Local & Munl. (1896) Department.

PRINTED.

G.O., No. 994 Mu

DATED 13th June 1896

[Despatch Abstract.]

Inspection Notes.

Recording, with remarks, the Sanitary Commissioner's ----- on the Tuticorin 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.

99

INDEXE

PRESS.

LOCAL AND MUNICIPAL DEPARTMENT.
G.O., DATED 13.6.96
No. 994.M.

First copy sent to Press. 13/6/96

Returned for signature. 1/7/96

Despatched in print. 3/7/96

[Despatch Abstract.]

Inspection Notes

Recording, with remarks, the Sanitary Commissioner's — on the Inspection Made by

APP No. of 18

G.O.

LETTER, No. of 18

READ AGAIN ORDER OF GOVERNMENT, DATED 18 (. No.

ENCLOSURES

CURRENT No. 1402-M- (in Cypher) A.

STATEMENT WITH DITTO.

ORDER, &c., OF GOVERNMENT—A.

Press Statement Heavy - PR. 13/6/96

PAPERS KEPT OUT OF FILE FOR DESPATCH IN ORIGINAL (not paged).

NUMBER OF COPIES REQUIRED. { Order complete. 80 / Letter only. / Order complete with Letter.

N.B.—

A = Print in full.
B = Not to be printed.
P = Print abstract only.
Q = Print heading only.
R = Print, but not for monthly volume

99

Govt. of {1896} Madras.

LOCAL AND MUNICIPAL.

Issued.

Recd. *Encl.*

G.O., No. 994 M., 13th June 1896.

JUNE.

Inspection Notes.

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

EXTRACT from the Proceedings of the Municipal Council, Tuticorin, in their meeting held on Friday the 17th April 1896, at 5-30 P.M.

* * * * *

3. Read inspection notes of the Sanitary Commissioner, together with the draft reply of the Chairman.

Resolution.—The Chairman's reply was approved.

ORDER—No. 994 M., dated 13th June 1896.

Recorded, with the following remarks:—

(1) The action which the municipal council proposes to take on the Sanitary Commissioner's suggestion to encourage the system of making a "damp-proof course," and on his observations in paragraphs 6, 8 (*c*), 9, 10 and 11 of his inspection notes, has not been reported. The omission should be supplied without delay.

(2) The Chairman should address the Port authorities with reference to paragraph 3 (*a*), and report the result to Government.

(3) The municipal council's attention will be drawn to the Sanitary Commissioner's suggestion in paragraph 13 (*b*).

(4) There has been much delay in the submission of these notes, both in the Sanitary Commissioner's and municipal offices.

(True Extract.)

J. F. PRICE,
Chief Secretary.

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

Exd. A. Raitt.

Inspection Notes.

difficulty; and that the Revenue subordinates in the neighbourhood refuse to afford him assistance in procuring them. The municipality should, after inquiring into the facts of the case, make a representation to the Collector of the district on the subject. The municipality have, of course, no legal claim upon the Revenue authorities for such assistance; but it is customary to render it, and, moreover, in certain districts can be hardly done without.

(*b*) The shed, in which the calves are accommodated, is quite unfit for its purpose. It is not possible to cultivate animal lymph with the necessary degree of perfection, if the nature of the accommodation be unsuitable. Examined haphazard on the streets the following results as to children examined were obtained:—

Chairman's Remarks.

—	Years.			
	1	1-5	5-10	Under 10.
Vaccinated	5	10	15	..
Unprotected	..	4	1	..
Small-pox	..	..	..	2

The following shows the result of the working of compulsory vaccination as to infants:—

Total births during preceding six months i.e., from 1st January to 30th June 1895.	Number vaccinated successfully.	Number vaccinated unsuccessfully for the first time.	Number vaccinated second time because first opeation proved unsuccessful.		Postponed under medical certificate.	Died.	Left the town.	Unaccounted for.	Ratio of successful operations to total births per cent.	Prosecutions for failure to accept vaccination.
			Successful.	Unsuccessful.						
354	140	..	..	..	38	80	56	4	39·55	36

12. *Registration.*—The following table shows results obtained during the past triennium:—

Years.	Ratio of births per mille of estimated population.	Ratio of deaths per mille of estimated population.	Percentage of deaths from						Ratio of deaths of infants under one year of age to registered births in the preceding year.	Ratio of deaths of children between one and under five years of age to population of that ages.
			Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	Injuries.	All other causes.		
1893	32·9	30·0	1·3	1·8	36·1	18·5	0·7	41·6	321·3	62·7
1894	25·7	29·8	4·1	0·3	32·3	14·4	0·8	48·1	230·4	47·5
1895	26·4	23·3	3·4	0·2	29·9	17·1	1·2	48·2	217·8	37·6

Inspection Notes.

As might be expected in a town with a subsoil water level so near the surface and badly conserved, infantile mortality is heavy; whilst, in the case of adults, the persistent and heavy mortality from cholera and bowel-affections is sufficient evidence of the highly contaminated condition of the water-supply as well as of the foulness of the town site. The death-rate is open to doubt, but the birth-rate proves that registration is conducted with great carelessness. Reform is urgently requisite in this matter.

13. *Sanitary Administration.*—(*a*) Two Inspectors on Rs. 15 per month are employed. There is no reason to believe these men have the slightest knowledge as to sanitation. They should, if retained at all, be made Conservancy Overseers on Rs. 12 per month. So important a town as Tuticorin ought no longer to be without competent Sanitary Inspectors, and I advise that, in addition to Conservancy Overseers, one second-class Sanitary Inspector on Rs. 45 *plus* Rs. 15 and one Assistant Sanitary Inspector on Rs. 25 *plus* Rs. 7-8-0 horse allowance be employed.

(*b*) The municipal councillors do not assist the Chairman, except by consultation at their meetings. I advise that the ward system of supervision be employed; not that by this means the powers of the Chairman should be delegated, but that increase of observation as to the conditions of sanitation should be arranged for by the councillors, thus multiplying their powers of ascertaining facts. If each councillor in charge of a ward were to keep a book reporting sanitary errors to be sent on to the Chairman, say, once a week (or oftener, where urgent wants are referred to for his disposal), it would be possible to make a great advance in very short time as to road-making, general conservancy of the town, private scavengering and vaccination.

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

10*th February* 1896.

Chairman's Remarks.

The registration of births and deaths is conducted with care and more attention will be directed to this work.

The council are going to entertain the services of a qualified Inspector on Rupees 25+7½ (horse allowance) after obtaining sanction of Government.

The two present English-knowing Inspectors will be sent to Madras for training as early as possible on half pay for three months and train charge to and fro Madras.

Forwarded.

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

8*th May* 1896.

Inspection Notes.

Chairman's Remarks.

are no drains and no water-supply; the walls are filthy; the butchers use dirty boxes and blocks. A new latrine is being made in the corner, and is being wastefully plastered with lime mortar.

(*c*) As to the method which should be followed, the municipality could not do better than obtain a specimen plan and specification from the Engineering branch of Sanitary Board, and whilst not necessarily following details in attempting to improve markets, they should adhere to the broad principles laid down.

9. *Offensive Trades.*—There are eleven bandymetts evidently very largely used; but not one owned by the municipality. A very considerable income is thus lost to them as import traffic is large. It would probably be hard on the owners of the present ground to render it waste by simply refusing to give licenses in future; but the interests of the tax-payer demand that this opportunity of relieving taxation in the town should not be lost—even if some years must pass before the benefit is derived. It would, therefore, be advisable to ascertain what would be the cost of buying all these bandymetts under the Land Acquisition Act, and either selling the sites for building purposes and making municipal bandymetts elsewhere, or employing the same locality. Pending this, certain of them should either have their licenses cancelled, or should be required to keep the bandymetts in cleaner condition than found by me. Certain of them exhibited much soakage of sewage on the ground, whilst in others large heaps of manure (being the accumulations of considerable periods) had not been removed. Under section 188 only fifty licenses have been issued yearly since 1890. It is impossible that the number of trades liable under this section has kept so exactly within this number as to neither increase nor decrease. Both on sanitary and financial grounds, I would urge the municipality to give this section full attention.

10. *Graveyards.*—The question of graveyards is still under the consideration of the municipality—*vide* G.O., Mis. No. 888 M., dated 27th May 1895.

11. *Vaccination.*—(*a*) Fresh lymph is used; but the Civil Apothecary, who acts as local superintendent, informed me that the calves are obtained with the greatest

Inspection Notes.

Chairman's Remarks.

Existing staff.	—	Proposed staff.	—
	Rs.		Rs.
5 peons, 1 on Rs. 9 and 4 on Rs. 8 each ..	41	6 peons on Rs. 7 each	42
20 sweepers on Rs. 6 each	120	25 sweepers on Rs. 6 each	150
13 male scavengers on Rs. 6 each	72	25 male scavengers on Rs. 6 each	150
10 female scavengers on Rs. 4 each	40	25 female scavengers on Rs. 4 each	100
2 cinerator men on Rs. 6 each	12	2 cinerator men on Rs. 6 each	12
5 sewage cartmen on Rs. 6 each	30		
1 prickly-pear cutter on Rs. 6	6		
Total ..	327	Total ..	454

(*c*) The night-soil is still inappropriately dealt with, notwithstanding the remarks made in the preceding year's report. The municipality might well arrange to work either the trench or poudrette system with profit. There is plenty of ground in the neighbourhood of little value that might be taken up, and put under cultivation with financial advantage to themselves, whilst serving as useful "object lessons" to surrounding ryots.

7. *Private Scavengering.*—This is still very backward. It is desirable that the municipal councillors should individually exert themselves in this matter and secure the extension of the system—*vide* G.O., No. 749 M, dated 13th June 1894.

The service is extending and will be extended further.

8. *Markets*—(*a*) *Coss Muhammad Marakayar Market.*—This is a licensed private market intended for the sale of fish. It requires much improvement before it can be considered fit for that purpose. The enclosure being by four walls, there is a marked absence of perflation and stench is considerable. The enclosed ground is not so much as provided with macadam. The floors of the stalls are lime-plastered—this being the worst possible plaster to select. There is a public dust-bin immediately outside and a privy in one corner. If there be need for a market, the municipality would be well advised to open a market for themselves. In any case, this place should not be licensed next year till free ventilation is arranged, and the provision of impervious surfaces for the stalls and drains, and means of flushing them are duly provided. The privy should also be removed.

The council have proposed to open a market for themselves and made provision for same in the budget for 1896–97.

(*b*) *The Muttu Fernand Market*, which is new, and also has received a license from the municipality, is built on equally bad principles, and should also be finally refused a license unless there be complete reform. The pyals of the butchers' stalls are plastered with lime mortar; poor poles support a good Mangalore tile roof; there

Inspection Notes.

of the pattern shown in diagram, which can be utilized on behalf of house-holders on their making an agreement as in the case of private scavengering.

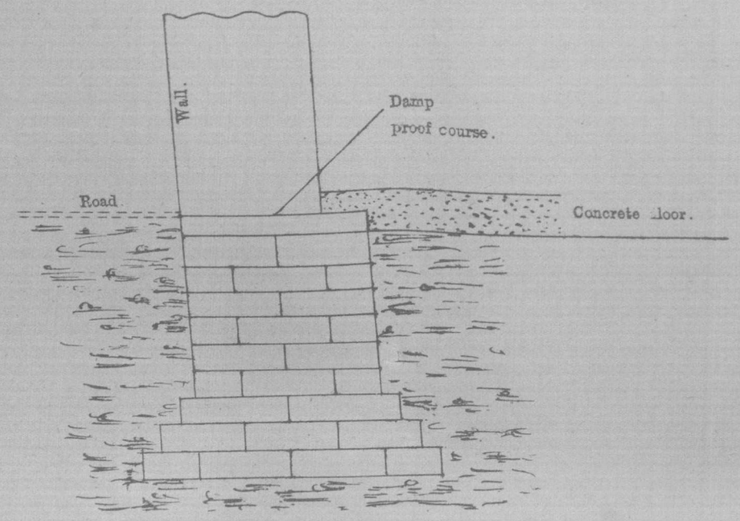
(*b*) Such sewage as is so removed should not be cast, as at present, in waste places; but should be taken to the municipal garden and there used for cultivation. Further hints as to how to conduct municipal sewage, in the absence of a correct sewerage system, will be found in the accompanying memorandum.

5. *Rubbish disposal.*—In the absence of any demand for rubbish, the municipality is at present dumping on sandy wastes in two localities. The method is sanitarily and commercially sound *in these special localities*, provided care is taken to always level each day's work and cover it with six inches of earth. In view of the poverty of the ground, it will doubtless be possible for the municipality to so improve it as to make it fit for agriculture, either at their own hands or on letting it out on contract. *On no account should however such land be used for building sites.*

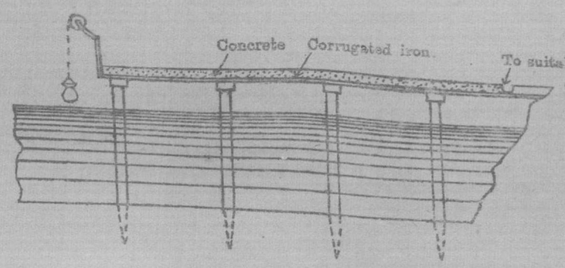
6. *Night-soil conservancy.*—(*a*) Latrine accommodation is very far below requirements. Both under the late Acting Chairman and the permanent incumbent, action during the last 18 months has been taken to remedy this state of affairs. Still, I must point out that the provision of latrines cannot be said to supply any approach to the requisite accommodation; seven Horbury's latrines with five seats each, one double latrine of six seats each, two Crawford's iron latrines of five seats each, two open space masonry and seven common tatty latrines being the total available. Seeing that only 1,013 houses are attended to under the private scavengering system, and allowing the unlikely chance that an equal number of houses are provided with private toties, it may be assumed, as a probability, that over 15,000 persons daily defœcate in the byeways and open spaces of the town. The condition of several localities was in this respect very bad, showing that they must form well recognized places of easement for the population. As samples of such ground, I would cite Muthasam's land near Munickarikulam street and Karakop's street.

(*b*) To enable the municipality to conduct conservancy successfully, I would suggest the following staff.

Chairman's Remarks.


Wall.
Damp
proof course.
Road
Concrete floor.

B



Front Elevation.



Inspection Notes.

which it flows. A similar stream was found near the railway that should also be utilized on existing vacant ground. If not sufficient for the cultivation of any crop, it certainly would suffice to water ornamental patches of flowers, grass and trees that would be more suitable objects than streams of dirty water forming useless pools.

(*e*) *Teppakulam.*—This is a large reservoir fed by the conduit system from the Korampalem tank. The Acting Chairman, Captain Baker, informed me that he had ascertained that this was erected by public subscription, and does not belong to the temple which is upon its banks. This is an important point, as the temple authorities, I understand, have attempted to assert the right of control. As at present arranged, it is open to pollution by the entrance of persons direct for the purpose of drawing water. The surrounding walls could very easily be modified so as to arrange for the drawing of water by pulleys instead of by direct entrance; or special platforms should be built from existing steps so arranged as not to allow of the return of foul water to the tank from the drippings of pots, hands, feet, &c.,— *vide* accompanying diagram.

(*f*) As a preparatory measure to the introduction of the water-supply from the Korampalem tank, the municipality should at once make the necessary arrangements for the shifting of the village of Kottapalayam. The inhabitants of this village draw water from the tank direct, and wash their clothing and bodies in the tank. This shifting of the village elsewhere would also be an advantage to the inhabitants of the village as the site is damp, the soil being permeated with water under pressure from the tank.

4. *Sewage.*—(*a*) Practically all the sewage of this town soaks within its own site, there being no drains except two near the sea-shore. Attempts are made to collect the sewage in cess-pools; but as even were the total house-hold supply no more than six gallons per head, no less than 30,480 cubic feet of sewage would have to be removed from the town daily, it is obvious that endeavours in this direction represent money wasted. Removal at public expense should not therefore be practised. The utmost the municipality should do in this direction is to purchase suitable carts and sewage pumps

Chairman's Remarks.

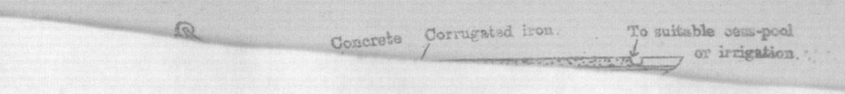
The Chairman is requested to take steps to find out records connected with the Teppakulam.

The points suggested will receive the attention of the council.

The Collector shall be addressed on the subject.

The private scavenging system recently introduced into the town has not yet developed and it is only after some time that the matter of removing sewage water at the expense of the owners of houses should be considered.

B



No. 994 M., 13TH JUNE 1896.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—the following papers:—

From M.R.Ry. J. M. B. ROCHE VICTORIA Avargal, Chairman, Municipal Council, Tuticorin, to the Chief Secretary to Government (through the Collector of Tinnevelly), dated 30th April 1896, No. 199.

I have the honour to forward, herewith, the Sanitary Commissioner's Inspection notes on this town, together with the replies of the Chairman thereto, as approved by the council in their meeting held on the 17th instant.

2. A copy of the resolution of the council on the subject is enclosed.

ENCLOSURES.

INSPECTION Notes of the Sanitary Commissioner, Madras.

TINNEVELLY DISTRICT.

TUTICORIN MUNICIPALITY.

Inspected 2nd to 4th November 1895.

Population as per census of 1891—25,107.

Inspection Notes.	Chairman's Remarks.
Roads.—The majority of the roads are mere sandy tracks; but such as are professedly metalled are in good order.	
2. *Dwellings.*—These are much overcrowded on the site. It would be advisable for the municipality to buy land under the Land Acquisition Act, and sell it for house-sites. This would represent money invested that would give ultimately a good return. Several of the minor lanes are exceedingly narrow, and require opening up. An amount spent yearly in this direction for razing certain of the houses which are out of the general line would in time do much to improve the town generally, and to render the value of the property in the neighbourhood greater. Certain municipalities are now steadily pursuing this course, and it cannot be doubted that both sanitarily and financially the method must eventually pay them. A portion of a lane at present used for easement was pointed out to me by the Acting Chairman as required by a factory near the railway, with the statement that the	The suggestion seems a good one; but it is a matter to be considered after the water-supply scheme has become ripe and after the survey of the town has been taken. The council intend to apply to Government to make over to them the swamp lands south-west so as to have them reclaimed and sold for house-sites and other purposes.
	This part of the land has been already sold to the Coral Mills Company, Limited, under G.O., Mis. No. 2075 M., dated 11th December 1895.

Inspection Notes.

municipality object to its being given up. It seems to me however that, considering the awkward configuration of the lane at this point, it would be of actual service in the direction of municipal improvement that it should be given up In view of the rapid increase of dwellings, section 180 should be rigidly enforced and all possible improvements be effected under it. Wherever it is possible to persuade the inhabitants to undergo the small extra expenditure necessary for the making of a "damp proof course," it would be advisable that this be encouraged. Of this, I append a diagram. The object is the prevention of the walls and the dwelling generally becoming damp, by reason of capillary attraction. This obviously occurs in Tuticorin, where the subsoil water is found from $2\frac{1}{2}'$ to $4'$ from the surface. This course may be a single line of stones laid in and pointed with Portland cement, or a layer of asphalte, cement concrete, or glazed bricks. Any such attempt should of course also be accompanied by an impervious floor of concrete cement plastered, or a sound flooring of tiles or slabs cement pointed, laid on lime concrete.

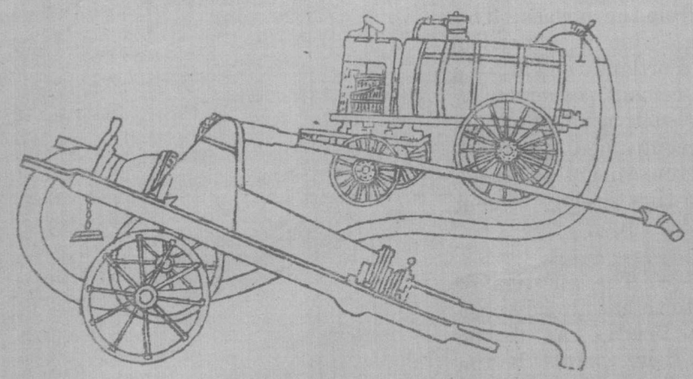
Chairman's Remarks.

Section 180 is now in operation.

3. *Water-supply.*—(*a*) The question of water-supply of this town has already been before the Sanitary Board. As to the matter being urgent, there cannot be the slightest doubt. The town is one that is rapidly increasing in commercial importance, both on account of its several factories and its port. The giving of an improved supply to this town would not only add to its sanitary but to its pecuniary prosperity. One scheme before the municipality provides for pumping and delivering the water under a pressure that would secure both sanitary and manufactory requirements, and another that will yield sufficient water in a fair state of purity under conditions disadvantageous as to sanitary and commercial requirements. There can be no doubt that if it be possible for the municipality to secure the funds, their choice should be the former scheme which will prove the best investment for posterity. But, failing the possession of funds, the latter scheme, after slight modification, would present many advantages over the present conditions and would be infinitely better than no scheme at all. This question having been referred to the municipality to show how funds

The water-supply scheme has been before the Sanitary Board who, it is hoped, will take into consideration the most urgent necessity of the water-supply to this town.

A



Inspection Notes.	Chairman's Remarks.
can be gathered, I would point out that, irrespective of the proposed advantages of the revised Act IV of 1884, the selling of water by meter to vessels calling at the port and to factories, ought to aid in recouping much of the annual expenditure. In this connection, it would seem but fair that the Port Trust should give its aid.	It will be a great help if the Port Trust will help the municipality with its fund, as water will be supplied to the vessels, etc., calling at this port.
(*b*) Whatever the decision arrived at by the council, however, as to distribution or point of filtration, I think all parties would agree that the building of the conduit from the Korampalem tank, which in both schemes is an essential feature, should be proceeded with, with as little delay as possible. Not only waste of 75 per cent. of the water occurs, but throughout its course in the supply channel the water is open to the most gross defilement. In the matter of preventible defilement, it seems to me desirable that the attention of the municipality should at once be directed to removing the coolies who live on the borders of the channel close to the existing service reservoir. If they have lived there long enough to establish their right to the ground, a site should be obtained for them elsewhere. The probability of the introduction of the new supply in no way diminishes the urgency of this question.	The Collector has been already addressed with a request to take immediate action to remove the huts along the channel.
(*c*) Considering how greatly the population suffers from want of water, good or bad, during the hot season, it seems to me extraordinary that a greater tendency to economy has not been taught them. It was a common sight to see considerable streams pouring continuously from the neighbourhood of the public cisterns. This is due to the use of unusually small and badly-made cadjan buckets, which really drop more than they transfer to the household chatties Fully 75 per cent. of the contents are allowed to fall on the ground. I would advise the municipality on the approach of the hot season to notify by tom-tom that all inhabitants are required to be economical of water when in the act of drawing from the public wells, and that to prevent waste small iron or tin buckets only should be employed. Section 151 (ii) *may* give sufficient power in this direction, if the municipality define the manner in which water can "lawfully" be taken.	The council will devote their attention to this suggestion and issue necessary instructions to minimize the water thus wasted.
(*d*) Near the Sinnakadai parcheri, this flow of waste water from a public cistern is so great that it would be advisable to cultivate a patch of vacant land upon	

Inspection Notes.	Chairman's Remarks.
which it flows. A similar stream was found near the railway that should also be utilized on existing vacant ground. If not sufficient for the cultivation of any crop, it certainly would suffice to water ornamental patches of flowers, grass and trees that would be more suitable objects than streams of dirty water forming useless pools.	
(e) *Teppakulam.*—This is a large reservoir fed by the conduit system from the Korampalem tank. The Acting Chairman, Captain Baker, informed me that he had ascertained that this was erected by public subscription, and does not belong to the temple which is upon its banks. This is an important point, as the temple authorities, I understand, have attempted to assert the right of control. As at present arranged, it is open to pollution by the entrance of persons direct for the purpose of drawing water. The surrounding walls could very easily be modified so as to arrange for the drawing of water by pulleys instead of by direct entrance; or special platforms should be built from existing steps so arranged as not to allow of the return of foul water to the tank from the drippings of pots, hands, feet, &c.,— *vide* accompanying diagram.	The Chairman is requested to take steps to find out records connected with the Teppakulam. The points suggested will receive the attention of the council.
(f) As a preparatory measure to the introduction of the water-supply from the Korampalem tank, the municipality should at once make the necessary arrangements for the shifting of the village of Kottapalayam. The inhabitants of this village draw water from the tank direct, and wash their clothing and bodies in the tank. This shifting of the village elsewhere would also be an advantage to the inhabitants of the village as the site is damp, the soil being permeated with water under pressure from the tank.	The Collector shall be addressed on the subject.
4. *Sewage.*—(a) Practically all the sewage of this town soaks within its own site, there being no drains except two near the sea-shore. Attempts are made to collect the sewage in cess-pools; but as even were the total house-hold supply no more than six gallons per head, no less than 30,480 cubic feet of sewage would have to be removed from the town daily, it is obvious that endeavours in this direction represent money wasted. Removal at public expense should not therefore be practised. The utmost the municipality should do in this direction is to purchase suitable carts and sewage pumps	The private scavenging system recently introduced into the town has not yet developed and it is only after some time that the matter of removing sewage water at the expense of the owners of houses should be considered.

MR 1st Hall

C. No. 1402-M

Tuticorin Insp. notes

11 P.

Order No. 994 M of 13-6-96.

Recorded with the following remarks:—

(1) The action which the municipal Council proposes to take on the Sanitary Commissioner's Suggestion to encourage the System of making a "damp proof course", and on his observations in paras. 6, 8(c), 9, 10 and 11 of his Inspection Notes, has not been reported. The omission should be supplied without delay.

(2) The Chairman should address the Port authorities with reference to para. 3(a), and report the result to Government.

(3) The municipal Council's attention will be drawn to the Sanitary Commissioner's Suggestion in para. 13(b).

(4) There has been much delay in the Submission of these notes, both in the Sanitary Commissioner's and ~~in the~~ municipal offices.

I.P. 4/6/96 WWS 8.6.96 11/6/96

To
The Chairman, M.C. Tuticorin
" Collector of Tinnevelly
" Sanitary Commissioner
" Engineer
Editors' Table.

a/4/6/96

Desp. 3/7/96

3. Readinspection notes of the Sanitary Commissioner, together with the draft reply of the Chairman.

Resolution.—The Chairman's reply was approved.

Inspection Notes.	Chairman's Remarks.
As might be expected in a town with a subsoil water level so near the surface and badly conserved, infantile mortality is heavy; whilst, in the case of adults, the persistent and heavy mortality from cholera and bowl-affections is sufficient evidence of the highly contaminated condition of the water-supply as well as of the foulness of the town site. The death-rate is open to doubt, but the birth-rate proves that registration is conducted with great carelessness. Reform is urgently requisite in this matter.	The registration of birth and death is conducted with care and more attention will be directed to this work.
13. *Sanitary Administration.*—(*a*) Two Inspectors on Rs. 15 per month are employed. There is no reason to believe these men have the slightest knowledge as to sanitation. They should, if retained at all, be made Conservancy Overseers on Rs. 12 per month. So important a town as Tuticorin ought no longer to be without competent Sanitary Inspectors, and I advise that, in addition to Conservancy Overseers, one second-class Sanitary Inspector on Rs. 45 *plus* Rs. 15 and one Assistant Sanitary Inspector on Rs. 25 *plus* Rs. 7-8-0 horse allowance be employed.	The council are going to entertain the services of a qualified Inspector on Rupees 25+7½ (horse allowance) after obtaining sanction of Government. The two present English-knowing Inspectors will be sent to Madras for training as early as possible on half pay for three months and train charge to and fro Madras.
(*b*) The municipal councillors do not assist the Chairman, except by consultation at their meetings. I advise that the ward system of supervision be employed; not that by this means the powers of the Chairman should be delegated, but that increase of observation as to the conditions of sanitation should be arranged for by the councillors, thus multiplying their powers of ascertaining facts. If each councillor in charge of a ward were to keep a book reporting sanitary errors to be sent on to the Chairman, say, once a week (or oftener, where urgent wants are referred to for his disposal), it would be possible to make a great advance in very short time as to road-making, general conservancy of the town, private scavengering and vaccination.	

10th February 1896. (Signed) W. G. KING, Surgn.-Lieut.-Col.,
Sanitary Commissioner for Madras

Forwarded.

8th May 1896. (Signed) A. W. B. HIGGENS,
Collector.

EXTRACT from the Proceedings of the Municipal Council, Tuticorin, in their meeting held on Friday the 17th April 1896, at 5-30 P.M.

* * * * *

Inspection Notes.

Chairman's Remarks.

difficulty; and that the Revenue subordinates in the neighbourhood refuse to afford him assistance in procuring them. The municipality should, after inquiring into the facts of the case, make a representation to the Collector of the district on the subject. The municipality have, of course, no legal claim upon the Revenue authorities for such assistance; but it is customary to render it, and, moreover, in certain districts can be hardly done without.

(*b*) The shed, in which the calves are accommodated, is quite unfit for its purpose. It is not possible to cultivate animal lymph with the necessary degree of perfection, if the nature of the accommodation be unsuitable. Examined haphazard on the streets the following results as to children examined were obtained:—

—	Years.			
	1	1–5	5–10	Under 10.
Vaccinated	5	10	15	..
Unprotected	..	4	1	..
Small-pox	..	..	..	2

The following shows the result of the working of compulsory vaccination as to infants:—

Total births during preceding six months i.e., from 1st January to 30th June 1895.	Number vaccinated successfully.	Number vaccinated unsuccessfully for the first time.	Number vaccinated second time because first opeation proved unsuccessful.		Postponed under medical certificate.	Died.	Left the town.	Unaccounted for.	Ratio of successful operations to total births per cent.	*Prosecutions for failure to accept vaccination.
			Successful.	Unsuccessful.						
354	140	..	..	..	38	80	56	4	39·55	36

12. *Registration.*—The following table shows results obtained during the past triennium:—

Years.	Ratio of births per mille of estimated population.	Ratio of deaths per mille of estimated population.	Percentage of deaths from						Ratio of deaths of infants under one year of age to registered births in the preceding year.	Ratio of deaths of children between one and under five years of age to population of that age.
			Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	Injuries.	All other causes.		
1893	32·9	30·0	1·3	1·8	36·1	18·5	0·7	41·6	321·3	62·7
1894	25·7	29·8	4·1	0·3	32·3	14·4	0·8	48·1	230·4	47·5
1895	26·4	23·3	3·4	0·2	29·9	17·1	1·2	48·2	217·8	37·6

Inspection Notes.

Chairman's Remarks.

are no drains and no water-supply; the walls are filthy; the butchers use dirty boxes and blocks. A new latrine is being made in the corner, and is being wastefully plastered with lime mortar.

(*c*) As to the method which should be followed, the municipality could not do better than obtain a specimen plan and specification from the Engineering branch of Sanitary Board, and whilst not necessarily following details in attempting to improve markets, they should adhere to the ~~board~~ broad principles laid down.

9. *Offensive Trades.*—There are eleven bandymetts evidently very largely used; but not one owned by the municipality. A very considerable income is thus lost to them as import traffic is large. It would probably be hard on the owners of the present ground to render it waste by simply refusing to give licenses in future; but the interests of the tax-payer demand that this opportunity of relieving taxation in the town should not be lost—even if some years must pass before the benefit is derived. It would, therefore, be advisable to ascertain what would be the cost of buying all these bandymetts under the Land Acquisition Act, and either selling the sites for building purposes and making municipal bandymetts elsewhere, or employing the same locality. Pending this, certain of them should either have their licenses cancelled, or should be required to keep the bandymetts in cleaner condition than found by me. Certain of them exhibited much soakage of sewage on the ground, whilst in others large heaps of manure (being the accumulations of considerable periods) had not been removed. Under section 188 only fifty licenses have been issued yearly since 1890. It is impossible that the number of trades liable under this section has kept so exactly within this number as to neither increase nor decrease. Both on sanitary and financial grounds, I would urge the municipality to give this section full attention.

10. *Graveyards.*—The question of graveyards is still under the consideration of the municipality—*vide* G.O., Mis. No. 888 M., dated 27th May 1895.

11. *Vaccination.*—(*a*) Fresh lymph is used; but the Civil Apothecary, who acts as local superintendent, informed me that the calves are obtained with the greatest

Inspection Notes.

Chairman's Remarks.

Existing staff.		Proposed staff.	
	Rs.		Rs.
5 peons, 1 on Rs. 9 and 4 on Rs. 8 each ..	41	6 peons on Rs. 7 each	42
20 sweepers on Rs. 6 each	120	25 sweepers on Rs. 6 each	150
13 male scavengers on Rs. 6 each	72	25 male scavengers on Rs. 6 each	150
10 female scavengers on Rs. 4 each	40	25 female scavengers on Rs. 4 each	100
2 cinerator men on Rs. 6 each	12	2 cinerator men on Rs. 6 each	12
5 sewage cartmen on Rs. 6 each	30		
1 prickly-pear cutter on Rs. 6	6		
Total ..	327	Total ..	451

(*c*) The night-soil is still inappropriately dealt with, notwithstanding the remarks made in the preceding year's report. The municipality might well arrange to work either the trench or poudrette system with profit. There is plenty of ground in the neighbourhood of little value that might be taken up, and put under cultivation with financial advantage to themselves, whilst serving as useful "object lessons" to surrounding ryots.

7. *Private Scavengering.*—This is still very backward. It is desirable that the municipal councillors should individually exert themselves in this matter and secure the extension of the system—*vide* G.O., No. 749 M., dated 13th June 1894.

The service is extending and will be extended further.

8. *Markets*—(*a*) *Coss Mahomed Marakayar Market.*—This is a licensed private market intended for the sale of fish. It requires much improvement before it can be considered fit for that purpose. The enclosure being by four walls, there is a marked absence of perflation and stench is considerable. The enclosed ground is not so much as provided with macadam. The floors of the stalls are lime-plastered —this being the worst possible plaster to select. There is a public dust-bin immediately outside and a privy in one corner. If there be need for a market, the municipality would be well advised to open a market for themselves. In any case, this place should not be licensed next year till free ventilation is arranged, and the provision of impervious surfaces for the stalls and drains, and means of flushing them are duly provided. The privy should also be removed.

The council have proposed to open a market for themselves and made provision for same in the budget for 1896–97.

(*b*) *The Muthu Fernand Market*, which is new, and also has received a license from the municipality, is built on equally bad principles, and should also be finally refused a license unless there be complete reform. The pyals of the butchers' stalls are plastered with lime mortar; poor poles support a good Mangalore tile roof; there

of the pattern shown in diagram, which can be utilized on behalf of house-holders on their making an agreement as in the case of private scavengering.

(*b*) Such sewage as is so removed should not be cast, as at present, in waste places; but should be taken to the municipal garden and there used for cultivation. Further hints as to how to conduct municipal sewage, in the absence of a correct sewerage system, will be found in the accompanying memorandum.

5. *Rubbish disposal.*—In the absence of any demand for rubbish, the municipality is at present dumping on sandy wastes in two localities. The method is sanitarily and commercially sound *in these special localities*, provided care is taken to always level each day's work and cover it with six inches of earth. In view of the poverty of the ground, it will doubtless be possible for the municipality to so improve it as to make it fit for agriculture, either at their own hands or on letting it out on contract. *On no account should however such land be used for building sites.*

6. *Night-soil conservancy.*—(*a*) Latrine accommodation is very far below requirements. Both under the late Acting Chairman and the permanent incumbent, action during the last 18 months has been taken to remedy this state of affairs. Still, I must point out that the provision of latrines cannot be said to supply any approach to the requisite accommodation; seven Horbury's latrines with five seats each, one double latrine of six seats each, two Crawford's iron latrines of five seats each, two open space masonry and seven common tatty latrines being the total available. Seeing that only 1,013 houses are attended to under the private scavengering system, and allowing the unlikely chance that an equal number of houses are provided with private toties, it may be assumed, as a probability, that over 15,000 persons daily defœcate in the byeways and open spaces of the town. The condition of several localities was in this respect very bad, showing that they must form well recognized places of easement for the population. As samples of such ground, I would cite Moothasam's land near Munickarikolam street and Karakop's street.

(*b*) To enable the municipality to conduct conservancy successfully, I would suggest the following staff

Inspection Notes.

Chairman's Remarks.

which it flows. A similar stream was found near the railway that should also be utilized on existing vacant ground. If not sufficient for the cultivation of any crop, it certainly would suffice to water ornamental patches of flowers, grass and trees that would be more suitable objects than streams of dirty water forming useless pools.

(*e*) *Teppakulam*.—This is a large reservoir fed by the conduit system from the Korampalem tank. The Acting Chairman, Captain Baker, informed me that he had ascertained that this was erected by public subscription, and does not belong to the temple which is upon its banks. This is an important point, as the temple authorities, I understand, have attempted to assert the right of control. As at present arranged, it is open to pollution by the entrance of persons direct for the purpose of drawing water. The surrounding walls could very easily be modified so as to arrange for the drawing of water by pulleys instead of by direct entrance; or special platforms should be built from existing steps so arranged as not to allow of the return of foul water to the tank from the drippings of pots, hands, feet, &c.,— *vide* accompanying diagram.

The Chairman is requested to take steps to find out records connected with the Teppakulam.

(*f*) As a preparatory measure to the introduction of the water-supply from the Korampalem tank, the municipality should at once make the necessary arrangements for the shifting of the village of Kottapallicm. The inhabitants of this village draw water from the tank direct, and wash their clothing and bodies in the tank. This shifting of the village elsewhere would also be an advantage to the inhabitants of the village as the site is damp, the soil being permeated with water under pressure from the tank.

The Collector shall be addressed on the subject.

4. *Sewage*.—(*a*) Practically all the sewage of this town soaks within its own site, there being no drains except two near the seashore. Attempts are made to collect the sewage in cess-pools; but as even were the total house-hold supply no more than six gallons per head, no less than 30,480 cubic feet of sewage would have to be removed from the town daily, it is obvious that endeavours in this direction represent money wasted. Removal at public expense should not therefore be practised. The utmost the municipality should do in this direction is to purchase suitable carts and sewage pumps

The private scavenging system recently introduced into the town has not yet developed and it is only after some time that the matter of removing sewage water at the expense of the owners of houses should be considered.

The points suggested will receive the attention of the council.

Inspection Notes.

can be gathered, I would point out that, irrespective of the proposed advantages of the revised Act IV of 1884, the selling of water by meter to vessels calling at the port and to factories, ought to aid in recouping much of the annual expenditure. In this connection, it would seem but fair that the Port Trust should give its aid.

(*b*) Whatever the decision arrived at by the council, however, as to distribution or point of filtration, I think all parties would agree that the building of the conduit from the Korampalem tank, which in both schemes is an essential feature, should be proceeded with, with as little delay as possible. Not only waste of 75 per cent. of the water occurs, but throughout its course in the supply channel the water is open to the most gross defilement. In the matter of preventible defilement, it seems to me desirable that the attention of the municipality should at once be directed to removing the coolies who live on the borders of the channel close to the existing service reservoir. If they have lived there long enough to establish their right to the ground, a site should be obtained for them elsewhere. The probability of the introduction of the new supply in no way diminishes the urgency of this question.

(*c*) Considering how greatly the population suffers from want of water, good or bad, during the hot season, it seems to me extraordinary that a greater tendency to economy has not been taught them. It was a common sight to see considerable streams pouring continuously from the neighbourhood of the public cisterns. This is due to the use of unusually small and badly-made cadjan buckets, which really drop more than they transfer to the household chatties. Fully 75 per cent. of the contents are allowed to fall on the ground. I would advise the municipality on the approach of the hot season to notify by tom-tom that all inhabitants are required to be economical of water when in the act of drawing from the public wells, and that to prevent waste small iron or tin buckets only should be employed. Section 151 (ii) *may* give sufficient power in this direction, if the municipality define the manner in which water can "lawfully" be taken.

(*d*) Near the Sinakadi parcherry, this flow of waste water from a public cistern is so great that it would be advisable to cultivate a patch of vacant land upon

Chairman's Remarks.

It will be a great help if the Port Trust will help the municipality with its fund, as water will be supplied to the vessels, etc., calling at this port.

The Collector has been already addressed with a request to take immediate action to remove the huts along the channel.

The council will devote their attention to this suggestion and issue necessary instructions to minimize the water thus wasted.

municipality object to its being given up. It seems to me however that, considering the awkward configuration of the lane at this point, it would be of actual service in the direction of municipal improvement that it should be given up. In view of the rapid increase of dwellings, section 180 should be rigidly enforced and all possible improvements be effected under it. Wherever it is possible to persuade the inhabitants to undergo the small extra expenditure necessary for the making of a "damp proof course," it would be advisable that this be encouraged. Of this, I append a diagram. The object is the prevention of the walls and the dwelling generally becoming damp, by reason of capillary attraction. This obviously occurs in Tuticorin, where the subsoil water is found from $2\frac{1}{2}'$ to $4'$ from the surface. This course may be a single line of stones laid in and pointed with Portland cement, or a layer of asphalte, cement concrete, or glazed bricks. Any such attempt should of course also be accompanied by an impervious floor of concrete cement plastered, or a sound flooring of tiles or slabs cement pointed, laid on lime concrete.

3. *Water-supply.*—(*a*) The question of water-supply of this town has already been before the Sanitary Board. As to the matter being urgent, there cannot be the slightest doubt. The town is one that is rapidly increasing in commercial importance, both on account of its several factories and its port. The giving of an improved supply to this town would not only add to its sanitary but to its pecuniary prosperity. One scheme before the municipality, provides for pumping and delivering the water under a pressure that would secure both sanitary and manufactory requirements, and another that will yield sufficient water in a fair state of purity under conditions disadvantageous as to sanitary and commercial requirements. There can be no doubt that if it be possible for the municipality to secure the funds, their choice should be the former scheme which will prove the best investment for posterity. But, failing the possession of funds, the latter scheme, after slight modification, would present many advantages over the present conditions and would be infinitely better than no scheme at all. This question having been referred to the municipality to show how funds

Section 180 is now in operation.

The water-supply scheme has been before the Sanitary Board who, it is hoped, will take into consideration the most urgent necessity of the water-supply to this town.

This proofs with diagrams - please send this proof to the press when order is passed

12 June

29/5

994

No. M., 13th May 1896.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

Read—the following papers:—

From M.R.Ry. J. M. B. ROCHE VICTORIA Avargal, Chairman, Municipal Council, Tuticorin, to the Chief Secretary to Government (through the Collector of Tinnevelly), dated 30th April 1896, No. 199.

I have the honour to forward, herewith, the Sanitary Commissioner's Inspection notes on this town, together with the replies of the Chairman thereto, as approved by the council in their meeting held on the 17th instant.

2. A copy of the resolution of the council on the subject is enclosed.

Enclosures.

Inspection Notes of the Sanitary Commissioner, Madras.

TINNEVELLY DISTRICT.

Tuticorin Municipality.

Inspected 2nd to 4th November 1895.

Population as per census of 1891—25,107.

Inspection Notes.	Chairman's Remarks.
Roads.—The majority of the roads are mere sandy tracks; but such as are professedly metalled are in good order.	
2. *Dwellings.*—These are much overcrowded on the site. It would be advisable for the municipality to buy land under the Land Acquisition Act, and sell it for house-sites. This would represent money invested that would give ultimately a good return. Several of the minor lanes are exceedingly narrow, and require opening up. An amount spent yearly in this direction for razing certain of the houses which are out of the general line would in time do much to improve the town generally, and to render the value of the property in the neighbourhood greater. Certain municipalities are now steadily pursuing this course, and it cannot be doubted that both sanitarily and financially the method must eventually pay them. A portion of a lane at present used for easement was pointed out to me by the Acting Chairman as required by a factory near the railway, with the statement that the	The suggestion seems a good one; but it is a matter to be considered after the water-supply scheme has become ripe and after the survey of the town has been taken. The council intend to apply to Government to make over to them the swamp lands south-west so as to have them reclaimed and sold for house sites and other purposes.
	This part of the land has been already sold to the Coral Mills Company, Limited, under G.O., Mis. No. 2075 M., dated 11th December 1895.

881

Diagrams will be received from Survey on the 25 instant.

No. 994 M., 13th June 1896.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

Read—the following papers:—

From M.R.Ry. J. M. B. ROCHE VICTORIA Avargal, Chairman, Municipal Council, Tuticorin, to the Chief Secretary to Government (through the Collector of Tinnevelly), dated 30th April 1896, No. 199.

I have the honour to forward, herewith, the Sanitary Commissioner's Inspection notes on this town, together with the replies of the Chairman thereto, as approved by the council in their meeting held on the 17th instant.

2. A copy of the resolution of the council on the subject is enclosed.

Enclosures.

Inspection Notes of the Sanitary Commissioner, Madras.

TINNEVELLY DISTRICT.

Tuticorin Municipality.

Inspected 2nd to 4th November 1895.

Population as per census of 1891—25,107.

Inspection Notes.	Chairman's Remarks.
Roads.—The majority of the roads are mere sandy tracks; but such as are professedly metalled are in good order.	
2. *Dwellings.*—These are much overcrowded on the site. It would be advisable for the municipality to buy land under the Land Acquisition Act, and sell it for house-sites. This would represent money invested that would give ultimately a good return. Several of the minor lanes are exceedingly narrow, and require opening up. An amount spent yearly in this direction for razing certain of the houses which are out of the general line would in time do much to improve the town generally, and to render the value of the property in the neighbourhood greater. Certain municipalities are now steadily pursuing this course, and it cannot be doubted that both sanitarily and financially the method must eventually pay them. A portion of a lane at present used for easement was pointed out to me by the Acting Chairman as required by a factory near the railway, with the statement that the	The suggestion seems a good one; but it is a matter to be considered after the water-supply scheme has become ripe and after the survey of the town has been taken. The council intend to apply to Government to make over to them the swamp lands south-west so as to have them reclaimed and sold for house-sites and other purposes.
	This part of the land has been already sold to the Coral Mills Company, Limited, under G.O., Mis. No. 2075 M., dated 11th December 1895.

Inspection Notes.

municipality object to its being given up. It seems to me however that, considering the awkward configuration of the lane at this point, it would be of actual service in the direction of municipal improvement that it should be given up. In view of the rapid increase of dwellings, section 180 should be rigidly enforced and all possible improvements be effected under it. Wherever it is possible to persuade the inhabitants to undergo the small extra expenditure necessary for the making of a "damp proof course," it would be advisable that this be encouraged. Of this, I append a diagram. The object is the prevention of the walls and the dwelling generally becoming damp, by reason of capillary attraction. This obviously occurs in Tuticorin, where the subsoil water is found from $2\frac{1}{2}'$ to $4'$ from the surface. This course may be a single line of stones laid in and pointed with Portland cement, or a layer of asphalte, cement concrete, or glazed bricks. Any such attempt should of course also be accompanied by an impervious floor of concrete cement plastered, or a sound flooring of tiles or slabs cement pointed, laid on lime concrete.

Chairman's Remarks.

Section 180 is now in operation.

3. *Water-supply.*—(*a*) The question of water-supply of this town has already been before the Sanitary Board. As to the matter being urgent, there cannot be the slightest doubt. The town is one that is rapidly increasing in commercial importance, both on account of its several factories and its port. The giving of an improved supply to this town would not only add to its sanitary but to its pecuniary prosperity. One scheme before the municipality provides for pumping and delivering the water under a pressure that would secure both sanitary and manufactory requirements, and another that will yield sufficient water in a fair state of purity under conditions disadvantageous as to sanitary and commercial requirements. There can be no doubt that if it be possible for the municipality to secure the funds, their choice should be the former scheme which will prove the best investment for posterity. But, failing the possession of funds, the latter scheme, after slight modification, would present many advantages over the present conditions and would be infinitely better than no scheme at all. This question having been referred to the municipality to show how funds

The water-supply scheme has been before the Sanitary Board who, it is hoped, will take into consideration the most urgent necessity of the water-supply to this town.

Inspection Notes.

can be gathered, I would point out that, irrespective of the proposed advantages of the revised Act IV of 1884, the selling of water by meter to vessels calling at the port and to factories, ought to aid in recouping much of the annual expenditure. In this connection, it would seem but fair that the Port Trust should give its aid.

(*b*) Whatever the decision arrived at by the council, however, as to distribution or point of filtration, I think all parties would agree that the building of the conduit from the Korampalem tank, which in both schemes is an essential feature, should be proceeded with, with as little delay as possible. Not only waste of 75 per cent. of the water occurs, but throughout its course in the supply channel the water is open to the most gross defilement. In the matter of preventible defilement, it seems to me desirable that the attention of the municipality should at once be directed to removing the coolies who live on the borders of the channel close to the existing service reservoir. If they have lived there long enough to establish their right to the ground, a site should be obtained for them elsewhere. The probability of the introduction of the new supply in no way diminishes the urgency of this question.

(*c*) Considering how greatly the population suffers from want of water, good or bad, during the hot season, it seems to me extraordinary that a greater tendency to economy has not been taught them. It was a common sight to see considerable streams pouring continuously from the neighbourhood of the public cisterns. This is due to the use of unusually small and badly-made cadjan buckets, which really drop more than they transfer to the household chatties. Fully 75 per cent. of the contents are allowed to fall on the ground. I would advise the municipality on the approach of the hot season to notify by tom-tom that all inhabitants are required to be economical of water when in the act of drawing from the public wells, and that to prevent waste small iron or tin buckets only should be employed. Section 151 (ii) *may* give sufficient power in this direction, if the municipality define the manner in which water can "lawfully" be taken.

(*d*) Near the Sinakadi parcherry, this flow of waste water from a public cistern is so great that it would be advisable to cultivate a patch of vacant land upon

Chairman's Remarks.

It will be a great help if the Port Trust will help the municipality with its fund, as water will be supplied to the vessels, etc., calling at this port.

The Collector has been already addressed with a request to take immediate action to remove the huts along the channel.

The council will devote their attention to this suggestion and issue necessary instructions to minimize the water thus wasted.

Inspection Notes.

which it flows. A similar stream was found near the railway that should also be utilized on existing vacant ground. If not sufficient for the cultivation of any crop, it certainly would suffice to water ornamental patches of flowers, grass and trees that would be more suitable objects than streams of dirty water forming useless pools.

(*e*) *Teppakulam.*—This is a large reservoir fed by the conduit system from the Korampalem tank. The Acting Chairman, Captain Baker, informed me that he had ascertained that this was erected by public subscription, and does not belong to the temple which is upon its banks. This is an important point, as the temple authorities, I understand, have attempted to assert the right of control. As at present arranged, it is open to pollution by the entrance of persons direct for the purpose of drawing water. The surrounding walls could very easily be modified so as to arrange for the drawing of water by pulleys instead of by direct entrance; or special platforms should be built from existing steps so arranged as not to allow of the return of foul water to the tank from the drippings of pots, hands, feet, &c.,— *vide* accompanying diagram.

(*f*) As a preparatory measure to the introduction of the water-supply from the Korampalem tank, the municipality should at once make the necessary arrangements for the shifting of the village of Kottapalayam. The inhabitants of this village draw water from the tank direct, and wash their clothing and bodies in the tank. This shifting of the village elsewhere would also be an advantage to the inhabitants of the village as the site is damp, the soil being permeated with water under pressure from the tank.

4. *Sewage.*—(*a*) Practically all the sewage of this town soaks within its own site, there being no drains except two near the sea-shore. Attempts are made to collect the sewage in cess-pools; but as even were the total house-hold supply no more than six gallons per head, no less than 30,480 cubic feet of sewage would have to be removed from the town daily, it is obvious that endeavours in this direction represent money wasted. Removal at public expense should not therefore be practised. The utmost the municipality should do in this direction is to purchase suitable carts and sewage pumps

Chairman's Remarks.

The Chairman is requested to take steps to find out records connected with the Teppakulam.

The points suggested will receive the attention of the council.

The Collector shall be addressed on the subject.

The private scavenging system recently introduced into the town has not yet developed and it is only after some time that the matter of removing sewage water at the expense of the owners of houses should be considered.

Inspection Notes.

of the pattern shown in diagram, which can be utilized on behalf of house-holders on their making an agreement as in the case of private scavengering.

(*b*) Such sewage as is so removed should not be cast, as at present, in waste places; but should be taken to the municipal garden and there used for cultivation. Further hints as to how to conduct municipal sewage, in the absence of a correct sewerage system, will be found in the accompanying memorandum.

5. *Rubbish disposal.*—In the absence of any demand for rubbish, the municipality is at present dumping on sandy wastes in two localities. The method is sanitarily and commercially sound *in these special localities*, provided care is taken to always level each day's work and cover it with six inches of earth. In view of the poverty of the ground, it will doubtless be possible for the municipality to so improve it as to make it fit for agriculture, either at their own hands or on letting it out on contract. *On no account should however such land be used for building sites.*

6. *Night-soil conservancy.*—(*a*) Latrine accommodation is very far below requirements. Both under the late Acting Chairman and the permanent incumbent, action during the last 18 months has been taken to remedy this state of affairs. Still, I must point out that the provision of latrines cannot be said to supply any approach to the requisite accommodation; seven Horbury's latrines with five seats each, one double latrine of six seats each, two Crawford's iron latrines of five seats each, two open space masonry and seven common tatty latrines being the total available. Seeing that only 1,013 houses are attended to under the private scavengering system, and allowing the unlikely chance that an equal number of houses are provided with private toties, it may be assumed, as a probability, that over 15,000 persons daily defœcate in the byeways and open spaces of the town. The condition of several localities was in this respect very bad, showing that they must form well recognized places of easement for the population. As samples of such ground, I would cite Moothasam's land near Munickarikolam street and Karakop's street.

(*b*) To enable the municipality to conduct conservancy successfully, I would suggest the following staff.

Chairman's Remarks.

Inspection Notes. Chairman's Remarks.

Existing staff.		Proposed staff.	
	Rs.		Rs.
5 peons, 1 on Rs. 9 and 4 on Rs. 8 each ..	41	6 peons on Rs. 7 each	42
20 sweepers on Rs. 6 each	120	25 sweepers on Rs. 6 each	150
13 male scavengers on Rs. 6 each..	72	25 male scavengers on Rs. 6 each	150
10 female scavengers on Rs. 4 each	40	25 female scavengers on Rs. 4 each	100
2 cinerator men on Rs. 6 each	12	2 cinerator men on Rs. 6 each	12
5 sewage cartmen on Rs. 6 each	30		
1 prickly-pear cutter on Rs. 6	6		
Total ..	327	Total ..	454

(*c*) The night-soil is still inappropriately dealt with, notwithstanding the remarks made in the preceding year's report. The municipality might well arrange to work either the trench or poudrette system with profit. There is plenty of ground in the neighbourhood of little value that might be taken up, and put under cultivation with financial advantage to themselves, whilst serving as useful "object lessons" to surrounding ryots.

7. *Private Scavengering.*—This is still very backward. It is desirable that the municipal councillors should individually exert themselves in this matter and secure the extension of the system—*vide* G.O., No. 749 M., dated 13th June 1894.

The service is extending and will be extended further.

8. *Markets*—(*a*) *Coss Mahomed Marakayar Market.*—This is a licensed private market intended for the sale of fish. It requires much improvement before it can be considered fit for that purpose. The enclosure being by four walls, there is a marked absence of perflation and stench is considerable. The enclosed ground is not so much as provided with macadam. The floors of the stalls are lime-plastered—this being the worst possible plaster to select. There is a public dust-bin immediately outside and a privy in one corner. If there be need for a market, the municipality would be well advised to open a market for themselves. In any case, this place should not be licensed next year till free ventilation is arranged, and the provision of impervious surfaces for the stalls and drains, and means of flushing them are duly provided. The privy should also be removed.

The council have proposed to open a market for themselves and made provision for same in the budget for 1896–97.

(*b*) *The Muthu Fernand Market,* which is new, and also has received a license from the municipality, is built on equally bad principles, and should also be finally refused a license unless there be complete reform. The pyals of the butchers' stalls are plastered with lime mortar; poor poles support a good Mangalore tile roof; there

Inspection Notes. Chairman's Remarks.

are no drains and no water-supply; the walls are filthy; the butchers use dirty boxes and blocks. A new latrine is being made in the corner, and is being wastefully plastered with lime mortar.

(*c*) As to the method which should be followed, the municipality could not do better than obtain a specimen plan and specification from the Engineering branch of Sanitary Board, and whilst not necessarily following details in attempting to improve markets, they should adhere to the broad principles laid down.

9. *Offensive Trades.*—There are eleven bandymetts evidently very largely used; but not one owned by the municipality. A very considerable income is thus lost to them as import traffic is large. It would probably be hard on the owners of the present ground to render it waste by simply refusing to give licenses in future; but the interests of the tax-payer demand that this opportunity of relieving taxation in the town should not be lost—even if some years must pass before the benefit is derived. It would, therefore, be advisable to ascertain what would be the cost of buying all these bandymetts under the Land Acquisition Act, and either selling the sites for building purposes and making municipal bandymetts elsewhere, or employing the same locality. Pending this, certain of them should either have their licenses cancelled, or should be required to keep the bandymetts in cleaner condition than found by me. Certain of them exhibited much soakage of sewage on the ground, whilst in others large heaps of manure (being the accumulations of considerable periods) had not been removed. Under section 188 only fifty licenses have been issued yearly since 1890. It is impossible that the number of trades liable under this section has kept so exactly within this number as to neither increase nor decrease. Both on sanitary and financial grounds, I would urge the municipality to give this section full attention.

10. *Graveyards.*—The question of graveyards is still under the consideration of the municipality—*vide* G.O., Mis. No. 888 M., dated 27th May 1895.

11. *Vaccination.*—(*a*) Fresh lymph is used; but the Civil Apothecary, who acts as local superintendent, informed me that the calves are obtained with the greatest

Inspection Notes.

Chairman's Remarks.

difficulty; and that the Revenue subordinates in the neighbourhood refuse to afford him assistance in procuring them. The municipality should, after inquiring into the facts of the case, make a representation to the Collector of the district on the subject. The municipality have, of course, no legal claim upon the Revenue authorities for such assistance; but it is customary to render it, and, moreover, in certain districts can be hardly done without.

(*b*) The shed, in which the calves are accommodated, is quite unfit for its purpose. It is not possible to cultivate animal lymph with the necessary degree of perfection, if the nature of the accommodation be unsuitable. Examined haphazard on the streets the following results as to children examined were obtained:—

—	Years.			
	1	1–5	5–10	Under 10.
Vaccinated	5	10	15	..
Unprotected	..	4	1	..
Small-pox	..	..	..	2

The following shows the result of the working of compulsory vaccination as to infants:—

Total births during preceding six months i.e., from 1st January to 30th June 1895.	Number vaccinated successfully.	Number vaccinated unsuccessfully for the first time.	Number vaccinated second time because first opeation proved unsuccessful.		Postponed under medical certificate.	Died.	Left the town.	Unaccounted for.	Ratio of successful operations to total births per cent.	Prosecutions for failure to accept vaccination.
			Successful.	Unsuccessful.						
354	140	..	..	..	38	80	56	4	39·55	36

12. *Registration.*—The following table shows results obtained during the past triennium:—

Years.	Ratio of births per mille of estimated population.	Ratio of deaths per mille of estimated population.	Percentage of deaths from						Ratio of deaths of infants under one year of age to registered births in the preceding year.	Ratio of deaths of children between one and under five years of age to population of that age.
			Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	Injuries.	All other causes.		
1893	32·9	30·0	1·3	1·8	36·1	18·5	0·7	41·6	321·3	62·7
1894	25·7	29·8	4·1	0·3	32·3	14·4	0·8	48·1	230·4	47·5
1895	26·4	23·3	3·4	0·2	29·9	17·1	1·2	48·2	217·8	37·6

Inspection Notes.

Chairman's Remarks.

As might be expected in a town with a subsoil water level so near the surface and badly conserved, infantile mortality is heavy; whilst, in the case of adults, the persistent and heavy mortality from cholera and bowel-affections is sufficient evidence of the highly contaminated condition of the water-supply as well as of the foulness of the town site. The death-rate is open to doubt, but the birth-rate proves that registration is conducted with great carelessness. Reform is urgently requisite in this matter.

The registration of births and deaths is conducted with care and more attention will be directed to this work.

13. *Sanitary Administration.*—(*a*) Two Inspectors on Rs. 15 per month are employed. There is no reason to believe these men have the slightest knowledge as to sanitation. They should, if retained at all, be made Conservancy Overseers on Rs. 12 per month. So important a town as Tuticorin ought no longer to be without competent Sanitary Inspectors, and I advise that, in addition to Conservancy Overseers, one second-class Sanitary Inspector on Rs. 45 *plus* Rs. 15 and one Assistant Sanitary Inspector on Rs. 25 *plus* Rs. 7–8–0 horse allowance be employed.

The council are going to entertain the services of a qualified Inspector on Rupees 25+7½ (horse allowance) after obtaining sanction of Government.

The two present English-knowing Inspectors will be sent to Madras for training as early as possible on half pay for three months and train charge to and fro Madras.

(*b*) The municipal councillors do not assist the Chairman, except by consultation at their meetings. I advise that the ward system of supervision be employed; not that by this means the powers of the Chairman should be delegated, but that increase of observation as to the conditions of sanitation should be arranged for by the councillors, thus multiplying their powers of ascertaining facts. If each councillor in charge of a ward were to keep a book reporting sanitary errors to be sent on to the Chairman, say, once a week (or oftener, where urgent wants are referred to for his disposal), it would be possible to make a great advance in very short time as to road-making, general conservancy of the town, private scavengering and vaccination.

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

10*th February* 1896.

—

Forwarded.

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

8*th May* 1896.

EXTRACT from the Proceedings of the Municipal Council, Tuticorin, in their meeting held on Friday the 17th April 1896, at 5-30 P.M.

* * * * *

3. Read inspection notes of the Sanitary Commissioner, together with the draft reply of the Chairman.

Resolution.—The Chairman's reply was approved.

ORDER—No. 994 M., dated 13th June 1896.

Recorded, with the following remarks :—

(1) The action which the municipal council proposes to take on the Sanitary Commissioner's suggestion to encourage the system of making a "damp-proof course," and on his observations in paragraphs 6, 8 (*c*), 9, 10 and 11 of his inspection notes, has not been reported. The omission should be supplied without delay.

(2) The Chairman should address the Port authorities with reference to paragraph 3 (*a*), and report the result to Government.

(3) The municipal council's attention will be drawn to the Sanitary Commissioner's suggestion in paragraph 13 (*b*).

(4) There has been much delay in the submission of these notes, both in the Sanitary Commissioner's and municipal offices.

(True Extract.)

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

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

Exd. A. Raitt.

Govt. of {1896} Madras.

LOCAL AND MUNICIPAL.

A.S.

Proof for approval.

Issued.

Recd. | *Encl.*

G.O., No. 994 M., 13th June 1896.

Press

Please

JUNE.

Inspection Notes.

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

Local & Municipal Dept.
6[illegible]
TINNEVELLY
2 MAY 96
TREASURY DEPUTY COLLECTOR'S OFFICE

From

The Chairman
Municipal Council
Tuticorin

To

The Chief
Secretary to Government
Fort St. George
Madras

Date 30th April
Despatch 1st May } 1896
Received 1 MAY. 96
Through the Collector of Tinnevelly

No 199

Enclosure 2

Subject

Forwarding Inspection Notes of the Sanitary Commissioner Madras on this town with the replies of the Chairman

Enquired

DESPATCHED.

No. 199

Municipal Councillors Office
Tuticorin 30th April 1896

1 P

From

M. R. Ry. J. M. B. Roche Victoria Dougal
Chairman Municipal Council
Tuticorin

To

The Chief Secretary
to Government
Fort Saint George
Madras.
Through the Collector of Tinnevelly

Sir,

I have the honour to forward herewith the Sanitary Commissioner's Inspection Notes on this town together with the replies of the Chairman thereto as approved by the Council in their meeting held on the 17th instant.

2. A copy of the resolution of the Council on the subject is enclosed.

I have the honour to be
Sir,
Your Most Obedient Servant
J. M. B. Roche Victoria
Chairman

11. Municipal Councillors ...

16P

Extract from ~~the~~ Proceedings
of the Municipal Council Tuticorin
in their meeting held on Friday
the 17th April 1896 at 5.30 P.M.

Present.

M.R.Ry J.M.B. Roche Victoria Avergal
Chairman

F. Harvey Esq
M.R.Ry R. Motha Fernandez Avergal
" P. Viravagu Pillai Avergal
" T.M. Ramakistnasami Aiyangar
" S. Arumugam Chettiar Avergal
" S.K. Mohideen Kadir Shaw Marakayar.
" M. Shanmugam Pillai Avergal
Revd C.P. Gnanakan B.A.

x x x

3 Read inspection notes of the Sanitary Commissioner together with the draft reply of the Chairman
The Chairman's reply was approved

x x x

(Signed) J.M.B. Roche Victoria
Chairman

(True Extract)

J.M.B. Roche Victoria
Chairman

10/2/96

Thos Moffat

their powers of ascertaining facts. If each Councillor in charge of a Ward were to keep a book reporting Sanitary errors to be sent on to the Chairman, say, one a week (or oftener, where urgent wants are referred to for his disposal) it would be possible to make a great advance in very short time as to road making, General conservancy of the town, private scavengering and Vaccination.

J. R. Kings.

Surgeon Lieut Col.
Sanitary Commr for Madras

Inspectors at Rs 15 per month are employed. There is no reason to believe these men have the slightest knowledge as to sanitation. They should if retained, at all be made conservancy Overseers on Rs 12 per month. So important a town as Tuticorin ought no longer to be without competent Sanitary Inspectors, and I advise that, in addition to Conservancy Overseers one second-class Sanitary Inspector on Rs 45 plus Rs 15 and one Assistant Sanitary Inspector on Rs 25, plus Rs 7-8-0 horse allowance, be employed.

(4) The Municipal Councillors do not assist the Chairman, except by consultation at their Meetings. I advise that the ward system of supervision be employed; not that by this means the powers of the Chairman should be delegated, but that increase of observation as to the conditions of sanitation should be arranged for, by the Councillors thus multiplying their

The Council are going to entertain the services of a qualified Inspector on Rs 25+7½ (horse allowance) after obtaining sanction of Government.

The two present English knowing Inspectors will be sent to Madras for training as early as possible on half pay for 3 months and taken charge to and fro Madras.

J. M. Macdonald Victoria

Chairman

MUNICIPAL OFFICE, TUTICORIN.

14P

triennium:-

Years	Rate of births per mille of estimated population.	Rate of deaths per mille of estimated population	Percentage of deaths from: Cholera	Small pox	Fevers	Dysentery & Diarrhoea	Injuries	All other Causes	Ratio of deaths of infants under one year of age to registered births in the preceding year.	Ratio of deaths of children between one and under five years of age to population of that age.
1893	32·9	30·0	1·3	1·8	36·1	18·5	0·7	41·6	321·3	62·7
1894	25·7	29·8	4·1	0·3	32·3	14·4	0·8	48·1	230·4	47·5
1895	26·4	23·3	3·4	0·2	29·9	17·1	1·2	48·2	217·8	37·6

The registration of births and deaths is conducted with care and more attention will be directed to this work-

As might be expected in a town with a subsoil water level so near the surface and badly conserved, infantile mortality is heavy; whilst in the case of adults, the persistent and heavy mortality from Cholera and bowel-affections is sufficient evidence of the highly contaminated condition of the water supply as well as of the foulness of the town site. The death rate is open to doubt, but the birth rate proves that registration is conducted with great carelessness. Reform is urgently requisite in this matter.

13. Sanitary administration (a) Two Inspectors

(b) The shed in which the calves are accommodated is quite unfit for its purpose. It is not possible to cultivate animal lymph with the necessary degree of perfection, if the nature of the accommodation be unsuitable. Examined haphazard on the streets the following results as to children examined were obtained:-

Vaccinated			Unprotected			Small-pox
1	Years 1-5	5 10	1	Years 1-5	5-10	under 10 years
5	10	15	-	4	1	2

The following shows the result of the working of Compulsory Vaccination as to infants:-

Total births during previous 6 months (i.e.) from 1st Jany. to 30th June 1895	Number Vaccinated successfully.	Number Vaccinated successfully for the first time.	Number Vaccinated 2nd time because first operation proved unsuccessful: Successful	Unsuccessful	Postponed under Medical Certificate	Died	Left the town	Unaccounted for	Ratio of successful operations to total births per cent.	Prosecutions for failing to accept Vaccination
354	140	-	-	-	38	80	56	4	39·55	36

12. Registration- The following table shows results obtained during the past triennium

nor decrease. Both on sanitary and financial grounds, I would urge the Municipality to give this section full attention.

10. Grave yards. The question of grave yards is still under the consideration of the Municipality. (Vide G.O. No 868 in this dated 27th May 1895)

11. Vaccination (a) Fresh lymph is used, but the Civil Apothecary who acts as Local Superintendent informed me that the calves are obtained with the greatest difficulty, and that the Revenue subordinates in the neighbourhood refuse to afford him assistance in procuring them. The Municipality should, after enquiring into the facts of the case, make a representation to the Collector of the District on the subject. The Municipality have, of course, no legal claim upon the Revenue authorities for such assistance; but it is customary to render it and, moreover, in certain districts can be hardly done without.

The

that this opportunity of relieving taxation in the town should not be lost - even if some years must pass before the benefit is derived. It would therefore be advisable to ascertain what would be the cost of buying all these bandyaults under the Land Acquisition act, and either selling the sites for building purposes and making municipal bandyaults elsewhere, or employing the same locality. Pending this, certain of them should either have their licenses cancelled, or should be required to keep the bandyaults in cleaner condition than found by me. Certain of them exhibited much soakage of sewage on the ground, whilst in others large heaps of manure (being the accumulations of considerable period) had not been removed. Under section 188, only 60 licenses have been issued yearly since 1890. It is impossible that the number of trades liable under this section has kept so exactly within this number as to neither increase

nor

poles support a good Mangalore tile roof; there are no drains and no water supply; the walls are filthy; the butchers use dirty boxes and blocks. A new latrine is being made in the corner, and is being wastefully plastered with lime mortar.

(c) As to the method which should be followed, the Municipality could not do better than obtain a specimen plan and specification from the Engineering Branch of the Sanitary Board, and whilst not necessarily following details in attempting to improve markets, they should adhere to the broad principles laid down.

9. Offensive trades. There are eleven bandymetts evidently very largely used; but not one owned by the Municipality. A very considerable income is thus lost to them as import traffic is large. It would probably be hard on the owners of the present ground to render it waste by simply refusing to give licenses in future; but the interests of the tax payer demand that

absence of perflation, and stench is considerable. The enclosed ground is not so much as provided with macadam. The floors of the stalls are lime plastered - this being the worst possible plaster to select. - There is a public dust bin immediately outside, and a privy in one corner. If there be need for a market, the Municipality would be well advised to open a market for themselves. In any case, this place should not be licensed next year, till free ventilation is arranged, and the provision of impervious surfaces for the stalls and drains, and means of flushing them are duly provided. The privy should also be removed.

(b) The Muthu Fernand market which is new, and also has received a license from the Municipality is built on equally bad principles, and should also be finally refused a license unless there be complete reform. The pyals of the butchers stalls are plastered with lime mortar; poor

poles

The Council have proposed to open a market for themselves and made provision for same in the budget for 1896-97.

(c) The night soil is still inappropriately dealt with, notwithstanding the remarks made in the preceding year's report. The Municipality might well arrange to work either the trench or — pondicherry system with profit. There is plenty of [illegible] waste land in the neighbourhood of little value that might be taken up, and put under cultivation with financial advantage to themselves, whilst serving as useful "object lessons" to surrounding ryots.

7. Private scavengering - This is still very backward. It is desirable that the Municipal Councillors should individually exert themselves in this matter, and secure the extension of the system (Vide G.O. No. 749 M dated 13th June 1894).

8. Markets - (a) Coss Mahomed Marakayar market - This is a licensed private market intended for the sale of fish. It requires much improvement before it can be considered fit for that purpose. The enclosure being by four walls, there is a marked absence

The service is extending and will be extended further

that an equal number of houses are provided with private latrines, it may be assumed, as a probability, that over 15000 persons daily defaecate in the byeways and open spaces of the town. The condition of several localities was in this respect very bad, showing that they must form well recognized places of easement for the population. As samples of such ground, I would cite Moothasami's land near Munickavinayakam Street and Karakoppa street.

(b) To enable the Municipality to conduct conservancy successfully, I would suggest the following staff:-

Existing Staff		Proposed Staff	
5 peons on Rs. 4 & 4 on Rs. 3 each Rs.	41	6 peons on Rs. 7 each Rs.	42
20 Sweepers on Rs. 6 each	120	25 Sweepers on Rs. 6 " "	150
13 male scavengers on Rs. 6 each	78	25 male Scavengers on Rs. 6 " "	150
10 female -do- Rs. 4 "	40	25 female -do- Rs. 4 " "	100
2 Cremators men on Rs. 6 "	12	2 Cremator men on Rs. 6 " "	12
5 Sewage Cartmen on Rs. 6 "	30	Total Rs.	454
1 prickly pear cutter on Rs. 6.	6		
Total Rs.	327		

10P

doubtless be possible for the Munici-
-pality to so improve it as to make it
fit for agriculture, either at their
own hands or in letting it out
on contract. On no account,
should however such land be
used for building sites.

6. Night-soil Conservancy. (a) Latrine
accommodation is very far below
requirements. Both under the
late acting Chairman, and
the permanent incumbent,
action during the last 15 months
has been taken to remedy this
state of affairs. Still, I must
point out that the provision of
latrines cannot be said to
supply any approach to the
requisite accommodation.
7 Horbury's latrines, with 5 seats
each, one double latrine of
6 seats each, 2 Crawford's iron
latrines of 5 seats each, 2 open
space masonry and 7 common
kutty latrines being the
total available. Seeing that
only 1013 houses are attended
to under the private sca-
-venging system, and
allowing the unlikely chance
that

of the pattern shown in
diagram, which can be utilized
on behalf of house-holders on
their making an agreement as
in the case of private scaven-
-ging.

(b) Such sewage as is so re-
-moved should not be cast, as
at present, in waste places; but
should be taken to the Municipal
garden and there used for cultiva-
-tion. Further hints as to how
to conduct Municipal sewage,
in the absence of a correct
sewerage system, will be found
in the accompanying memo.

5. Rubbish disposal. In the
absence of any demand for
rubbish, the Municipality
is at present dumping on sandy
wastes in two localities. The
method is sanitarily and com-
-mercially sound in these
special localities, provided, care
is taken to always level each
day's work and cover it with six
inches of earth. In view of the
poverty of the ground, it will
doubtless

8 P

Kottapalliem. The inhabitants of this village draw water from the tank direct, and wash their clothing and bodies in the tank. This shifting of the village elsewhere would also be an advantage to the inhabitants of the village as the site is damp, the soil being permeated with water under pressure from the tank.

The Collector shall be addressed on the subject.

4. Sewage (1) Practically all the sewage of this town soaks within its own site — there being no drains except two near the sea shore. Attempts are made to collect the sewage in cess pools; but as even were the total house-hold supply no more than 6 gallons per head, no less than 30,480 cubic feet of sewage would have to be removed from the town daily, it is obvious that endeavours in this direction represent ~~money~~ wasted. Removal at public expense should not therefore be practised. The utmost the Municipality should do in this direction is to purchase suitable carts and sewage pumps of

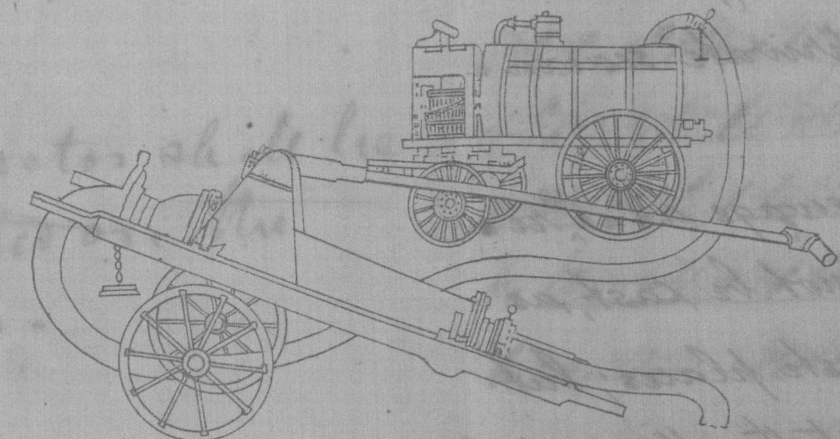
The private scavenging system recently introduced into the town has not yet developed. and it is only after some time that the matter of removing sewage water at the expense of the owners of houses should be considered.

Rg No 2949

9

A

* Idm C1402M

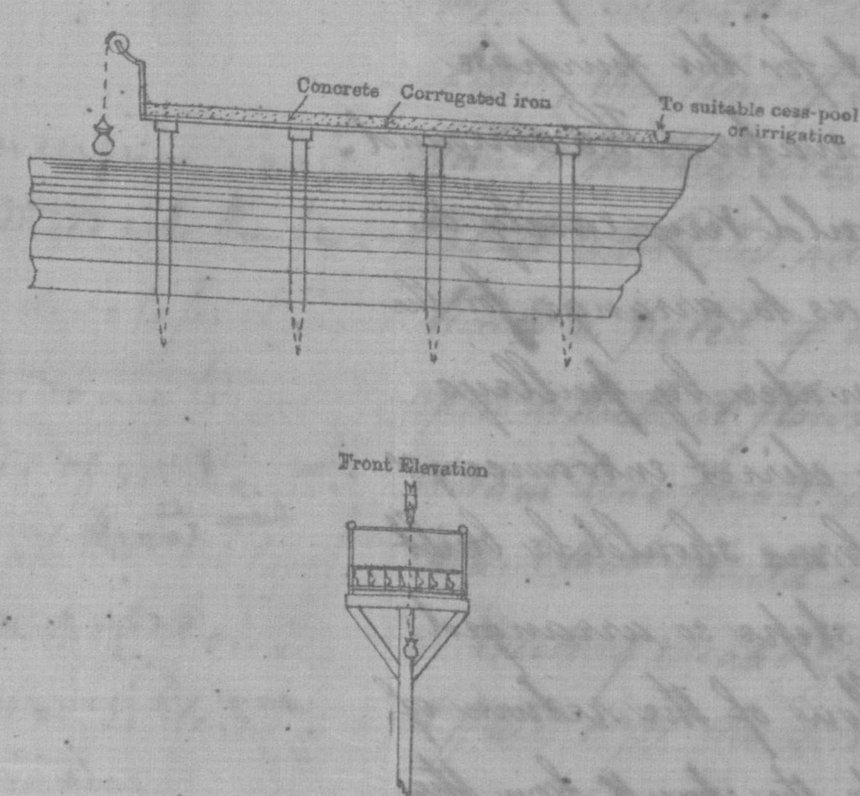


7

THE SURVEY OFFICE
18 MAY. 96
MADRAS

File C 1402 M

B



Baker, informed me that he had ascertained that this was erected by public subscription, and does not belong to the temple which is upon its banks. This is an import-ant point; as the temple authorities, I understand, have attempted to assert the right of control. As at present arranged, it is open to pollution by the entrance of persons direct for the purpose of drawing water. The surround-ing walls could very easily be modified so as to arrange for the drawing of water by pulleys instead of by direct entrance; or special platforms should be built from existing steps so arranged as not to allow of the return of foul water to the tank from the drippings of pots, hands, feet &c. Vide accompanying diagram.

(f) As a preparatory measure to the introduction of the water supply from the Korampalem tank, the Municipality should at once make the necessary arrangements for the shifting of the village of Kottapalliem

The Chairman is requested to take steps to find out records connected with the Teppakulam.

The points suggested will receive the attention of the Council.

will follow x

[illegible]

economical of water when in the act of drawing from the public wells, and that to prevent waste small iron or tin buckets only should be employed. Section 151 (ii) may give sufficient power in this direction, if the Municipality define the manner in which water can "lawfully" be taken.

(D) Near the Sinakadi parcherry, the flow of waste water from a public cistern is so great that it would be advisable to cultivate a patch of vacant land upon which it flows. A similar stream was found near the Railway that should also be utilized on existing vacant ground. If not sufficient for the cultivation of any crop, it certainly would suffice to water ornamental patches of flowers, grass and trees that would be more suitable objects than streams of dirty water forming useless pools.

(E) Jeyparkolam. This is a large reservoir fed by the conduit system from the Korampalem tank. The acting Chairman, Captain Baker

lived there long enough to establish their right to the ground, a site should be obtained for them elsewhere. The probability of the introduction of the new supply in no way diminishes the urgency of this question.

(C) Considering how greatly the population suffers from want of water good or bad during the hot season, it seems to me extraordinary that a greater tendency to economy has not been taught them. It was a common sight to see considerable streams pouring continuously from the neighbourhood of the public cisterns. This is due to the use of unusually small and badly made cadjan buckets, which really drop more than they transfer to the household chatties. Fully 75 per cent of the contents are allowed to fall on the ground. I would advise the Municipality on the approach of the hot season to notify by tom-tom that all inhabitants are required to be

economical

The Council will devote their attention to this suggestion and issue necessary instructions to minimize the waste thus wasted.

to the vessels etc
calling at this Port.

The Collector has been already addressed with a request to take immediate action to remove the huts along the channel.

of water by meter to vessels calling at the Port and to factories, ought to aid in recouping much of the annual expenditure. In this connection, it would seem but fair that the Port Trust should give its aid.

(b) Whatever the decision arrived at by the Council, however, as to distribution or point of filtration, I think all parties would agree that the building of the conduit from the Korampalem tank, which in both schemes is an essential feature, should be proceeded with, with as little delay as possible. Not only waste of 75 per cent of the water occurs, but throughout its course in the supply channel the water is open to the most gross defilement. In the matter of preventible defilement, it seems to me desirable that the attention of the Municipality should at once be directed to removing the coolies who live on the borders of the channel close to the existing service reservoir. If they have lived

to its sanitary but to its pecuniary prosperity. One scheme before the Municipality provides for pumping and delivering the water under a pressure that would secure both sanitary and manufactory requirements, and another that will yield sufficient water in a fair state of purity under conditions disadvantageous as to sanitary and commercial requirements. There can be no doubt that if it be possible for the Municipality to secure the funds, their choice should be the former scheme — which will prove the best investment for posterity. But, failing the possession of funds, the latter scheme, after slight modification would present many advantages conditions over the present and would be infinitely better than no scheme at all. This question having been referred to the Municipality to show how funds can be gathered, I would point out that, irrespective of the proposed advantages of the revised Act No. IV of 1884, the selling of

The water-supply scheme has been before the Sanitary Board who, it is hoped, will take into consideration the most urgent necessity of the water supply to this town.

It will be a great help if the Port Trust will help the Municipality with its fund. As waters will be supplied

The object is the prevention of the walls and the dwelling generally becoming damp, by reason of capillary attraction. This obviously occurs in Tuticorin, where the subsoil water is found from 2½' to 4' from the surface. This course may be a single line of stones laid in and pointed with Portland cement, or a layer of asphalte, cement concrete, or glazed bricks. Any such attempt should of course also be accompanied by an impervious floor of concrete cement plastered or a sound flooring tiles or slabs cement pointed, laid on lime concrete.

3. Water supply (a) The question of water supply of this town has already been before the Sanitary Board. As to the matter being urgent, there cannot be the slightest doubt. The town is one that is rapidly increasing in commercial importance, both on account of its several factories and its port. The giving of an improved supply to this town would not only add

to

sent to Press.

for

The suggestion seems a good one; but it is a matter to be considered after the water supply scheme has become ripe and after the survey of the town has been taken. The Council intend to apply to Government to make over to them the swamp lands south west so as to have them reclaimed and sold for house sites and other purposes.

3 Diagrams

[...]ion Notes of the Sanitary Commissioner, Madras

Tinnevelly District

Tuticorin Municipality.

Inspected 2nd to [...]th Novr. 1895

Population as per census of 1891 — 25,107.

Roads – The majority of the roads are mere sandy tracks; but such as are professedly metalled are in good order.

2. Dwellings – These are much overcrowded on the site. It would be advisable for the Municipality to buy land under the Land Acquisition Act, and sell it for house sites. This would represent money invested that would give ultimately a good return. Several of the minor lanes are exceedingly narrow, and require opening up. An amount spent yearly in this direction for razing certain of the houses which are out of the general line would in time do much to improve the town generally, and to render the value of the property in the neighbourhood greater. Certain Municipalities

Municipalities are now steadily pursuing this course, and it cannot be doubted that both sanitarily and financially the method must eventually pay them. A portion of a lane at present used for easement was pointed out to me by the acting Chairman as required by a factory near the Railway, with the statement that the Municipality object to its being given up. It seems to me however that, considering the awkward configuration of the lane at this point, it would be of actual service in the direction of Municipal improvement that it should be given up. In view of the rapid increase of dwellings, Section 180 should be rigidly enforced and all possible improvements be effected under it. Wherever it is possible to persuade the inhabitants to undergo the small extra expenditure necessary for the making of a "damp proof course," it would be advisable that this be encouraged. Of this, I append a diagram.

The

This part of the land has been already sold to the Coral Mills Company Limited under G. O. No 2075 M.Mis 11th Decr 95

Section 180 is now in operation.

3

RECEIVED IN THE SURVEY OFFICE ON 16 MAY. 96 MADRAS

