not only promised to take immediate steps on the subject, but the opinion was freely expressed that the want was sufficiently felt in the town to induce all classes to aid by subscriptions. If, therefore, Government sanctioned in this case aid such as has been afforded to other municipalities by allowing one half the cost, the chances are sufficient would be obtained to prevent subsequent taxation proving more than perceptible to the people.

5. *Night-soil Conservancy.*—(*a*) There are only eight latrines within the town. One hundred and ninety houses are conserved under the private scavengering system out of a total of 3,648. One trip daily is performed by a lorrie on which are placed nine conservancy buckets of $2\frac{1}{2}$ cubic feet capacity. Taking the population at the last census figure (18,640), there is therefore left unremoved from the town-site daily 163·5 cubic feet of night-soil, or 59,577·5 cubic feet per annum. In short, the night-soil conservancy arrangements are futile.

Half the number of people resort to the fields for purposes of nature and the plant existing the council thinks would answer. Besides, there are available five hand night-soil carts, not entered in the inspection notes. However, to meet contingencies and for use during festival times, one cart, 10 cubic feet, drawn by bulls, will be sent for. One extra private scavenging toti has already been sanctioned. The council thinks that the present number of carts, if kept in good order and worked two trips a day, would answer. The Goverpat depôt will be removed as soon as the council succeeds in getting a better site. Extra toties have been sanctioned to be entertained from April next.

Inspection Notes.

(*b*) The following table contrasts the menial conservancy staff, the supervising sanitary staff, and plant requisite for the correct working of the municipality with those now employed:—

EXISTING STAFF AND PLANT.

	Cost per mensem.
	Rs.
Conservancy Staff.	
1 sanitary inspector on Rs. 27 ..	.. 27
4 maistries on Rs. 6 each	.. 24
16 scavengers on Rs. 5 each	.. 80
22 sweepers " "	.. 110
1 talayari on Rs. 3 "	.. 3
Private Scavenging Staff.	
1 maistry on Rs. 6	.. 6
5 scavengers on Rs. 5 each	.. 25
Total ..	275

Conservancy Plant.

1 lorry holding nine buckets, each of 2½ cubic feet capacity.
11 rubbish carts of 27 cubic feet each.

(*c*) *Rubbish.*—There are eleven carts employed against sixteen requisite.

(*d*) *Night-soil and Rubbish disposal.*—The sale of town-sweepings fetched Rs. 339 last year. One of the rubbish depôts near the railway station has lately been removed from an objectionable position. The Korapet depôt, however (against which I animadverted in my last notes), remains in the same in-sanitary state close to the road.

(*e*) *Sewage collection and disposal.*—The method of disposal is chiefly by soakage of the sub-soil through pervious cesspools. The council has been fully furnished with my views on this subject—*vide* this office circular, dated 18th May 1896.

6. *Meat Market.*—This is a brick and mud structure plastered with chunam. Improvement might be effected by the council forwarding the plan to the Sanitary Board. In the meantime, the pyals and walls up to 4′ 6″ should be plastered with Portland cement, and cement-lined or glazed-tile drains should be made. Old boxes and ropes should be abolished in favour of steel hooks and bars and polished Cuddapah slabs.

7. *Graveyards.*—The Hindu burial and burning grounds are outside municipal limits. The sanitary aspects of the graveyards of Muhammadans which are within the town have been discussed in this office letter, No. 2177-S., dated 20th November 1896, addressed to Government.

8. *Registration.*—The following figures (having regard to the birth-rates) show that registration is not conducted with sufficient care. It is therefore probable,

Chairman's Remarks.

PROPOSED STAFF AND PLANT.

	Cost per mensem
	Rs.
Conservancy Staff.	
1 sanitary inspector on Rs. 27 ..	.. 27
5 peons on Rs. 6 each	.. 30
19 sweepers on Rs. 5 each ..	.. 95
30 scavengers on Rs. 5 each ..	.. 150
Total ..	302

Conservancy Plant.

16 rubbish carts of 27 cubic feet each performing two trips daily.
6 night-soil carts, each of 16 cubic feet capacity, performing two trips daily.

The council would consider the opening of a sewage farm.

Attention will be paid to the suggestions in the inspection notes.

The question of removing the Muhammadan burial-grounds in the heart of the town is under consideration.

Improved registration is expected, as the council has resolved to pay a sort of remuneration to municipal servants for cases brought to notice and prosecuted

Inspection Notes.

notwithstanding the high death-rate from "all causes" here shown, the people of Chidambaram die even more quickly than this would demonstrate. It is noteworthy in this connection that no increase of population was shown at the last intercensal period. The persistence of cholera and the high rate of infantile mortality and from bowel affections also point conclusively to the contaminated condition of water-supply and the urgency which exists for the introduction of protected water under modern conditions :—

Chairman's Remarks.

successfully. The non-increase of population in the last census is due to the exclusion of two villages from the municipal circle originally consisting of nine.

Years.	Births registered during the year—ratio per mille of the population as per census of 1891.	Deaths from all causes—ratio per mille of the population as per census of 1891.	Percentage of deaths from						Ratio of deaths of infants under one year of age per mille of those born in the preceding year.	Ratio of total deaths of children between one and five years of age per mille of population of that age.
			Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.	Injuries.	All other causes.		
1892	25·2	24·6	7·0	1·1	29·3	10·0	2·4	50·4	185·8	26·4
1893	29·9	31·4	18·5	3·3	23·2	12·4	0·9	41·7	234·0	36·1
1894	28·5	31·4	16·4	0·7	33·8	6·3	1·2	41·6	204·3	26·4
1895	24·0	35·2	32·7	1·1	28·9	5·8	1·8	29·7	133·5	49·4
1896 up to September	25·7	30·7	17·7	10·2	24·2	12·2	9·6	36·1	243·3	33·8

Vaccination.—The following are the results exhibited by the form required under G.O., No. 1502 M., dated 19th October 1894. They are satisfactory :—

Total births available for vaccination during 1895-96.	Number died.	Number left the town.	Number vaccinated successfully.	Number successfully vaccinated under one year according to monthly returns.	Number remaining to be disposed of at the end of December 1895.
407	96	76	221	372	8

10. *Sanitary Administration.*—This municipality has been in existence for twenty-three years. The simple matter of conservancy has not, however, been more than perfunctorily attended to during that period. The council is composed largely of well-educated men, and I trust, as I was able at the special meeting to point out what really is their duty in this matter, that an united effort to put both the conservancy and water-supply arrangements of the town in a safe condition will result. It must be remembered that a stream of pilgrims is constantly passing through this town, and that it is in great part owing to the reserving of water for drinking, to the question of disposal of sewage and night-soil to the best advantage, and improving drainage with skilled advice as far as it is able. In this connection the council begs to note the following :—

The low situation of many parts of the town rendering drainage almost impossible, and difficulty in acquiring sites for municipal purposes.

Inspection Notes.

notwithstanding the high death-rate from "all causes" here shown, the people of Chidambaram die even more quickly than this would demonstrate. It is noteworthy in this connection that no increase of population was shown at the last intercensal period. The persistence of cholera and the high rate of infantile mortality and from bowel affections also point conclusively to the contaminated condition of water-supply and the urgency which exists for the introduction of protected water under modern conditions :—

Chairman's Remarks.

successfully. The non-increase of population in the last census is due to the exclusion of two villages from the municipal circle originally consisting of nine.

Years.	Births registered during the year—ratio per mille of the population as per census of 1891.	Deaths from all causes—ratio per mille of the population as per census of 1891.	Percentage of deaths from						Ratio of deaths of infants under one year of age per mille of those born in the preceding year.	Ratio of total deaths of children between one and five years of age per mille of population of that age.
			Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.	Injuries.	All other causes.		
1892	25·2	24·6	7·0	1·1	29·3	10·0	2·4	50·4	185·8	26·4
1893	29·9	31·4	18·5	3·3	23·2	12·4	0·9	41·7	234·0	36·1
1894	28·5	31·4	16·4	0·7	33·8	6·3	1·2	41·6	204·3	26·4
1895	24·0	35·2	32·7	1·1	28·9	5·8	1·8	29·7	133·5	49·4
1896 up to September	25·7	30·7	17·7	10·2	24·2	12·2	9·6	36·1	243·3	33·8

Vaccination.—The following are the results exhibited by the form required under G.O., No. 1502 M., dated 19th October 1894. They are satisfactory :—

Total births available for vaccination during 1895–96.	Number died.	Number left the town.	Number vaccinated successfully.	Number successfully vaccinated under one year according to monthly returns.	Number remaining to be disposed of at the end of December 1895.
407	96	76	221	372	8

10. *Sanitary Administration.*—This municipality has been in existence for twenty-three years. The simple matter of conservancy has not, however, been more than perfunctorily attended to during that period. The council is composed largely of well-educated men, and I trust, as I was able at the special meeting to point out what really is their duty in this matter, that an united effort to put both the conservancy and water-supply arrangements of the town in a safe condition will result. It must be remembered that a stream of pilgrims is constantly passing through this town, and that it is in great part owing

The council's attention will be given to the reserving of water for drinking, to the question of disposal of sewage and night-soil to the best advantage, and improving drainage with skilled advice as far as it is able. In this connection the council begs to note the following :—

The low situation of many parts of the town rendering drainage almost impossible, and difficulty in acquiring sites for municipal purposes.

Inspection Notes. Chairman's Remarks.

to the evil sanitary condition of Chidambaram the persistent residence in South Arcot of cholera must be ascribed. It is quite within the power of the Chidambaram Municipality by adoption of sanitary measures to feel confident that not only will cholera not spread amongst the inhabitants even if imported, but that it shall also not become a source of death to, and well-earned reproach by, the rest of the district. Whilst expressing these views, I have also the pleasure of placing on record the fact that at the last festival under the supervision of Surgeon-Major Marsden, and with the cordial co-operation of the council, genuine efforts were made to keep the town in a sanitarily sound condition, and that old prejudices as to the necessity of defiling sacred tanks by bathing in them direct were replaced by the demand for a primary washing by the bather—a method in accord at once with the modern sanitary requirements and the Hindu religion.

FORT ST. GEORGE,
20*th November* 1896.

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

From G. A. W. VELLOMS, Esq., Chairman-delegate, Municipal Council, Chidambaram, to the Secretary to Government, Local and Municipal Department (through the Head Assistant Collector and Collector of South Arcot), dated 9th February 1897, No. 592.

I have the honour to forward herewith the Sanitary Commissioner's inspection notes on this municipality, dated 20th November 1896, duly answered in the half margin provided for the purpose. The answers were approved by the council at its meeting held on the 6th instant.

Cur. No. 576.

Submitted to the Collector of South Arcot.

(Signed) S. W. G. I. MACIVER,
Ag. Head Asst. Collector.

13*th February* 1897.

No. 206-Eng.

Forwarded.

2. The roads of the Chidambaram Municipality are not in good order, with the exception of the main roads from the railway station to the district board roads leading outside the municipality. It is true good metal has to be obtained from a distance. The suggestion of the Sanitary Commissioner regarding the temple debris has not been noted by the council (*paragraph* 2 *of the notes*).

3. *Paragraph* 4, *&c.*—The municipality should take much greater care with the several tanks which are sources of drinking-water supply. The council's attention has frequently been drawn to the importance of this matter, but it has hitherto failed to take really effective action. The latrine referred to in paragraph 4 (*a*) should have been removed long ago. The inability to secure a place is not a satisfactory excuse for polluting a source of drinking-water supply. The Nagacheri kolam is reported to be *deliberately* contaminated. The defilers should be prosecuted. The promise of the council to carry out certain works in paragraph 4 of its answer should be fulfilled at an early date.

4. *A public Water-supply.*—As soon as a proper scheme can be worked out, this subject should be dealt with.

5. The method of sewage disposal is most unsatisfactory, as it is by soakage of the sub-soil through pervious cesspools, which gradually pollutes the soil and endangers public health.

6. The council, though composed mostly of educated members, has not worked well. The council requires an *energetic* and strong *Chairman* whom a factious majority cannot terrify. A new Chairman has lately been nominated, and, should he be elected, it is hoped that marked improvement will be visible.

(Signed) A. E. CASTLESTUART STUART,
Collector.

12*th March* 1897.

Chg 1187/97

Chidambaram Insptn Note

Refer 29/3/97

[5]
700—6-4-96.

LOCAL AND MUNICIPAL DEPARTMENT.

Papers to be read in Proceedings:—

Again G.O., dated 189 , No.

Current No of 189 , dated from the

Current No. 1187 of 189 7, dated 9th February from the Chairman Mc Chidambaram

P.S
Order. No 1141-M. dt 10.5.97

Recorded with the following remarks:-

(1) The attention of the Municipal Council is drawn to the remarks of the Collector in paras. 2, 3 and 5 of his endorsement and to those of the ~~Deputy~~ Sanitary Commissioner in para. 5 (b) of his inspection notes.

(2) As regards the works referred to in the Chairman's remarks on para. 4 of the inspection notes, the Municipal Council can consult the authorities as laid down in Sanitary ~~Board under~~ the rules issued in G.O. No. 1698 dated 18th September 1896.

(3) The Councils' request regarding the preparation of a water-supply scheme has been disposed of in G.O. No. 256 M dt 20th February 1897.

(4) The temple authorities should be addressed with the request ~~asked~~ to remove silt from and construct

Construct a protecting bund round the Tillaiannan Coil tank & to

V.P. 26/4/97 (5) Its time will be lost in considering the conservancy arrangements

S.B. 7/5/97

To.

The Chairman M.C. Chidambaram

" Collector of South Arcot

" Sanitary Board.

" Commissioner

" Engineer

Editor's Table.

Dept. 31/5/97

Copy sent to Press. 13-5-97

ed for signature. 26-5-97

ched in print. 31-5-97

No. 1157 M - in type - A

GOVERNMENT

GOVERNMENT.

WITH DITTO.

NOT FILED BY BEING MEANT FOR DESPATCH IN ORIGINAL.

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

NUMBER OF COPIES REQUIRED. Order complete. 60 Letter only. Order complete with Letter.

IN G.O. No. DATED 189

REFERRED TO C. No.