Local & Munl. (1896) Department.

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G.O., No. 1769.M

DATED 17th Oct. 1896

INDEXED.

[Despatch Abstract.]

Inspection notes Recording Sanitary Commission
— on the Adoni Municipality

BACK PAPERS.

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Government {1896} of Madras.

LOCAL AND MUNICIPAL.

Proof for approval.

Final proofs must be passed by the Asst Secy

Recd. } 1896. *Enclosures*

Regd. } *Spare copies* 2

3/11/96

G.O., No. 1769 M., 17th October 1896.

OCTOBER.

Inspection Notes.

Recording Sanitary Commissioner's — on the Ádóni Municipality.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

Read—the following paper :—

From M.R.Ry. S. RAMU AIYAR Avargal, B.A., Chairman, Municipal Council, Ádóni, to the Chief Secretary to Government (through the Collector of Bellary), dated 24th August 1896, No. 520.

I have the honour to submit herewith the inspection notes of the Sanitary Commissioner for Madras on his inspection of this municipality, with my replies thereto duly approved by the council at its meeting held on the 24th instant.

2. Extracts from the council's proceedings, dated 3rd August 1896 and 24th August 1896, are herein enclosed.

Enclosures.

Inspection Notes of the Sanitary Commissioner for Madras.

BELLARY DISTRICT.

Ádóni Municipality.

Inspected

Population as per Census of 1891 ... ... 26,243.

Inspection Notes.

Site.—The village of Mandageri being close to the town should, for sanitary reasons, be included within municipal limits.

2. *Roads.*—(*a*) These are in fair order where metalled. A very considerable number of the narrow streets are, however, made on the natural soil. One street has undergone improvement at the hands of the municipality by widening.

(*b*) The crowded condition of houses upon the site of Ádóni is notorious. It is not difficult to touch both sides of certain lanes in passing. The air in these places, especially at sun down, is oppressive in the extreme from radiation of heat from the stone walls, and the obstruction to which any wind that might be stirring is subjected to. Referring to this subject, the Chairman writes : "The widening and improving the numerous crooked streets and lanes is a crying want of the town. It is proposed to begin the work, as soon as a complete scheme for the drainage of the town is prepared and approved, and to complete it by sections as funds are available."

Chairman's Remarks.

The council has already resolved on this step. Arrangements will be made to give effect to this from 1st April next.

Inspection Notes.

(*c*) This is a solid sanitary suggestion, and I strongly advise that the municipality take up the matter of having plans prepared for re-modelling those parts of the town in urgent need of it. These plans having been once agreed upon should be looked to for guidance by successive Chairmen. Lest the fact of such plans having been prepared should slip from official memory, they should be made of lasting material and be kept on the wall in a conspicuous place of the council meeting room. This re-modelling should not, however, be carried on side by side with a sewerage scheme as proposed, but should precede it and be put into execution without delay.

Chairman's Remarks.

Provision was made in the current year's budget for the survey of the town. But it was struck out by Government on the Sanitary Engineer pointing out that the Revenue Survey department has been ordered by Government in G.O., No. 909, Financial, dated 29th October 1891, to carry out the survey of all the municipalities. This is not one of the towns to be taken up by the Survey department this year (*vide* G.O., No. 1186 M., dated 13th July 1896). It is hoped that next year the survey will be carried out, and then it will be possible to arrange for plans for re-modelling those parts of the town in urgent need of it being prepared. The suggestion of the Sanitary Commissioner that the plans should be made of durable material, &c., will be acted upon. It was not intended that the re-modelling should be carried out necessarily side by side with a drainage scheme, but simply that a combined scheme should be prepared once for all, showing details of both at a glance. In desiring to have such a scheme, the object was to provide for levels of new streets to be formed by widening or straightening the existing ones so as to fit in with the levels adopted in the drainage scheme.

3. *Drainage.*—A new drain has been built by the municipality professedly only for the removal of storm water. It has a depth of $2\frac{1}{2}$ feet by $2\frac{1}{2}$ feet breadth. It therefore occupies no inconsiderable portion of the narrow street. The overseer, under whose guidance this has been constructed, assured me that this was not a bit too large; but appearances are much against it, taking into consideration the probable area drained towards it. In any case, it seems to me, seeing that the intention is to receive simply storm water passing through this street from ground external to it, that it would have met the required object better to have run the water in pipes or a masonry conduit, and thus have prevented the decreasing of the available breadth of the road.

The drain in question is intended to carry off storm water falling over an area of, roughly speaking, at least 40 acres, taking the rainfall at one inch per hour. The drain in question, whose inclination is 1 in 100, can discharge 1,500 cubic feet of water per minute, *i.e.*, in other words, rain water falling over 25 acres only. The road is $13\frac{1}{2}$ feet at its narrowest point exclusive of the portion occupied by the drain and the traffic is by no means considerable. When traffic develops and more width is required for the road-way the drains may be covered up. Pipes and masonry conduits are, it is respectfully submitted, rather too expensive for a poor municipality like Ádóni.

4. *Sewerage.*—(*a*) The sewerage system of Ádóni is very simple. It consists of receiving the sullage water into pervious cesspools, which allow the fluid contents to disappear in the sub-soil, whilst leaving the sludge to be removed at intervals of a year or so by hand. Taking the

The council fully recognizes the unsatisfactory character of the present cesspool system. But it need hardly be said that the system is not peculiar to Ádóni and that it prevails generally in all towns and villages in the Ceded Districts. The council thinks it necessary to state what

Inspection Notes.

inhabitants at 28,305 (the estimated population up to the 31st December last), there must thus disappear into the sub-soil yearly the greater part of 98,550,000 gallons of sewage containing a large proportion of the urine of the inhabitants, and much diluted excreta from the washings of latrines. In consequence, the narrow lanes have a distinct ammoniacal odour from emanations from the overcharged sub-soil. Such conditions favour to the utmost the growth of the malarial parasite, and it is therefore not surprising to find that 38·1 per cent. of the total deaths in the town are returned as due to "fevers." It would be hopeless to effect any appreciable remedy for this state of affairs until a complete sewerage system has been introduced. As Ádóni has been lucky in obtaining a cheap water-supply, the council ought to have little difficulty in coming to a determination to ask the approval of Government for their proceeding with a sewerage system as early as possible. Having ascertained when this can be taken in hand, they should, in the meanwhile, spend money upon altering the configuration of the streets with reference to paragraph 2 *supra*; as, so far as I can judge, it would be hopeless for an Engineer to attempt to provide a system of sewerage that would benefit any but the larger streets of the town, so long as so considerable a portion consists of irregular and narrow lanes. Being already possessed of a water-supply system, it would be advisable for the municipality to hold in mind the great advantages of the "*water-carriage*" system either by adopting it in its entirety, or so far as location of depôts upon main sewers would permit—thus securing permanent economy as to cartage and correct disposal of both sewage and night-soil upon a sewage farm.

(*b*) Pending the introduction of a sewerage system, the council should arrange for the safe conduct of the waste water from fountains to suitable points of discharge. The places inspected by me seemed to present no special difficulties. Small plots provided with trees or other vegetation greedy of moisture should be arranged. These would form an

Chairman's Remarks.

the actual facts are in this connection. The Commissioner appears to think that these cesspools receive washings from latrines. This is not, however, the case. The floors of latrines consist of natural soil and are not washed except by rain, nor do the latrines drain into the cesspools which receive for the most part bathing water and water used in the cleaning of vessels, &c. The council also thinks that the "distinct ammoniacal odour" in narrow lanes referred to by the Sanitary Commissioner is not the result of the sub-soil being contaminated by the sewerage water, but that it is simply due to the people practically using the lanes as urinals. For a great number of houses, especially those of the poorer classes, who in these parts indulge but rarely in the luxury of bathing, either there are no cesspools at all, or pots are kept into which the sewerage water is received and the contents are remedied as often as the pots become full. It is not all cesspools, nor even the majority which are cleaned at such long intervals as once a year. Such capacious sink-pits are comparatively few. The great majority are small ones, and require cleaning from once a month to once in three months.

The question of the feasibility of introducing the "water-carriage" system either in its entirety or partially into this town is for the experts to decide. But it seems to the council that even with the water-supply system, which the town is now lucky enough to possess, it is extremely doubtful whether the supply will ever be sufficient to answer the purposes of a sewerage system in addition to drinking and other kindred purposes.

Provision has been made in the current year's budget on this account. Necessary steps are being taken to minimize the evil, but it cannot be fully remedied until the drainage system shall have been introduced.

Inspection Notes.

ornament to the town, and be far preferable to the existing pools of water in the neighbourhood of each fountain.

5. *Water-supply System.*—(*a*) As observed in my inspection notes of 1894 embodied in G.O., No. 732 M., dated 1st May 1895, I would advise the municipality to hold steadily in memory the desirability of ensuring that their collecting ground for this water-supply is beyond reproach by acquiring year by year, the ground still under cultivation in certain parts of the area. It must be remembered that this will not only secure them a water less liable to risks of serious contamination, but a greater proportion of the rainfall; seeing that cultivated land is purposely prepared for attaining percolation of the water it is their interests that it should not sink into the ground, but flow into their impounding reservoir. There are several matters that in themselves, although apparently trivial, must have an important bearing upon the success of the scheme as a sanitary work. Although the surface near the filter-beds was in a cleanly condition, this was not so in regard to the inner surface of the bank—rags *being found*. Rags, too, were in use to stuff the sluice valve, which cannot be said to be an appropriate method sanitarily. No *latrine* is provided for the attendant. This should be arranged for, otherwise there is risk of undesirable localities being employed.

(*b*) The zinc roof is so arranged as to permit of light, and with it, dust entering the filtered water reservoir.

The zinc roof seems to me also undesirable in reference to maintenance of heat, and the consequent favouring of growth of micro-organisms. It is probable that the municipality would lose little by selling the corrugated iron of the roof, or by utilizing it for latrines in the town. The ordinary form of arched masonry covering employed for these reservoirs would be preferable. If, however, it be found that the cost of this improvement be heavy, the complete darkening of the reservoir should certainly be arranged for, and the addition inside the roof of a saw-dust or other lining as a non-conductor should be made. The ground surface surrounding the filter-beds is at present flat or nearly so; the entrance of surface washings would therefore be favoured. The surface should be altered so as to have a decided gradient *from*

Chairman's Remarks.

The suggestion will be borne in mind.

Care will be taken to keep things clean.

There are very few attendants. The maximum number present at any time is only four, and ordinarily there are only two. There is plenty of ground within easy reach below the tank where the attendants could answer the calls of nature when so required. There is no fear whatever of the tank-bed or bund or the neighbourhood of the head works being defiled by the water-works staff. The construction of a latrine seems therefore unnecessary.

A sketch of the zinc roof is given below. The wall of the reservoir above the ground is only 2 feet high and the edge of the roof is 3 inches below the top of the wall. The opening between the top of the wall-plate and the zinc roof is only 3 inches. The ground around the reservoir is also turfed. The council, therefore, thinks that dust cannot get in under these circumstances. However, it is proposed to fill up the openings by means of glass shutters so as to prevent creatures like squirrels and blood-suckers getting in. The remarks of the Sanitary Engineer on the question of the unsuitability of the zinc roof will be awaited.

The Sanitary Commissioner's suggestion is being attended to.

Inspection Notes.

the filter-beds. The *Ramjira* spring, from which during the wet months of the year a portion of the supply is obtained, is drawn upon by certain members of the public by approaching it direct. This might lead to dangerous contamination of the total water-supply. The Chairman, in answer to my verbal suggestion on this point, told me that he has already determined to fix a pump outside the wall, so that persons may draw from the spring without direct approach. This certainly should be done without delay. The management of the filter-beds leaves much to be desired.

Gauges should be fixed on the telescopic pipes in the filter wells instead of the rough stick and tape which were produced before me by the overseer in charge. Rules have been recently issued by the Sanitary Engineer as to regulation of the rate of filtration. These should be strictly followed.

(*c*) It must be remembered by the municipality that the expense to which they have gone must represent mere waste unless their arrangements as to filter-beds are exact and correct. Thus nothing can exceed the carelessness with which the sand for the filter-beds has been collected. Although the contractor denies the fact, the Reddi of Mandageri had no hesitation in saying that the sand for the filters was obtained from the dry bed of a stream which drains the night-soil depôt of Ádóni. Another place used is the Kalboye vanka. The locality should be selected by the municipality in consultation with the local medical officer, and a thoroughly trustworthy man should be sent with the contractor's men to see that they really bring sand from the appointed locality on each occasion. At the time of my visit, the syphon bringing water over the impounding reservoir was out of order. It would be well if the municipality provided two syphons *—as suggested in the original scheme by the Sanitary Engineer's department—so as to prevent stoppage of the water-supply, or at least cessation of the delivery of filtered water which such an accident brings about.

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* Another syphon will be purchased as soon as funds permit.—*Chairman, Municipal Council.*

Chairman's Remarks.

A pump has been ordered to be put up outside the enclosure within which the spring is situated for the use of people resorting to it.

The question of fixing gauges will be referred to the Sanitary Engineer for favour of opinion.

A very careful inquiry has been made on this subject and it is found that it is not a fact that the sand for filter-beds was ever taken from the dry bed of the stream which drains the night-soil depôt. The sand provided by the Sanitary Engineering department before the works were handed over to the council has not yet been renewed. One Amindin, who was the contractor employed by the Sanitary Engineering department to supply and spread the sand, is positive that the sand used for the filter-beds when the work was first started was brought from the bed of the channel which supplies the tank. The water-works coolies also say likewise. Since the works were made over to the council, the municipal overseer has had sand carted departmentally and stored near the sand-washing box. It has not yet been used. Part of this was brought, it is true, from the vanka which goes by the name of the Mandigeri vanka, but at a point three-quarter mile higher up above the night-soil depôt and not at all from below. This was done when there was more water in the tank. When the level of the water got low, more sand was got from the channel supplying the tank. In fact, there is no reason whatever why the sand should have been carted from a spot in the vanka in question below the night-soil depôt as the cartage would be much greater and probably prohibitive. The councillor who appears to have accompanied the Sanitary Commissioner, and been present when he made the inquiry on this subject, has been unfortunately absent from Ádóni for some time and so it cannot be ascertained from him what actually transpired, apparently the information was given to the Commissioner by persons who did not know anything of the matter. The Mandigeri Reddi denies having told the Commissioner that the sand for the filter-beds was taken from the vanka below the night-soil depôt. He says that he does not know at all where the sand was taken from for that purpose. In fact, he even says that he has not up to date seen the filter-beds. Another ryot named Jambanagaud, also of Mandigeri, seems to have been present at the time. He also denies that he told the Commissioner anything about the sand for the filter-beds. The fact seems to be that these residents of Mandigeri, who have all along been protesting against the location of the night-soil depôt at the place where it now is, took the opportunity of the Commissioner's presence to pour out their grievances to him, and when the Commissioner asked them whether sand was taken from the contaminated locality for the filter-beds, they appear to have answered affirmatively by way of emphasizing their grievance in the hope that the Commissioner would be moved to order the removal of the depôt from its present site. I hear Jambanagaud said to the Commissioner: "It is from here, pointing to the vanka below the depôt, that sand is taken for all purposes." It is a fact that the residents of Ádóni cart sand from that locality for building and other purposes as it is nearest to the town. The person referred to by the Sanitary Commissioner, as the contractor, is his brother. He is not present at Ádóni and so he could not be examined.

The Sanitary Commissioner does not say that the Reddi used the words "*below* the night-soil depôt."

(Intld.) R. H. C.

He is evidently not a reliable informant.

(Intld.) R. H. C.

(*d*) The water from the public system was up to date of my visit used but to a small extent, as a considerable number of

It does not appear to the council to be correct to say that the water from the public system was up to date of the

Chairman's Remarks.

Inspection Notes.

the people still employ well water for watering animals, for bathing and drinking purposes, and reserve the pipe-water for "inferior domestic purposes." As the municipality have no drains to flush, there is consequently no expenditure under this head, nor has the water been utilized in any way by the municipality for public purposes except in the case of the hospital. So long as the people employ water drawn from wells in a foul sub-soil and liable to contamination from above even were this water reserved for "inferior domestic purposes," so long will they fail to enjoy the improved condition of health which may be justly looked for as a result of the introduction of a public filtered water-supply. I strongly advise the council to shut the whole of the wells in the town and to rely solely upon the water-supply system.

(*e*) Several of the inhabitants represented to me the fact that the fountains are situated at distances which are inconvenient to them. Although this is not always the case, it is correct to say that additional public fountains are desirable, and every encouragement should be afforded for the early increase of fountains within such limits as the Sanitary Engineer may consider feasible, having regard to the existing distribution pipes.

(*f*) I suggested in my inspection notes above referred to that the municipal council should erect bathing platforms and a "dhobie-khana". A suitable spot for this seemed to me to be round the Venkanna bavi, the water of which I considered could be raised for use by means of a small oil-engine. My intention was misconstrued by the Sanitary Engineer on the matter being referred to him for affording the council plans, by his conceiving that I wished the public water-supply first to be let into the bavi and then be lifted. This was not my meaning; the suggestion to use the water of this well being made with the intention of saving the expenditure of the public supply the quantity that could be obtained at that time being somewhat open to doubt. Whether or not the yield of this well is sufficient for the purpose can only be determined by measurements. This information should be procured by the municipality. If it proves insufficient, the question of use of the public supply

Chairman's Remarks.

Commissioner's visit used but to a small extent. The fact is that by far the majority used the water for drinking as well as other purposes, and the number who have still prejudice against it or rather predilection in favour of well water is decreasing.

The Chairman has not remarked on this suggestion. The closing of all the wells would seem to be rather an extreme measure and would be difficult to enforce.

(Intld.) R. H. C.

It is in contemplation to increase the number of water-taps, and provision has been made in the budget for this purpose.

The remarks of the Sanitary Engineer on this subject are awaited. The inquiries made by the council show, however, that the dhobies would not use this water for bleaching purposes, as it is too hard.

Inspection Notes.

for bathing purposes and a "dhobie-khana" should be considered, as the sanitary necessity for both is evident.

6. *Rubbish Disposal.*— (*a*) Matters are practically in the same state as when I last inspected the town; but, as with the close of the official year the departmental system was to be introduced, it is stated that the unsatisfactory methods to which I called attention will now be abolished.

(*b*) There are only two carts for removal of rubbish, whereas not less than eighteen are really requisite, if the rubbish be really removed from the town site. The chances are that beyond street sweepings the whole of the town rubbish is stored by ryots. If this be so, arrangements for storage on ground immediately outside the town should be made.

7. *Night-soil Collection and Disposal.*— (*a*) There are seventeen latrines; of these, seven are of the modern type and ten are merely enclosed spaces. With one exception, these latrines are situated at the outskirts and are consequently too distant from the population served. The municipality should endeavour to make small roofed iron latrines in the vicinity of dwellings, and arrange to work them under the dry-earth system, so that they shall be maintained free of odour. Each of these should have a special light at night time.

(*b*) I understand that a new road to the night-soil depôt is about to be made. It would be advisable at the same time for the council to arrange for giving up the old ground, which has been in use so many years. The trenches have been so dug as to prevent correct future working. It is, moreover, on low-lying ground. It would be better for them therefore to fill in the trenches with earth and cultivate the site on their own behalf, and select a new site in the neighbourhood. In close proximity to the old site, I was able to show the councillor in charge of sanitation a suitable position in a field which could no doubt be easily obtained under the Land Acquisition Act.

(*c*) Although there is still room for improvement, private scavenging has received good attention at the hands of the municipal council—there being now 848 houses of a total of 1,500 thus attended. Under this head Rs. 1,939-12-10 were received by the municipality during 1895-96, of which Rs. 493-11-0

Chairman's Remarks.

The rubbish is now being removed by departmental agency.

Twelve carts are being used for this purpose and experience shows that these are sufficient. The ryots, it is true, do not throw the rubbish accumulated in their houses into the municipal dust-bins. But they are not allowed to accumulate it in their houses so as to constitute nuisance. They deposit them in places at the outskirts of the town.

The suggestions will be carried out as far as possible. The town is so crowded with buildings that there are hardly vacant spaces which can be used as sites for latrines so that sites will have to be acquired.

Steps are being taken to acquire additional land for night-soil depôt, and when that has been acquired, the old site will be given up and used in the manner suggested.

The charge is sufficiently low at present. The amount shown as saving last year has been since mostly utilized in the purchase of plant.

Inspection Notes.

represented profit. This is an error in policy; the system should be made as cheap as possible compatible with efficiency. Having fixed a small and reasonable charge, any surplus should be devoted to effecting improvements in plant and methods of scavenging.

(*d*) For the total scavenging service of the town only nine carts are employed, of which four are wooden. These should be abolished in favour of iron carts.

(*e*) The conservancy staff is not assembled by the inspector till 3 o'clock in the afternoon. Orders should be issued for checking the assembly of the men both in the morning and afternoon. Equally, a special date should be fixed, at least once weekly, when the whole of the night-soil and rubbish conservancy carts should be assembled for inspection, and their defects be reported to the Chairman for orders.

8. *Cattle Slaughter-house.*—Beyond the fact that an imperfect attempt had been made to cement point the floor, the slaughter-house is in the same state as reported in former inspection notes. The same may be said of the *sheep slaughter-house.* In the case of the latter, a completely new design is requisite. In both the public water service should be introduced for distribution by taps. Hydrants, to which a hose with nozzle can be attached, should also be supplied for flushing purposes. The municipality should secure standard plans from the Sanitary Board, and get their municipal overseer to draw up design for the present building according to these plans as far as feasible.

9. *Market.*—The raised basement should be provided with a drain along its length. The public water-supply should be introduced, and distribution be carried out by taps. White silicate paint should be employed for the wooden pillars.

10. *Grave-yards.*—Vettiyans should be licensed and should be required to see that burials are conducted in a systematic

Chairman's Remarks.

Four iron carts have now been purchased.

The assembling is done at 2 P.M. in the afternoon. The checking in the morning was found to delay the work and therefore abandoned. At present the sweepers and toties are in their respective places before 6 A.M. The town is so compact that there is no difficulty for the sanitary inspector, the maistries and the peons to notice at once when a toti or sweeper is not at his post.

A building on the new standard design will cost more than Rs. 2,000, which is very high as compared with the receipts from this source. The council will, however, build one as soon as funds permit.

At present water is easily drained off and so there does not appear to be any necessity for a drain along side the raised basement. There are taps outside the market building which are sufficient for the use of people resorting to the market. The open yard and the stalls inside are used simply by vegetable sellers in the morning and evening. There is no necessity to wash the inside of the market. White silicate paint will be employed for the wooden pillars as suggested.

The suggestions will be attended to.

Inspection Notes.

manner so as to economize the ground instead of at irregular intervals as at present conducted.

11. *Vaccination.*—At date of inspection, the unsatisfactorily large number of 160 cases were "pending," of which 73 had been referred to the Magistrate. No special vaccination depôt has been provided. Consequently, the operation is carried out in the verandah of a hospital. The patients, as soon as they are operated upon, expose their arms to the sun—about the best way conceivable for effectually killing the vaccine. A small vaccination depôt is essential, and I advise the council to apply for plans to the Sanitary Board accordingly. The following shows the state of infantile vaccination:—

Chairman's

Steps will be taken to have a depôt built as soon as possible.

Total births from 1st January up to 30th June 1895.	Number vaccinated successfully.	Number vaccinated unsuccessfully the first time.	Number vaccinated a second time because first operation proved unsuccessful.		Postponed under medical certificate at the end of six months.	Died.	Left the town.	Unaccounted for.	Percentage of successful vaccinations to total births.
			Successful.	Unsuccessful.					
603	363	22	6	..	2	101	41	19	61·2

12. *Registration.*—The following are the results of registration during the last three years:—

Years.	Ratio of births per mille of estimated population.	Ratio of deaths per mille of estimated population.	Percentage of deaths from						Ratio per mille of deaths of infants under one year of age to registered births in the previous year.
			Cholera.	Small-pox.	Fever.	Dysentery and diarrhœa.	Injuries.	All other causes.	
1893	29·7	21·3	..	..	51·7	0·3	1·4	46·6	111·1
1894	30·9	22·9	0·3	..	37·0	..	1·4	61·3	165·4
1895	41·4	21·9	0·3	..	38·1	0·3	0·8	60·5	255·5

These figures prove that the registration of births demands increased attention.

The council is giving its best attention to the matter.

KUMBAKÓNAM,
4th July 1896.

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

Extract from the Proceedings of the Ádóni Municipal Council, dated 3rd August 1896.

* * * * *

1. Read inspection notes of the Sanitary Commissioner for Madras on this town received with his letter No. 1301-S. of 4th July 1896.

Resolution.—The Chairman will draft replies in the light of the discussions which have taken place in the council on the several points touched upon in the notes.

Extract from the Proceedings of the Ádóni Municipal Council, dated 24th August 1896.

* * * * *

1. Read inspection notes of the Sanitary Commissioner for Madras on the Adóni Municipality with Chairman's replies thereto.

Resolution.—Approved.

Forwarded.

(Signed) R. H. CAMPBELL,
Collector.

4th *September* 1896.

Order—No. 1769 M., dated 17th October 1896.

Recorded.

(True Extract.)

~~for Ag.~~ *Chief Secretary.* ~~to Government~~

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

Exd. C M. Thambuswamy.

[L. & M. 500—18-8-96.]

Local & Munl. (189) Department.

CURRENT No. 2497 M

N / P.S.

12 P

Order No. 1769 M dd 17-10-96
Recorded.

V.R. 12/10/96

Fwd 14.10.96

From The chairman, Muni. Council Adoni

No. 520.

Dated 24th Augt. 1896.

Received 5th Sept. 96.

Registered

Enclosures

Spare copies

SUBJECT.

Forwarding the Inspection notes of the Sanitary Commissioner on the municipality

To the chairman, M.C. Ádóni /2 (with a sketch)
" Collector of Bellary
" Sanitary Commissioner /8
" Sanitary Engineer /3
Editors' Table

Despd. 12/11/96

N/2077

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

No. M., SEPTEMBER 1896.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

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INSPECTION NOTES of the Sanitary Commissioner for Madras.

BELLARY DISTRICT.

ADÓNI MUNICIPALITY.

Inspected

Population as per Census of 1891 ... ... 26,243.

Inspection Notes.	Chairman's Remarks.
Site.—The village of Mandageri being close to the town should, for sanitary reasons, be included within municipal limits.	The council has already resolved on this step. Arrangements will be made to give effect to this from 1st April next.
2. *Roads.*—(*a*) These are in fair order where metalled. A very considerable number of the narrow streets are, however, made on the natural soil. One street has undergone improvement at the hands of the municipality by widening.	
(*b*) The crowded condition of houses upon the site of Adóni is notorious. It is not difficult to touch both sides of certain lanes in passing. The air in these places, especially at sun down, is oppressive in the extreme from radiation of heat from the stone walls, and the obstruction to which any wind that might be stirring is subjected to. Referring to this subject, the Chairman writes : "The widening and improving the numerous crooked streets and lanes is a crying want of the town. It is proposed to begin the work, as soon as a complete scheme for the drainage of the town is prepared and approved, and to complete it by sections as funds are available."	

Inspection Notes.

(*c*) This is a solid sanitary suggestion, and I strongly advise that the municipality take up the matter of having plans prepared for re-modelling those parts of the town in urgent need of it. These plans having been once agreed upon should be looked to for guidance by successive Chairmen. Lest the fact of such plans having been prepared should slip from official memory, they should be made of lasting material and be kept on the wall in a conspicuous place of the council meeting room. This re-modelling should not, however, be carried on side by side with a sewerage scheme as proposed, but should precede it and be put into execution without delay.

Chairman's Remarks.

Provision was made in the current year's budget for the survey of the town. But it was struck out by Government on the Sanitary Engineer pointing out that the Revenue Survey department has been ordered by Government in G.O., No. 909, Financial, dated 29th October 1894, to carry out the survey of all the municipalities. This is not one of the towns to be taken up by the Survey department this year (*vide* G.O., No. 1186 M., dated 13th July 1896). It is hoped that next year the survey will be carried out, and then it will be possible to arrange for plans for re-modelling those parts of the town in urgent need of it being prepared. The suggestion of the Sanitary Commissioner that the plans should be made of durable material, &c., will be acted upon. It was not intended that the re-modelling should be carried out necessarily side by side with a drainage scheme, but simply that a combined scheme should be prepared once for all, showing details of both at a glance. In desiring to have such a scheme, the object was to provide for levels of new streets to be formed by widening or straightening the existing ones so as to fit in with the levels adopted in the drainage scheme.

3. *Drainage.*—A new drain has been built by the municipality professedly only for the removal of storm water. It has a depth of $2\frac{1}{2}$ feet by $2\frac{1}{2}$ feet breadth. It therefore occupies no inconsiderable portion of the narrow street. The overseer, under whose guidance this has been constructed, assured me that this was not a bit too large; but appearances are much against it, taking into consideration the probable area drained towards it. In any case, it seems to me, seeing that the intention is to receive simply storm water passing through this street from ground external to it, that it would have met the required object better to have run the water in pipes or a masonry conduit, and thus have prevented the decreasing of the available breadth of the road.

The drain in question is intended to carry off storm water falling over an area of, roughly speaking, at least 40 acres, taking the rainfall at one inch per hour. The drain in question, whose inclination is 1 in 100, can discharge 1,500 cubic feet of water per minute, *i.e.*, in other words, rain water falling over 25 acres only. The road is $13\frac{1}{2}$ feet at its narrowest point exclusive of the portion occupied by the drain and the traffic is by no means considerable. When traffic develops and more width is required for the road-way the drains may be covered up. Pipes and masonry conduits are, it is respectfully submitted, rather too expensive for a poor municipality like Adóni.

4. *Sewerage.*—(*a*) The sewerage system of Adóni is very simple. It consists of receiving the sullage water into pervious cesspools, which allow the fluid contents to disappear in the sub-soil, whilst leaving the sludge to be removed at intervals of a year or so by hand. Taking the

The council fully recognizes the unsatisfactory character of the present cesspool system. But it needly be said that the system is not peculiar to Adóni and that it prevails generally to all towns and villages in the Ceded Districts. The council thinks it necessary to state what

Inspection Notes.	Chairman's Remarks.
inhabitants at 28,305 (the estimated population up to the 31st December last), there must thus disappear into the sub-soil yearly the greater part of 98,550,000 gallons of sewage containing a large proportion of the urine of the inhabitants, and much diluted excreta from the washings of latrines. In consequence, the narrow lanes have a distinct ammoniacal odour from emanations from the overcharged sub-soil. Such conditions favour to the utmost the growth of the malarial parasite, and it is therefore not surprising to find that 38·1 per cent. of the total deaths in the town are returned as due to "fevers." It would be hopeless to effect any appreciable remedy for this state of affairs until a complete sewerage system has been introduced. As Adóni has been lucky in obtaining a cheap water-supply, the council ought to have little difficulty in coming to a determination to ask the approval of Government for their proceeding with a sewerage system as early as possible. Having ascertained when this can be taken in hand, they should, in the meanwhile, spend money upon altering the configuration of the streets with reference to paragraph 2 *supra*; as, so far as I can judge, it would be hopeless for an Engineer to attempt to provide a system of sewerage that would benefit any but the larger streets of the town, so long as so considerable a portion consists of irregular and narrow lanes. Being already possessed of a water-supply system, it would be advisable for the municipality to hold in mind the great advantages of the "*water-carriage*" system either by adopting it in its entirety, or so far as location of depôts upon main sewers would permit—thus securing permanent economy as to cartage and correct disposal of both sewage and night-soil upon a sewage farm.	the actual facts are in this connection. The Commissioner appears to think that these cesspools receive washings from latrines. This is not, however, the case. The floors of latrines consist of natural soil and are not washed except by rain, nor do the latrines drain into the cesspools which receive for the most part bathing water and water used in the cleaning of vessels, &c. The council also thinks that the "distinct ammoniacal odour" in narrow lanes referred to by the Sanitary Commissioner is not the result of the sub-soil being contaminated by the sewerage water, but that it is simply due to the people practically using the lanes as urinals. For a great number of houses, especially those of the poorer classes, who in these parts indulge but rarely in the luxury of bathing, either there are no cesspools at all, or pots are kept into which the sewerage water is received and the contents are remedied as often as the pots become full. It is not all cesspools, nor even the majority which are cleaned at such long intervals as once a year. Such capacious sink-pits are comparatively few. The great majority are small ones, and require cleaning from once a month to once in three months.
(*b*) Pending the introduction of a sewerage system, the council should arrange for the safe conduct of the waste water from fountains to suitable points of discharge. The places inspected by me seemed to present no special difficulties. Small plots provided with trees or other vegetation greedy of moisture should be arranged. These would form an	The question of the feasibility of introducing the "water-carriage" system either in its entirety or partially into this town is for the experts to decide. But it seems to the council that even with the water-supply system, which the town is now lucky enough to possess, it is extremely doubtful whether the supply will ever be sufficient to answer the purposes of a sewerage system in addition to drinking and other kindred purposes. Provision has been made in the current year's budget on this account. Necessary steps are being taken to minimize the evil, but it cannot be fully remedied until the drainage system shall have been introduced.

Inspection Notes.	Chairman's Remarks.
ornament to the town, and be far preferable to the existing pools of water in the neighbourhood of each fountain.	
5. *Water-supply System.*—(*a*) As observed in my inspection notes of 1894 embodied in G.O., No. 732 M., dated 1st May 1895, I would advise the municipality to hold steadily in memory the desirability of ensuring that their collecting ground for this water-supply is beyond reproach by acquiring year by year, the ground still under cultivation in certain parts of the area. It must be remembered that this will not only secure them a water less liable to risks of serious contamination, but a greater proportion of the rainfall; seeing that cultivated land is purposely prepared for attaining percolation of the water that it is their interests should not sink into the ground, but flow into their impounding reservoir. There are several matters that in themselves, although apparently trivial, must have an important bearing upon the success of the scheme as a sanitary work. Although the surface near the filter-beds was in a cleanly condition, this was not so in regard to the inner surface of the bank—rags *being found*. Rags, too, were in use to stuff the sluice valve, which cannot be said to be an appropriate method sanitarily. No *latrine* is provided for the attendant. This should be arranged for, otherwise there is risk of undesirable localities being employed.	The suggestion will be borne in mind.
(*b*) The zinc roof is so arranged as to permit of light, and with it, dust entering the filtered water reservoir.	
The zinc roof seems to me also undesirable in reference to maintenance of heat, and the consequent favouring of growth of micro-organisms. It is probable that the municipality would lose little by selling the corrugated iron of the roof, or by utilizing it for latrines in the town. The ordinary form of arched masonry covering employed for these reservoirs would be preferable. If, however, it be found that the cost of this improvement be heavy, the complete darkening of the reservoir should certainly be arranged for, and the addition inside the roof of a saw-dust or other lining as a non-conductor should be made. The ground surface surrounding the filter-beds is at present flat or nearly so; the entrance of surface washings would therefore be favoured. The surface should be altered so as to have a decided gradient *from*	Care will be taken to keep things clean. There are very few attendants. The maximum number present at any time is only four, and ordinarily there are only two. There is plenty of ground within easy reach below the tank where the attendants could answer the calls of nature when so required. There is no fear whatever of the tank-bed or bund or the neighbourhood of the head works being defiled by the water-works staff. The construction of a latrine seems therefore unnecessary. A sketch of the zinc roof is given below. The wall of the reservoir above the ground is only 2 feet high and the edge of the roof is 3 inches below the top of the wall. The opening between the top of the wall-plate and the zinc roof is only 3 inches. The ground around the reservoir is also turfed. The council, therefore, thinks that dust cannot get in under these circumstances. However, it is proposed to fill up the openings by means of glass shutters so as to prevent creatures like squirrels and blood-suckers getting in. The remarks of the Sanitary Engineer on the question of the unsuitability of the zinc roof will be awaited. The Sanitary Commissioner's suggestion is being attended to.

Inspection Notes.

Chairman's Remarks.

the filter-beds. The *Ramjeera* spring, from which during the wet months of the year a portion of the supply is obtained, is drawn upon by certain members of the public by approaching it direct. This might lead to dangerous contamination of the total water-supply. The Chairman, in answer to my verbal suggestion on this point, told me that he has already determined to fix a pump outside the wall, so that persons may draw from the spring without direct approach. This certainly should be done without delay. The management of the filter-beds leaves much to be desired.

A pump has been ordered to be put up outside the enclosure within which the spring is situated for the use of people resorting to it.

Gauges should be fixed on the telescopic pipes in the filter wells instead of the rough stick and tape which were produced before me by the overseer in charge. Rules have been recently issued by the Sanitary Engineer as to regulation of the rate of filtration. These should be strictly followed.

The question of fixing gauges will be referred to the Sanitary Engineer for favour of opinion.

(*c*) It must be remembered by the municipality that the expense to which they have gone must represent mere waste unless their arrangements as to filter-beds are exact and correct. Thus nothing can exceed the carelessness with which the sand for the filter-beds has been collected. Although the contractor denies the fact, the Reddi of Mandageri had no hesitation in saying that the sand for the filters was obtained from the dry bed of a stream which drains the night-soil depôt of Adóni. Another place used is the Kalboye vanka. The locality should be selected by the municipality in consultation with the local medical officer, and a thoroughly trustworthy man should be sent with the contractor's men to see that they really bring sand from the appointed locality on each occasion. At the time of my visit, the syphon bringing water over the impounding reservoir was out of order. It would be well if the municipality provided two syphons *—as suggested in the original scheme by the Sanitary Engineer's department—so as to prevent stoppage of the water-supply, or, at least cessation of the delivery of filtered water which such an accident brings about.

A very careful inquiry has been made on this subject and it is found that it is not a fact that the sand for filter-beds was ever taken from the dry bed of the stream which drains the night-soil depôt. The sand provided by the Sanitary Engineering department before the works were handed over to the council has not yet been renewed. One Ameendeen, who was the contractor employed by the Sanitary Engineering department to supply and spread the sand, is positive that the sand used for the filter-beds when the work was first started was brought from the bed of the channel which supplies the tank. The water-works coolies also say likewise. Since the works were made over to the council, the municipal overseer has had sand carted departmentally and stored near the sand-washing box. It has not yet been used. Part of this was brought, it is true, from the vanka which goes by the name of the Mandigeri vanka, but at a point three-quarter mile higher up above the night-soil depôt and not at all from below. This was done when there was more water in the tank. When the level of the water got low, more sand was got from the channel supplying the tank. In fact, there is no reason whatever why the sand should

* Another syphon will be purchased as soon as funds permit.

Inspection Notes.	Chairman's Remarks.
	have been carted from a spot in the vanka in question below the night-soil depôt as the cartage would be much greater and probably prohibitive. The councillors who appears to have accompanied the Sanitary Commissioner, and been present when he made the inquiry on this subject, has been unfortunately absent from Adóni for some time and so it cannot be ascertained from him what actually transpired, apparently the information was given to the Commissioner by persons who did not know anything of the matter. The Mandigeri Reddi denies having told the Commissioner that the sand for the filter-beds was taken from the vanka below the night-soil depôt. He says that he does not know at all where the sand was taken from for that purpose. In fact, he even says that he has not up to date seen the filter-beds. Another ryot named Jambanagowd, also of Mandigeri, seems to have been present at the time. He also denies that he told the Commissioner anything about the sand for the filter-beds. The fact seems to be that these residents of Mandigeri, who have all along been protesting against the location of the night-soil depôt at the place where it now is, took the opportunity of the Commissioner's presence to pour out their grievances to him, and when the Commissioner asked them whether sand was taken from the contaminated locality for the filter-beds, they appear to have answered affirmatively by way of emphasizing their grievance in the hope that the Commissioner would be moved to order the removal of the depôt from its present site. I hear Jambanagowd said to the Commissioner: "It is from here, pointing to the vanka below the depôt, that sand is taken for all purposes." It is a fact that the residents of Adóni cart sand from that locality for building and other purposes as it is nearest to the town. The person referred to by the Sanitary Commissioner, as the contractor, is his brother. He is not present at Adóni and so he could not be examined.
	The Sanitary Commissioner does not say that the Reddi used the words "*below* the night-soil depôt."
	(Intld.) R. H. C.
	He is evidently not a reliable informant.
	(Intld.) R. H. C.
(*d*) The water from the public system was up to date of my visit used but to a small extent, as a considerable number of	It does not appear to the council to be correct to say that the water from the public system was up to date of the

Inspection Notes.	Chairman's Remarks.
the people still employ well water for watering animals, for bathing and drinking purposes, and reserve the pipe-water for "inferior domestic purposes." As the municipality have no drains to flush, there is consequently no expenditure under this head, nor has the water been utilized in any way by the municipality for public purposes except in the case of the hospital. So long as the people employ water drawn from wells in a foul sub-soil and liable to contamination from above even were this water reserved for "inferior domestic purposes," so long will they fail to enjoy the improved condition of health which may be justly looked for as a result of the introduction of a public filtered water-supply. I strongly advise the council to shut the whole of the wells in the town and to rely solely upon the water-supply system.	Commissioner's visit used but to a small extent. The fact is that by far the majority used the water for drinking as well as other purposes, and the number who have still prejudice against it or rather predilection in favour of well water is decreasing.
(*e*) Several of the inhabitants represented to me the fact that the fountains are situated at distances which are inconvenient to them. Although this is not always the case, it is correct to say that additional public fountains are desirable, and every encouragement should be afforded for the early increase of fountains within such limits as the Sanitary Engineer may consider feasible, having regard to the existing distribution pipes.	The Chairman has not remarked on this suggestions. The closing of all the wells would seem to be rather an extreme measure and would be difficult to enforce. (Intld.) R. H. C. It is in contemplation to increase the number of water-taps, and provision has been made in the budget for this purpose.
(*f*) I suggested in my inspection notes above referred to that the municipal council should erect bathing platforms and a "dhobie-khana". A suitable spot for this seemed to me to be round the Venéanna bávi, the water of which I considered could be raised for use by means of a small oil-engine. My intention was misconstrued by the Sanitary Engineer on the matter being referred to him for affording the council plans, by his conceiving that I wished the public water-supply first to be let into the bávi and then be lifted. This was not my meaning; the suggestion to use the water of this well being made with the intention of saving the expenditure of the public supply the quantity that could be obtained at that time being somewhat open to doubt. Whether or not the yield of this well is sufficient for the purpose can only be determined by measurements. This information should be procured by the municipality. If it proves insufficient, the question of use of the public supply	The remarks of the Sanitary Engineer on this subject are awaited. The inquiries made by the council show, however, that the dhobies would not use this water for bleaching purposes, as it is too hard.

Inspection Notes.	Chairman's Remarks.
for bathing purposes and a "dhobie-khana" should be considered, as the sanitary necessity for both is evident.	
6. *Rubbish Disposal.*— (*a*) Matters are practically in the same state as when I last inspected the town; but, as with the close of the official year the departmental system was to be introduced, it is stated that the unsatisfactory methods to which I called attention will now be abolished.	The rubbish is now being removed by departmental agency.
(*b*) There are only two carts for removal of rubbish, whereas not less than eighteen are really requisite, if the rubbish be really removed from the town site. The chances are that beyond street sweepings the whole of the town rubbish is stored by ryots. If this be so, arrangements for storage on ground immediately outside the town should be made.	Twelve carts are being used for this purpose and experience shows that these are sufficient. The ryots, it is true, do not throw the rubbish accumulated in their houses into the municipal dust-bins. But they are not allowed to accumulate it in their houses so as to constitute nuisance. They deposit them in places at the outskirts of the town.
7. *Night-soil Collection and Disposal.*— (*a*) There are seventeen latrines; of these, seven are of the modern type and ten are merely enclosed spaces. With one exception, these latrines are situated at the outskirts and are consequently too distant from the population served. The municipality should endeavour to make small roofed iron latrines in the vicinity of dwellings, and arrange to work them under the dry-earth system, so that they shall be maintained free of odour. Each of these should have a special light at night time.	The suggestions will be carried out as far as possible. The town is so crowded with buildings that there are hardly vacant spaces which can be used as sites for latrines so that sites will have to be acquired.
(*b*) I understand that a new road to the night-soil depôt is about to be made. It would be advisable at the same time for the council to arrange for giving up the old ground, which has been in use so many years. The trenches have been so dug as to prevent correct future working. It is, moreover, on low-lying ground. It would be better for them therefore to fill in the trenches with earth and cultivate the site on their own behalf, and select a new site in the neighbourhood. In close proximity to the old site, I was able to show the councillor in charge of sanitation a suitable position in a field which could no doubt be easily obtained under the Land Acquisition Act.	Steps are being taken to acquire additional land for night-soil depôt, and when that has been acquired, the old site will be given up and used in the manner suggested.
(*c*) Although there is still room for improvement, private scavenging has received good attention at the hands of the municipal council—there being now 848 houses of a total of 1,500 thus attended. Under this head Rs. 1,939-12-10 were received by the municipality during 1895-96, of which Rupees 493-11-0	The charge is sufficiently low at present. The amount shown as saving last year has been since mostly utilized in the purchase of plant.

represented profit. This is an error in policy; the system should be made as cheap as possible compatible with efficiency. Having fixed a small and reasonable charge, any surplus should be devoted to effecting improvements in plant and methods of scavenging.

(*d*) For the total scavenging service of the town only nine carts are employed, of which four are wooden. These should be abolished in favour of iron carts.

Four iron carts have now been purchased.

(*e*) The conservancy staff is not assembled by the inspector till 3 o'clock in the afternoon. Orders should be issued for checking the assembly of the men both in the morning and afternoon. Equally, a special date should be fixed, at least once weekly, when the whole of the night-soil and rubbish conservancy carts should be assembled for inspection, and their defects be reported to the Chairman for orders.

The assembling is done at 2 P.M. in the afternoon. The checking in the morning was found to delay the work and therefore abandoned. At present the sweepers and toties are in their respective places before 6 A.M. The town is so compact that there is no difficulty for the sanitary inspector, the maistries and the peons to notice at once when a toti or sweeper is not at his post.

8. *Cattle Slaughter-house.*—Beyond the fact that an imperfect attempt had been made to cement point the floor, the slaughter-house is in the same state as reported in former inspection notes. The same may be said of the *sheep slaughter-house*. In the case of the latter, a completely new design is requisite. In both the public water service should be introduced for distribution by taps. Hydrants, to which a hose with nozzle can be attached, should also be supplied for flushing purposes. The municipality should secure standard plans from the Sanitary Board, and get their municipal overseer to draw up design for the present building according to these plans as far as feasible.

A building on the new standard design will cost more than Rs. 2,000, which is very high as compared with the receipts from this source. The council will, however, build one as soon as funds permit.

9. *Market.*—The raised basement should be provided with a drain along its length. The public water-supply should be introduced, and distribution be carried out by taps. White silicate paint should be employed for the wooden pillars.

At present water is easily drained off and so there does not appear to be any necessity for a drain along side the raised basement. There are taps outside the market building which are sufficient for the use of people resorting to the market. The open yard and the stalls inside are used simply by vegetable sellers in the morning and evening. There is no necessity to wash the inside of the market. White silicate paint will be employed for the wooden pillars as suggested.

10. *Grave-yards.*—Vettians should be licensed and should be required to see that burials are conducted in a systematic manner so as to economize the ground instead of at irregular intervals as at present conducted.

The suggestions will be attended to.

Inspection Notes.

11. *Vaccination.*—At date of inspection, the unsatisfactorily large number of 160 cases were "pending," of which 73 had been referred to the Magistrate. No special vaccination depôt has been provided. Consequently, the operation is carried out in the verandah of a hospital. The patients, as soon as they are operated upon, expose their arms to the sun—about the best way conceivable for effectually killing the vaccine. A small vaccination depôt is essential, and I advise the council to apply for plans to the Sanitary Board accordingly. The following shows the state of infantile vaccination:—

Chairman's Remarks.

Steps will be taken to have a depôt built as soon as possible.

Total births from 1st January up to 30th June 1895.	Number vaccinated successfully.	Number vaccinated unsuccessfully the first time.	Number vaccinated a second time because first operation proved unsuccessful.		Postponed under medical certificate at the end of six months.	Died.	Left the town.	Unaccounted for.	Percentage of successful vaccinations to total births.
			Successful.	Unsuccessful.					
603	363	22	6	..	2	101	41	19	61·2

12. *Registration.*—The following are the results of registration during the last three years:—

Years.	Ratio of births per mille of estimated population.	Ratio of deaths per mille of estimated population.	Percentage of deaths from						Ratio per mille of deaths of infants under one year of age to registered births in the previous year.
			Cholera.	Small-pox.	Fever.	Dysentery and diarrhœa.	Injuries.	All other causes.	
1893	29·7	21·3	..	..	51·7	0·3	1·4	46·6	111·1
1894	30·9	22·9	0·3	..	37·0	..	1·4	61·3	165·4
1895	41·4	21·9	0·3	..	38·1	0·3	0·8	60·5	255·5

These figures prove that the registration of births demands increased attention.

The council is giving its best attention to the matter.

KUMBAKÓNAM,
4th July 1896.

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

EXTRACT from the Proceedings of the Adóni Municipal Council, dated 3rd August 1896.

* * * * *

1. Read inspection notes of the Sanitary Commissioner for Madras on this town received with his letter No. 1301-S. of 4th July 1896.

Resolution.—The Chairman will draft replies in the light of the discussions which have taken place in the council on the several points touched upon in the notes.

EXTRACT from the Proceedings of the Adóni Municipal Council, dated 24th August 1896.

* * * * *

1. Read inspection notes of the Sanitary Commissioner for Madras on the Adóni Municipality with Chairman's replies thereto.

Resolution.—Approved.

Forwarded.

(Signed) R. H. CAMPBELL,
Collector.

4th September 1896.

C No 2497 m
Adoni Inspection Notes
Refd 19/9/96

1769 M I. A.

24/9.

Ins No 8

Adoni Municipal Councils Office
Dated 24th August 1896
Despatched 29th August 1896

A. No 20

Local Dept. 10

From

Mr Rdy S. Ramu Iyer Avl B.A.
Chairman Municipal Council
Adoni

To

The Chief Secretary
to Government
Local & Municipal Dept
Madras
Thro' The Collector of Bellary

Sir,

I have the honor to submit herewith the inspection notes of the Sanitary Commissioner for Madras, on his inspection of this municipality with my replies thereto

Forwarded.
Rulamany
4.9.96
Collector.

Lr.

[illegible]
1/9/96

thereto duly approved by the Council at its meeting held on the 24th Instant. ——.

2. Extracts from the Council's proceedings dated 3rd August 1896, and 24th August 1896 are herein enclosed.

I have the honor to be,
Sir,
Your most obdt. servt.

S. Ramah
Chairman
Asst

hc

R.D.

Inspection Notes of the Sanitary Commissioner for Madras.

Bellary District
Adoni Municipality

Inspected

Population as per Census of 1891 - 26243.

Enclosure No. 3 of letter No. 520 of 1896

Site. — The Village of Mandageri being close to the town should, for Sanitary reasons, be included within municipal limits.

The Council has already resolved on this step. Arrangements will be made to give effect to this from 1st April next. —.

2. Roads. — (a) These are in fair order - where metalled. A very considerable number of the narrow streets are, however, made on the natural soil. One street has undergone improvement at the hands of the Municipality by widening.

(b) The crowded condition of houses upon the site of Adoni is notorious. It is not difficult to touch both sides of certain lanes in passing. The air in these places especially at sundown is oppressive in the extreme from radiation of heat from the stone walls, and the obstruction to which any wind that might be stirring

S. RAJI IYER
JUL. 96

Mirring is subjected to. Referring to this subject, the Chairman writes:- "The widening and improving the numerous crooked streets and lanes is a crying want of the Town. It is proposed to begin the work, as soon as a complete scheme for the drainage of the Town is prepared and approved, and to complete it by sections as funds are available."

(c) This is a solid Sanitary suggestion, and I strongly advise that the Municipality take up the matter of having plans prepared for re-modelling those parts of the Town in urgent need of it. These plans having been once agreed upon, should be looked to for guidance by successive Chairmen. Lest the fact of such plans having been prepared should slip from official memory, they should be made of lasting material and be kept on the wall in a conspicuous place of the Council meeting room. This re-modelling should not however be carried on side by side with a Sewerage Scheme as proposed, but should

Provision was made in the current years budget for the Survey of the Town. But it was struck out by Government on the Sanitary Engineer pointing out that the Revenue Survey department has been ordered by Government in G.O. No. 909 dated 29th October 1894. Financial, to carry out the Survey of all Municipalities. This is not one of the Towns to be taken up by the Survey department this year (vide G.O. No. 1186 M. dated 13th July 1896). It is hoped that next year the Survey will be carried out, & then it will be possible to arrange for plans for re-modelling these parts

of

of the Town in urgent need of it being prepared. The suggestion of the Sanitary Commissioner that the plans should be made of durable material will be acted upon. It was not intended that the re-modelling should be carried out necessarily side by side with a drainage scheme, but simply that a combined scheme should be prepared once for all, showing details of both at a glance. In desiring to have

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such a scheme, the object was to provide for the levels of new streets to be formed by widening or straightening the existing ones so as to fit in with the levels adopted in the drainage scheme.

The drain in question is intended to carry off storm water falling over an area of roughly speaking at least 40 acres, taking the rain fall at one inch per hour the drain in question whose inclination is 1 in 100 can discharge 1500 cft of water per minute, ie in other words, rain water falling over 25 acres only. The road is 18½ ft at its narrowest point exclusive of the portion occupied by the drain & the traffic is by no means considerable. When traffic does so & more width is required for the road-way, the drain may be covered up. Pipes & masonry conduits are it is respectfully submitted rather too expensive for a poor municipality like Adoni. ——

The Council fully recognizes the unsatisfactory character of

RD

precede it and be put in execution without delay.

3 Drainage. A new drain was been built by the municipality professedly only for the removal of storm water. It has a depth of 2½ ft by 2½ ft breadth. It, therefore, occupies no inconsiderable portion of the narrow street. The Engineer under whose guidance this has been constructed assured me that this was not a bit too large; but appearances are much against it. Taking into consideration the probable area drained towards it. In any case, it seems to me, assuming that the intention is to receive simply storm water flowing through this street from roads external to it, that it would have met the required object better to have run the water in pipes or a masonry conduit, and thus have prevented the decreasing of the available breadth of the road.

4. Sewerage (a) The Sewerage system of Adoni is very simple

It

It consists of receiving the sullage water into pervious cess pools, which allow the fluid contents to disappear in the Sub Soil, whilst leaving the sludge to be removed at intervals of a year or so by hand. Taking the inhabitants at 28,305 (the returned population up to the 31st December last) there must thus disappear into the Subsoil yearly the greater part of 98,550,000 gallons of Sewage containing a large proportion of the urine of the inhabitants, and much diluted excreta from the washings of latrines. In consequence, the narrow lanes have a distinct ammoniacal odour from Emanations from the overcharged sub-soil. Such conditions favour to the utmost the growth of the malarial parasite, and it is therefore not surprising to find that 38·1 per cent of the total deaths in the Town are returned as due to "fevers". It would be hopeless to effect any appreciable remedy for this state of affairs, until a complete

Sewerage

of the present cess-pool system. But it may be said that this System is not peculiar to Adoni & that it prevails generally to all Towns and villages in the ceded districts. The Council thinks it necessary to state what the actual facts are in this connection. The Commissioner appears to think that these cess-pools receive washings from latrines. This is not however the case. The floors of latrines consist of natural soil and are not washed except by rain, nor do the latrines drain into the cess-pools which receives for the most part bathing water & water used in the cleaning of vessels &c. The Council also think that the distinct ammoniacal odour in narrow lanes referred to by the Sanitary Commissioner is not the result of the Sub-Soil being Contaminated by the Sewerage water, but that it is simply due to the people practically using the lanes as urinals. For a great number of houses

especially

especially those of the poorer classes, who in these parts indulge but rarely in the luxury of bathing, either there are no cess-pools at all, or pots are kept into which the Sewerage water is received & the Contents are removed as often as the pots become full. It is not all cess-pools, nor even the majority which are cleaned at such long intervals as once a year. Such capacious cess-pits are Comparatively few the great majority are small ones, & require cleaning from once a month to once in three months. —

The question of the feasibility of introducing the "Water-carriage" System either in its entirety or partially into this Town, is for the

experts

Sewerage system has been introduced. As Adoni has been lucky in obtaining a cheap water-Supply, the Commissioner ought to have little difficulty in coming to a determination to ask the approval of Government for this proceeding with a Sewerage system, as early as possible. Having ascertained when this can be taken in hand, they should in the meanwhile spend money upon altering the Configuration of the Streets with reference to para 2. Supra; as so far as I can Judge, it would be hopeless for an Engineer to attempt to provide a System of Sewerage that would benefit any but the larger Streets of the town, so long as so Considerable a portion consists of irregular and narrow lanes. Being already possessed of a water-Supply System, it would be advisable for the municipality to hold in mind the great advantages of the "Water-Carriage" System either by adopting it in its entirety, or so far as location of depots upon

main

main Sewers would permit — thus Securing permanent Economy as to Cartage and correct disposal of both Sewage and Night-Soil upon a Sewage farm.

(b) Pending the introduction of a Sewerage System, the Council should arrange for the safe Conduct of the waste water from fountains to Suitable points of discharge. The places inspected by me Seemed to present no Special difficulties. Small plots provided with Trees or other Vegetation greedy of moisture should be arranged. These would form an ornament to the Town, and be far preferable to the existing pools of water in the neighbourhood of each fountain

5. Water-Supply System (a) As observed in my inspection Notes of 1894, Embodied in G.O. No. 732 Dated 1st May 1895, I would advise the Municipality to hold steadily in memory the desirability of ensuring that their collecting ground for the water-Supply is beyond reproach by acquiring Year by Year for the

experts to decide. But it seems to the Council that even with the Water Supply System, which the Town is now lucky enough to possess, it is extremely doubtful whether the Supply will ever be sufficient to answer the purposes of a Sewerage System in addition to drinking & other Kindred purposes. —

The Suggestion will be borne in mind. —

the ground still under cultivation in certain parts of the area. It must be remembered that this will not only Sewer them & make less liable to risks of Serious Contamination, but a great proportion of the rainfall, Seeing that cultivated land is perspicely prepared for attaining percolation of the water that is their interest should not sink into the ground, but flow into their impounding reservoir. There are Several matters that in themselves although apparently trivial must have an important bearing upon the Success of the Scheme as a Sanitary Work. Although the Surface near the filter beds was in a clearly filthy condition, this was not so as regards the inner surface of the bank-rags being found. Rags & so were in use to shut the sluice Valve, which cannot be said to be an appropriate method Sanitarily. No latrine is provided for the attendant. This should be arranged for otherwise there is risk of undesirable localities being Employ-

Mr

(b) The Zinc roof is so arranged as to permit of light, and, so it, dust entering the filtered water reservoir. The Zinc roof seems to me also undesirable in preference to maintenance of heat, and the consequent favouring of growths of micro-organisms. It is probable that the Municipality would lose little by selling the corrugated iron of the roof, or by whitening it for latrines in the Town. The ordinary form of arched masonry covering employed for these reservoirs would be the preferable. If however, it be found that the cost of this improvement be heavy, the complete darkening of the reservoir should certainly be arranged for, and the addition inside the roof of a sawdust or other lining as a non-conductor should be made. The ground surface surrounding the filter beds is at present flat or nearly so; the entrance of surface washings would therefore be

A sketch of the Zinc roof is given below. The wall of the reservoir above the ground is only 2 ft high & the edge of the roof is 3 inches below the top of the wall. The opening between the top of the wall proper & the Zinc roof of 2 inches. The ground around the reservoir is also surfaced. The Council, therefore thinks that dust cannot get in under these circumstances. However, it is proposed to fill up the openings by means of glass shutters so as to prevent creatures like Squirrels & blood-seekers, getting in. The remarks of the Sanitary Engineer on the question of the undesirability of the Zinc roof will be awaited.

F

The Sanitary Commissioners Suggestion is being attended to. —

A pump has been ordered to be put up outside the enclosure within which the Spring is situated, for the use of people resorting to it. —

The question of fixing gauges will be referred to the Sanitary Engineer for favour of opinion. —

be favoured. The surface should be altered so as to have a decided gradient from the filter beds. The Rangoon Spring for use which during the wet months of the year a portion of the supply is obtained is drawn upon by certain members of the public by approaching it direct. This might lead to dangerous contamination of the total water-supply. The Chairman in answer to my verbal suggestion on the point told me that he had already determined to fix a pump outside the wall, so that persons may draw from the Spring without direct approach. This certainly should be done without delay. The management of the filters do leaves much to be desired. Gauges should be fixed in the telescopic pipes in the filter wells instead of the rough stick and tape which were produced before me by the overseer in charge. Orders have been recently issued by the Sanitary Engineer as to regulation of the rate of filtration. These should be strictly adhered

(c) It must be remembered by the municipality that the expense to which they hath gone must represent mere waste, unless their arrangements as to filter beds are exact and correct. Thus, nothing can exceed the carelessness with which the Sand for the filter beds has been collected. Although the Contractor denies the fact, the Reddi of Mandagoli had no hesitation in saying that the Sand for the filters was obtained from the dry bed of a Stream which drains the night-soil depot of Adoni. At the place used is the Kalboy's Vanka. The locality should be selected by the Municipality in Consultation with the local Medical Officer, and a thoroughly trustworthy man should be sent with the Contractor's men to see that they really bring Sand from the appointed locality on each occasion. At the time of my visit, the Syphon bringing water over the impounding reservoir was out of order. It should be used if the Municipality

A very careful enquiry has been made on this subject & it is found that it is not a fact that the Sand for filter-beds was ever taken from the dry bed of the Stream which drains the night-soil depot. The Sand provided by the Sanitary Engineering Department before the works were handed over to the Council has not yet been renewed. One Ameendeen, who was the Contractor employed by the Sanitary Engineering Department to supply & spread the Sand, is positive that the Sand used for the filter beds when the works was first started, was brought from the bed of the Channel which supplies the tanks. The water-works Coolies also say likewise. Since the works were made over to the Council, the municipal overseer, has had Sand carted departmentally & stored near the Sand washing house. It has not yet been used.

Park

Another Syphon will be purchased as soon as funds

Part of this was brought, it is true, from the Vanka which goes by the name of the Mandagiri Vanka but at a point $\frac{3}{4}$ mile or higher up above the night-soil depot, & not at all from below. This was done when there was more water in the tanks. When the level of the water got low, more Sand was got from the Channel supplying the tanks. In fact, there is no reason whatever why the Sand should have been carted from a spot in the Vanka in question below the night-soil depot as the cartage would be much greater & probably pro-

prohibitive

prohibitives. The Commissioner who appears to have accompanied the Sanitary Commissioner to have been present when he made the enquiry on this subject has been unfortunately absent from Adoni for sometime & so it cannot be ascertained from him what actually transpired, apparently, the information was given to the Commissioner by persons who did not know anything of the matter. The Municipal Councilors having told the Commissioner that the sand for the filter beds was taken from the Vankas below the night-soil depot. He says that he

Mr Sanitary Commissioner does not say that Mr Reddy used the words "below the night-soil depot" Rey

he is evidently not a reliable informant
Rey

he does not know at all where the sand was taken from for that purpose. As a fact, he even says that he has not upto date been to the filter beds. Another report named Ganganagowd is also of Municipal Council to have been present at the time. He also denies that he told the Commissioner anything about the sand for the filter beds. The fact seems to be that these residents of Municipal who have all along been protesting against the location of the night-soil depot at the place

produce
Avenue

opportunity of the Commis-
-sioner's presence to pour
out their grievances to him,
when the Commissioner
asked them whether sand
was taken from the con-
-taminated locality for
the filter beds, they appear
to have answered affir-
-matively by way of empha-
-sizing their grievance in
the hope that the Commis-
-sioner would be moved
to order the removal of
the depot from its present
site. I hear Jambana
-gowd said to the Com-
-missioner. "It is from
here pointing to the banks
-o night
-soil depot. He says that
he

nse
night-soil depot
Reg

108

is taken for all purpo-
-ses". It is a fact that the
residents of Adoni carry
sand from that locality
for building & other
purposes as it is nearest
to the Town. The person
referred to by the Sanitary
Commissioner, as the Con-
-tractor, is his brother.
He is not present at
Adoni and so he could
not be examined. —

-troduced, it is stated that

here pointing to the banka ... night-soil depot. He says that he

provided two syphons — as suggested in the original scheme by the ~~assistant~~ Sanitary Engineer Department — so as to prevent stoppage of the Water Supply, or at least cessation of the delivery of filtered water which such an accident brings about

It does not appear to the Council to be correct to say that the water from the public system was up to date of the Commissioner's visit used but to a small extent. The fact is that by far the majority used the water for drinking as well as other purposes & the number who have still prejudice against it or rather predilection in favor of well water is decreasing.

(d) The water from the public system was up to date of my visit used but to a small extent, as a considerable number of the people still employ well water for watering animals, for bathing and drinking purposes, and reserve the pipe water for "inferior domestic purposes". As the municipality have no drains to flush, there is consequently no expenditure under this head, nor has the water been utilized in any way by the municipality for public purposes except in the case of the hospital. So long as the people employ water drawn from wells in a foul sub-soil and liable to contamination from above, even were this water reserved for "inferior domestic purposes", [illegible] introduced, it is stated that "[illegible]"

which may be justly looked for as a result of the introduction of a public filtered water-Supply. I strongly advise the Council to shut the whole of the wells in the town and to rely solely upon the water-Supply system.

The Chairman thought not much remarked on the suggestion. The closing of all the wells would seem to be rather an extreme measure and would be difficult to enforce. R.C.

(2) Several of the inhabitants represented to me the fact that the fountains are situated at distances which are inconvenient to them. Although this is not always the case, it is correct to say that additional public fountains are desirable, and every encouragement should be afforded for the early increase of fountains within such limits as the Sanitary Engineer may consider feasible, having regard to the existing distribution pipes.

It is in contemplation to increase the number of water taps & provision has been made in the budget for this purpose.

(f) I suggested in my inspection Notes above referred to that the Municipal Council should erect bathing plat-forms and "dhobie-Khana". A suitable spot for this seemed to me to be found the Vereeniging burn, the water of which I considered could be raised by means of a small oil [illegible] engine [illegible] days that he

The remarks of the Sanitary Engineer on this subject are awaited. The enquiries made by the Council show, however, that the dhobies would not use this water for bleaching purposes, as it is too hard.

The rubbish is now being removed by departmental agency.

Engineer on the matter being referred to him for affording the Council plans, by his conceiving that I wished the public water-Supply first to be let into the burn and then be lifted. This was not my meaning; the suggestion was to use the water of the well being made, with the intention of saving the expenditure of the public Supply the quantity that could be obtained at that time being somewhat open to doubt. Whether or not the yield of this well is sufficient for the purpose can only be determined by measurement. This information should be provided by the Municipality. If it prove insufficient, the question of use of the public Supply for bathing purposes and as "Dhobie-Khana" should be considered, as the Sanitary necessity for both is evident.

6. Rubbish disposal (a) Matters are practically in the same state as when I last inspected the town, but, as with the close of the official year the departmental system was to be introduced, it is stated that "attendance [illegible]

now be abolished.

(b) There are only two carts for removal of rubbish, whereas not less than 18 are really requisite, if the rubbish be really removed from the town site. The chances are that beyond street sweepings the whole of the Town rubbish is stored by ryots. If this be so arrangements for storage on ground immediately outside the town should be made.

12 carts are being used for this purpose & experience shows that they are sufficient. The ryots, it is true, do not throw the rubbish accumulated in their houses into the municipal dust bins. But they are not allowed to accumulate it in their houses so as to constitute nuisance. They deposit them in places at the outskirts of the Town.

Steps are being taken to acquire additional land for night-soil depot, and when that has been acquired the old site will be given up and used in the manner suggested. —

7. Night-soil collection and disposal (a) There are seventeen latrines. Of these, seven are of the modern type, and ten are merely enclosed spaces. With one exception, these latrines are situated at the outskirts and are consequently too distant from the population served. The Municipality should endeavour to make small roofed iron latrines in the vicinity of dwellings, and arrange to work them under the dry earth system; so that they shall be maintained free of odour. Each of these should be provided with a

The suggestions will be carried out as far as possible. The Town is so crowded with buildings, that there are hardly vacant spaces which can be used as sites for latrines, so that sites will have to be acquired. —

The charge is sufficiently low at present. The amount shown as having been lately utilized in the purchase of plant. —

(b) I understand that a new road to the night-soil depot, is about to be made. It would be advisable at the same time for the Council to arrange for giving up the old ground, which has been in use so many years. The trenches have been so dug as to prevent correct future working. It is moreover on lowlying ground. It would be better for them therefore to fill in the trenches with earth and cultivate the site on their own behalf, and select a new site in the neighbourhood. In close proximity to the old site, I was able to show the Councillor in charge of sanitation a suitable position in a field which could no doubt be easily obtained under the Land Acquisition Act.

(c) Although there is still room for improvement, Private Scavenging has received good attention at the hands of the Municipal Council — there being now 848 houses of a total of 1500 thus attended. Under this head —

Rs 493 - 11 - 0 represented profit.
This is an error in policy; the system should be made as cheap as possible compatible with efficiency. Having fixed a small and reasonable charge, any surplus should be devoted to effecting improvements in plant and methods of scavengering.

(4) For the total scavengering service of the Town only nine carts are employed, of which four are wooden. These should be abolished in favour of iron carts.

(5) The Conservancy staff is not assembled by the Inspector, till 3 o'clock in the afternoon. Orders should be issued for checking the assembly of the men, both in the morning and afternoon. Equally, a special date should be fixed at least once weekly, when the whole of the night-soil and rubbish conservancy carts should be assembled for inspection, and their defects be reported to the Chairman for orders.

8. Cattle slaughter-house. Beyond the fact that an imperfect attempt had been made
[illegible]

4 iron carts have now been purchased. —

The assembling is done at 2 P.M. in the afternoon. The checking in the morning was found to delay the work and therefore abandoned. —
At present the sweepers & totis are in their respective places before 6 A.M. The Town is so compact that there is no difficulty for the Sanitary Inspector, the maistries & the peons to notice at once when a toti or sweeper is not at his post.

A building on the new Standard design will cost more than Rs 2,000 - - which is very high as compared with the receipts from this source. The Council will, however, build one as soon as funds permit. —

At present water is easily drained off & so there does not appear to be any necessity for a drain along side the raised basement. There are taps outside the market building which are sufficient for the use of people resorting to the mar...

state as reported in former Inspection Notes. The same may be said of the Sheep slaughter-house. In the case of the latter, a completely new design is requisite. In both, the public water service should be introduced for distribution by taps. Hydrants to which a hose with nozzle can be attached, should also be supplied for flushing purposes.
The Municipality should secure standard plans from the Sanitary Board, and get their Municipal Overseer to draw up design for the present building according to these plans as far as feasible.

9. Market. The raised basement should be provided with a drain along its length. The public water-supply should be introduced, and distribution be carried out by taps. White silicate paint should be employed for the wooden pillars.

10. Grave-yards. Vettians should be licensed and should be required to see that burials are conducted in a systematic manner, so as to economize the ground instead [illegible]

11. Vaccination. At date of inspection, the unsatisfactorily large number of 160 cases were "pending", of which 73 had been referred to the Magistrate. No special vaccination depôt has been provided. Consequently, the operation is carried out in the verandah of a hospital. The patients, as soon as they are operated upon, expose their arms to the sun — about the best way conceivable for effectually killing the vaccine. A small vaccination depôt is essential, and I advise the Council to apply for plans to the Sanitary Board accordingly. The following shows the state of infantile vaccination:—

Total Births from 1st Jany up to 30th June 1895.	No. vaccinated Successfully.	No. vaccinated unsuccessfully the 1st time.	No. vaccinated a 2nd time because 1st operation proved unsuccessful: Successful	No. vaccinated a 2nd time because 1st operation proved unsuccessful: Unsuccessful	Postponed under medical certificate at the end of 6 months.	Died	Left the town	Unaccounted for	Percentage of successful vaccinations to total
603	363	22	6	..	2	101	41	19	61.2

Steps will be taken to have a depot built as soon as possible.—

15B

12. Registration. The following are the results of registration during the last 3 years.—

Years	Ratio of Births per mille of Estimated Population	Ratio of Deaths per mille of Estimated Popn.	Percentage of deaths from: Cholera	Small-pox	Fever	Dysentery & Diarrhoea	Injuries	All other causes	Ratio per mille of deaths of infants under 1 year of age to registered births in the previous year
1893	29.7	21.3	..	..	51.7	0.3	1.4	46.6	111.1
1894	30.9	22.9	0.3	..	37.0	..	1.4	61.3	165.4
1895	41.4	21.9	0.3	..	38.1	0.3	0.8	60.5	255.5

These figures prove that the registration of births demands increased attention.

The Council is giving its best attention to the matter.—

S Rama [illegible]
Chairman
Anel

Adoni
Municipal Council Office
D/ 24th August 1896

Office of Sanitary Comr.
Camp, [illegible] 4th July
~~Fort St. George~~ ~~29th June~~ 1896

[illegible signature]
Surgn.-Lieut.-Col.
Sanitary Commissioner
for Madras

compd.
[illegible]

Extract from the Proceedings of the
Adoni Municipal Council dated
3rd August 1896.

Present

M.R.Ry S. Ramu Iyer Avl. B. A. Chairman

Councillors

" T. Kothandaram Naidu Garu
" P. Nanchanta Rao Garu B.A
" S. Bheema Rao Garu. —
" G. Venkoba Rao Garu.
" T. Amiah Garu.
" K. Peethambaraswig Hazari Garu
" A. Seddaluigappah Garu.
" K. Virupanhah Garu. —

— 1 —

1. Read Inspection Notes of the Sanitary Commissioner, for Madras, on his Tour, received with his letter No. 1301/S of 4th July 1896 —

replies in the light of the discussions which have taken place in the Council on the several points touched upon in the notes. —.

(Signed) S. Ramm Iyer

Chairman

Anl

(True Extract)

S Ramm

Chairman

Anl

Do

Extract from the Proceedings of the Adoni Municipal Council held on 24th August 1896. —

Present

Mr. Rly S. Ramm Iyer Avargal B.A. Chairman.

Councillors

" P. Ramchandra Rao Garu B.A.

" T. Ranga Rao Garu.

" G. Venkoba Rao Garu.

" T. Anniah Garu.

" K. Peethambaraig Hazari Garu

" M. Bhakappah Garu. —

— ^ —

1. Read inspection notes of the Sanitary Commissioner for Madras on the Adoni Municipality with Chairman's replies thereto. —.

Approved.

(Signed)

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

Local & Munl. (1896) Department.

CURRENT No. 2497 M

COLLECTOR'S OFFICE
No. 2127
30 AUG. 96
BELLARY

V. A. C.
A. O. S.
30/8

From

The Chairman,
Municipal Council
Adoni

No. 520.

DESPATCHED

Order

Press
To be taken up
H. P.
11/9/96

Dated 24th August 1896.
Received 5 SEP 96
Registered 5-9-96
Enclosures 3
Spare copies.

SUBJECT.

Submitting Inspection notes of the Sanitary Commissioner, for Madras, on the inspection of this municipality with replies duly passed by the Council at its meeting held on 24th August 1896

Government (1896) of Madras.
LOCAL AND MUNICIPAL.

Recd. } 1896.
Regd.

Enclosures

Spare copies

G.O., No. 1769 M., 17th October 1896.

OCTOBER.

Inspection Notes.

Recording Sanitary Commissioner's — on th[e] Adóni Municipality.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—the following paper :—

From M.R.Ry. S. RAMU AIYAR Avargal, B.A., Chairman, Municipal Council, Ádóni, to the Chief Secretary to Government (through the Collector of Bellary), dated 24th August 1896, No. 520.

I have the honour to submit herewith the inspection notes of the Sanitary Commissioner for Madras on his inspection of this municipality, with my replies thereto duly approved by the council at its meeting held on the 24th instant.

2. Extracts from the council's proceedings, dated 3rd August 1896 and 24th August 1896, are herein enclosed.

ENCLOSURES.

INSPECTION NOTES of the Sanitary Commissioner for Madras.

BELLARY DISTRICT.

ÁDÓNI MUNICIPALITY.

Inspected

Population as per Census of 1891 ... ... 26,243.

Inspection Notes.

Site.—The village of Mandageri being close to the town should, for sanitary reasons, be included within municipal limits.

2. *Roads.*—(*a*) These are in fair order where metalled. A very considerable number of the narrow streets are, however, made on the natural soil. One street has undergone improvement at the hands of the municipality by widening.

(*b*) The crowded condition of houses upon the site of Ádóni is notorious. It is not difficult to touch both sides of certain lanes in passing. The air in these places, especially at sun down, is oppressive in the extreme from radiation of heat from the stone walls, and the obstruction to which any wind that might be stirring is subjected to. Referring to this subject, the Chairman writes: "The widening and improving the numerous crooked streets and lanes is a crying want of the town. It is proposed to begin the work, as soon as a complete scheme for the drainage of the town is prepared and approved, and to complete it by sections as funds are available."

Chairman's Remarks.

The council has already resolved on this step. Arrangements will be made to give effect to this from 1st April next.

Inspection Notes.

(*c*) This is a solid sanitary suggestion, and I strongly advise that the municipality take up the matter of having plans prepared for re-modelling those parts of the town in urgent need of it. These plans having been once agreed upon should be looked to for guidance by successive Chairmen. Lest the fact of such plans having been prepared should slip from official memory, they should be made of lasting material and be kept on the wall in a conspicuous place of the council meeting room. This re-modelling should not, however, be carried on side by side with a sewerage scheme as proposed, but should precede it and be put into execution without delay.

Chairman's Remarks.

Provision was made in the current year's budget for the survey of the town. But it was struck out by Government on the Sanitary Engineer pointing out that the Revenue Survey department has been ordered by Government in G.O., No. 909, Financial, dated 29th October 1894, to carry out the survey of all the municipalities. This is not one of the towns to be taken up by the Survey department this year (*vide* G.O., No. 1186 M., dated 13th July 1896). It is hoped that next year the survey will be carried out, and then it will be possible to arrange for plans for re-modelling those parts of the town in urgent need of it being prepared. The suggestion of the Sanitary Commissioner that the plans should be made of durable material, &c., will be acted upon. It was not intended that the re-modelling should be carried out necessarily side by side with a drainage scheme, but simply that a combined scheme should be prepared once for all, showing details of both at a glance. In desiring to have such a scheme, the object was to provide for levels of new streets to be formed by widening or straightening the existing ones so as to fit in with the levels adopted in the drainage scheme.

3. *Drainage.*—A new drain has been built by the municipality professedly only for the removal of storm water. It has a depth of $2\frac{1}{2}$ feet by $2\frac{1}{2}$ feet breadth. It therefore occupies no inconsiderable portion of the narrow street. The overseer, under whose guidance this has been constructed, assured me that this was not a bit too large; but appearances are much against it, taking into consideration the probable area drained towards it. In any case, it seems to me, seeing that the intention is to receive simply storm water passing through this street from ground external to it, that it would have met the required object better to have run the water in pipes or a masonry conduit, and thus have prevented the decreasing of the available breadth of the road.

The drain in question is intended to carry off storm water falling over an area of, roughly speaking, at least 40 acres, taking the rainfall at one inch per hour. The drain in question, whose inclination is 1 in 100, can discharge 1,500 cubic feet of water per minute, *i.e.*, in other words, rain water falling over 25 acres only. The road is $13\frac{1}{2}$ feet at its narrowest point exclusive of the portion occupied by the drain and the traffic is by no means considerable. When traffic develops and more width is required for the road-way the drains may be covered up. Pipes and masonry conduits are, it is respectfully submitted, rather too expensive for a poor municipality like Ádóni.

4. *Sewerage.*—(*a*) The sewerage system of Ádóni is very simple. It consists of receiving the sullage water into pervious cesspools, which allow the fluid contents to disappear in the sub-soil, whilst leaving the sludge to be removed at intervals of a year or so [illegible] Taking the

The council fully recognizes the unsatisfactory character of the present cesspool system. But it need hardly be said that the system is not peculiar to Ádóni and that it prevails generally in all towns and villages in the Ceded Districts. The council thinks it necessary to state what

Inspection Notes.

inhabitants at 28,305 (the estimated population up to the 31st December last). there must thus disappear into the sub-soil yearly the greater part of 98,550,000 gallons of sewage containing a large proportion of the urine of the inhabitants, and much diluted excreta from the washings of latrines. In consequence, the narrow lanes have a distinct ammoniacal odour from emanations from the overcharged sub-soil. Such conditions favour to the utmost the growth of the malarial parasite, and it is therefore not surprising to find that 38·1 per cent. of the total deaths in the town are returned as due to "fevers." It would be hopeless to effect any appreciable remedy for this state of affairs until a complete sewerage system has been introduced. As Ádóni has been lucky in obtaining a cheap water-supply, the council ought to have little difficulty in coming to a determination to ask the approval of Government for their proceeding with a sewerage system as early as possible. Having ascertained when this can be taken in hand, they should, in the meanwhile, spend money upon altering the configuration of the streets with reference to paragraph 2 *supra;* as, so far as I can judge, it would be hopeless for an Engineer to attempt to provide a system of sewerage that would benefit any but the larger streets of the town, so long as so considerable a portion consists of irregular and narrow lanes. Being already possessed of a water-supply system, it would be advisable for the municipality to hold in mind the great advantages of the "*water-carriage*" system either by adopting it in its entirety, or so far as location of depôts upon main sewers would permit—thus securing permanent economy as to cartage and correct disposal of both sewage and night-soil upon a sewage farm.

(*b*) Pending the introduction of a sewerage system, the council should arrange for the safe conduct of the waste water from fountains to suitable points of discharge. The places inspected by me seemed to present no special difficulties. Small plots provided with trees or other vegetation greedy of moisture should be arranged. These would form an

Chairman's Remarks.

the actual facts are in this connection. The Commissioner appears to think that these cesspools receive washings from latrines. This is not, however, the case. The floors of latrines consist of natural soil and are not washed except by rain, nor do the latrines drain into the cesspools which receive for the most part bathing water and water used in the cleaning of vessels, &c. The council also thinks that the "distinct ammoniacal odour" in narrow lanes referred to by the Sanitary Commissioner is not the result of the sub-soil being contaminated by the sewerage water, but that it is simply due to the people practically using the lanes as urinals. For a great number of houses, especially those of the poorer classes, who in these parts indulge but rarely in the luxury of bathing, either there are no cesspools at all, or pots are kept into which the sewerage water is received and the contents are remedied as often as the pots become full. It is not all cesspools, nor even the majority which are cleaned at such long intervals as once a year. Such capacious sink-pits are comparatively few. The great majority are small ones, and require cleaning from once a month to once in three months.

The question of the feasibility of introducing the "water-carriage" system either in its entirety or partially into this town is for the experts to decide. But it seems to the council that even with the water-supply system, which the town is now lucky enough to possess, it is extremely doubtful whether the supply will ever be sufficient to answer the purposes of a sewerage system in addition to drinking and other kindred purposes.

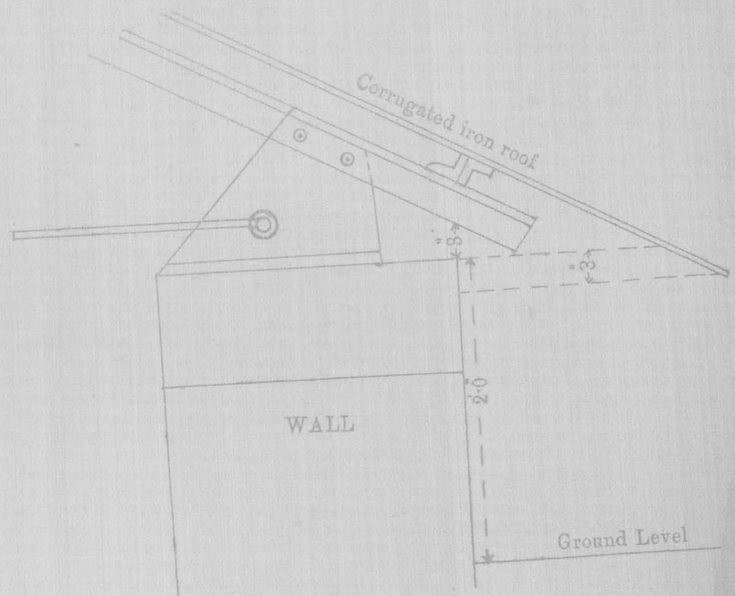
Provision has been made in the current year's budget on this account. Necessary steps are being taken to minimize the evil, but it cannot be fully remedied until the drainage system shall have been introduced.

Inspection Notes.

Chairman's Remarks.

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Inspection Notes.

ornament to the town, and be far preferable to the existing pools of water in the neighbourhood of each fountain.

5. *Water-supply System.*—(*a*) As observed in my inspection notes of 1894 embodied in G.O., No. 732 M., dated 1st May 1895, I would advise the municipality to hold steadily in memory the desirability of ensuring that their collecting ground for this water-supply is beyond reproach by acquiring year by year, the ground still under cultivation in certain parts of the area. It must be remembered that this will not only secure them a water less liable to risks of serious contamination, but a greater proportion of the rainfall; seeing that cultivated land is purposely prepared for attaining percolation of the water it is their interests that it should not sink into the ground, but flow into their impounding reservoir. There are several matters that in themselves, although apparently trivial, must have an important bearing upon the success of the scheme as a sanitary work. Although the surface near the filter-beds was in a cleanly condition, this was not so in regard to the inner surface of the bank—rags *being found*. Rags, too, were in use to stuff the sluice valve, which cannot be said to be an appropriate method sanitarily. No *latrine* is provided for the attendant. This should be arranged for, otherwise there is risk of undesirable localities being employed.

(*b*) The zinc roof is so arranged as to permit of light, and with it, dust entering the filtered water reservoir.

The zinc roof seems to me also undesirable in reference to maintenance of heat, and the consequent favouring of growth of micro-organisms. It is probable that the municipality would lose little by selling the corrugated iron of the roof, or by utilizing it for latrines in the town. The ordinary form of arched masonry covering employed for these reservoirs would be preferable. If, however, it be found that the cost of this improvement be heavy, the complete darkening of the reservoir should certainly be arranged for, and the addition inside the roof of a saw-dust or other lining as a non-conductor should be made. The ground surface surrounding the filter-beds is at present flat or nearly so; the entrance of surface washings would therefore be favoured. The surface should be altered so as to have a decided gradient *from*

Chairman's Remarks.

The suggestion will be borne in mind.

Care will be taken to keep things clean. There are very few attendants. The maximum number present at any time is only four, and ordinarily there are only two. There is plenty of ground within easy reach below the tank where the attendants could answer the calls of nature when so required. There is no fear whatever of the tank-bed or bund or the neighbourhood of the head works being defiled by the water-works staff. The construction of a latrine seems therefore unnecessary.

A sketch of the zinc roof is given below. The wall of the reservoir above the ground is only 2 feet high and the edge of the roof is 3 inches below the top of the wall. The opening between the top of the wall-plate and the zinc roof is only 3 inches. The ground around the reservoir is also turfed. The council, therefore, thinks that dust cannot get in under these circumstances. However, it is proposed to fill up the openings by means of glass shutters so as to prevent creatures like squirrels and blood-suckers getting in. The remarks of the Sanitary Engineer on the question of the unsuitability of the zinc roof will be awaited.

The Sanitary Commissioner's suggestion is being attended to.

Inspection Notes.

the filter-beds. The *Ramjira* spring, from which during the wet months of the year a portion of the supply is obtained, is drawn upon by certain members of the public by approaching it direct. This might lead to dangerous contamination of the total water-supply. The Chairman, in answer to my verbal suggestion on this point, told me that he has already determined to fix a pump outside the wall, so that persons may draw from the spring without direct approach. This certainly should be done without delay. The management of the filter-beds leaves much to be desired.

Gauges should be fixed on the telescopic pipes in the filter wells instead of the rough stick and tape which were produced before me by the overseer in charge. Rules have been recently issued by the Sanitary Engineer as to regulation of the rate of filtration. These should be strictly followed.

(*c*) It must be remembered by the municipality that the expense to which they have gone must represent mere waste unless their arrangements as to filter-beds are exact and correct. Thus nothing can exceed the carelessness with which the sand for the filter-beds has been collected. Although the contractor denies the fact, the Reddi of Mandageri had no hesitation in saying that the sand for the filters was obtained from the dry bed of a stream which drains the night-soil depôt of Ádóni. Another place used is the Kalboye vanka. The locality should be selected by the municipality in consultation with the local medical officer, and a thoroughly trustworthy man should be sent with the contractor's men to see that they really bring sand from the appointed locality on each occasion. At the time of my visit, the syphon bringing water over the impounding reservoir was out of order. It would be well if the municipality provided two syphons *—as suggested in the original scheme by the Sanitary Engineer's department—so as to prevent stoppage of the water-supply, or at least cessation of the delivery of filtered water which such an accident brings about.

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* Another syphon will be purchased as soon as funds permit.—*Chairman, Municipal Council.*

Chairman's Remarks.

A pump has been ordered to be put up outside the enclosure within which the spring is situated for the use of people resorting to it.

The question of fixing gauges will be referred to the Sanitary Engineer for favour of opinion.

A very careful inquiry has been made on this subject and it is found that it is not a fact that the sand for filter-beds was ever taken from the dry bed of the stream which drains the night-soil depôt. The sand provided by the Sanitary Engineering department before the works were handed over to the council has not yet been renewed. One Amindin, who was the contractor employed by the Sanitary Engineering department to supply and spread the sand, is positive that the sand used for the filter-beds when the work was first started was brought from the bed of the channel which supplies the tank. The water-works coolies also say likewise. Since the works were made over to the council, the municipal overseer has had sand carted departmentally and stored near the sand-washing box. It has not yet been used. Part of this was brought, it is true, from the vanka which goes by the name of the Mandigeri vanka, but at a point three-quarter mile higher up above the night-soil depôt and not at all from below. This was done when there was more water in the tank. When the level of the water got low, more sand was got from the channel supplying the tank. In fact, there is no reason whatever why the sand should have been carted from a spot in the vanka in question below the night-soil depôt as the cartage would be much greater and

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(*d*) The water from the public system was up to date of my visit used but to a small extent, as a considerable number of

Chairman's Remarks.

probably prohibitive. The councillor who appears to have accompanied the Sanitary Commissioner, and been present when he made the inquiry on this subject, has been unfortunately absent from Ádóni for some time and so it cannot be ascertained from him what actually transpired, apparently the information was given to the Commissioner by persons who did not know anything of the matter. The Mandigeri Reddi denies having told the Commissioner that the sand for the filter-beds was taken from the vanka below the night-soil depôt. He says that he does not know at all where the sand was taken from for that purpose. In fact, he even says that he has not up to date seen the filter-beds. Another ryot named Jambanagaud, also of Mandigeri, seems to have been present at the time. He also denies that he told the Commissioner anything about the sand for the filter-beds. The fact seems to be that these residents of Mandigeri, who have all along been protesting against the location of the night-soil depôt at the place where it now is, took the opportunity of the Commissioner's presence to pour out their grievances to him, and when the Commissioner asked them whether sand was taken from the contaminated locality for the filter-beds, they appear to have answered affirmatively by way of emphasizing their grievance in the hope that the Commissioner would be moved to order the removal of the depôt from its present site. I hear Jambanagaud said to the Commissioner: "It is from here, pointing to the vanka below the depôt, that sand is taken for all purposes." It is a fact that the residents of Ádóni cart sand from that locality for building and other purposes as it is nearest to the town. The person referred to by the Sanitary Commissioner, as the contractor, is his brother. He is not present at Ádóni and so he could not be examined.

The Sanitary Commissioner does not say that the Reddi used the words "*below* the night-soil depôt."

(Intld.) R. H. C.

He is evidently not a reliable informant.

(Intld.) R. H. C.

It does not appear to the council to be correct to say that the water from the public system was up to date of the

Inspection Notes.

the people still employ well water for watering animals, for bathing and drinking purposes, and reserve the pipe-water for "inferior domestic purposes." As the municipality have no drains to flush, there is consequently no expenditure under this head, nor has the water been utilized in any way by the municipality for public purposes except in the case of the hospital. So long as the people employ water drawn from wells in a foul sub-soil and liable to contamination from above even were this water reserved for "inferior domestic purposes," so long will they fail to enjoy the improved condition of health which may be justly looked for as a result of the introduction of a public filtered water-supply. I strongly advise the council to shut the whole of the wells in the town and to rely solely upon the water-supply system.

(*e*) Several of the inhabitants represented to me the fact that the fountains are situated at distances which are inconvenient to them. Although this is not always the case, it is correct to say that additional public fountains are desirable, and every encouragement should be afforded for the early increase of fountains within such limits as the Sanitary Engineer may consider feasible, having regard to the existing distribution pipes.

(*f*) I suggested in my inspection notes above referred to that the municipal council should erect bathing platforms and a "dhobie-khana". A suitable spot for this seemed to me to be round the Venkanna bavi, the water of which I considered could be raised for use by means of a small oil-engine. My intention was misconstrued by the Sanitary Engineer on the matter being referred to him for affording the council plans, by his conceiving that I wished the public water-supply first to be let into the bavi and then be lifted. This was not my meaning; the suggestion to use the water of this well being made with the intention of saving the expenditure of the public supply the quantity that could be obtained at that time being somewhat open to doubt. Whether or not the yield of this well is sufficient for the purpose can only be determined by measurements. This information should be procured by the municipality. If it proves insufficient, the question of use of the public supply

Chairman's Remarks.

Commissioner's visit used but to a small extent. The fact is that by far the majority used the water for drinking as well as other purposes, and the number who have still prejudice against it or rather predilection in favour of well water is decreasing.

The Chairman has not remarked on this suggestion. The closing of all the wells would seem to be rather an extreme measure and would be difficult to enforce.

(Intld.) R. H. C.

It is in contemplation to increase the number of water-taps, and provision has been made in the budget for this purpose.

The remarks of the Sanitary Engineer on this subject are awaited. The inquiries made by the council show, however, that the dhobies would not use this water for bleaching purposes, as it is too hard.

Inspection Notes.

for bathing purposes and a "dhobie-khana" should be considered, as the sanitary necessity for both is evident.

6. *Rubbish Disposal.*— (*a*) Matters are practically in the same state as when I last inspected the town; but, as with the close of the official year the departmental system was to be introduced, it is stated that the unsatisfactory methods to which I called attention will now be abolished.

(*b*) There are only two carts for removal of rubbish, whereas not less than eighteen are really requisite, if the rubbish be really removed from the town site. The chances are that beyond street sweepings the whole of the town rubbish is stored by ryots. If this be so, arrangements for storage on ground immediately outside the town should be made.

7. *Night-soil Collection and Disposal.*— (*a*) There are seventeen latrines; of these, seven are of the modern type and ten are merely enclosed spaces. With one exception, these latrines are situated at the outskirts and are consequently too distant from the population served. The municipality should endeavour to make small roofed iron latrines in the vicinity of dwellings, and arrange to work them under the dry-earth system, so that they shall be maintained free of odour. Each of these should have a special light at night time.

(*b*) I understand that a new road to the night-soil depôt is about to be made. It would be advisable at the same time for the council to arrange for giving up the old ground, which has been in use so many years. The trenches have been so dug as to prevent correct future working. It is, moreover, on low-lying ground. It would be better for them therefore to fill in the trenches with earth and cultivate the site on their own behalf, and select a new site in the neighbourhood. In close proximity to the old site, I was able to show the councillor in charge of sanitation a suitable position in a field which could no doubt be easily obtained under the Land Acquisition Act.

(*c*) Although there is still room for improvement, private scavenging has received good attention at the hands of the municipal council—there being now 848 houses of a total of 1,500 thus attended. Under this head Rs. 1,939-12-10 were received by the municipality during 1895-96, of which Rs. 493-11-0

Chairman's Remarks.

The rubbish is now being removed by departmental agency.

Twelve carts are being used for this purpose and experience shows that these are sufficient. The ryots, it is true, do not throw the rubbish accumulated in their houses into the municipal dust-bins. But they are not allowed to accumulate it in their houses so as to constitute nuisance. They deposit them in places at the outskirts of the town.

The suggestions will be carried out as far as possible. The town is so crowded with buildings that there are hardly vacant spaces which can be used as sites for latrines so that sites will have to be acquired.

Steps are being taken to acquire additional land for night-soil depôt, and when that has been acquired, the old site will be given up and used in the manner suggested.

The charge is sufficiently low at present. The amount shown as saving last year has been since mostly utilized in the purchase of plant.

Inspection Notes.

represented profit. This is an error in policy; the system should be made as cheap as possible compatible with efficiency. Having fixed a small and reasonable charge, any surplus should be devoted to effecting improvements in plant and methods of scavenging.

(*d*) For the total scavenging service of the town only nine carts are employed, of which four are wooden. These should be abolished in favour of iron carts.

(*e*) The conservancy staff is not assembled by the inspector till 3 o'clock in the afternoon. Orders should be issued for checking the assembly of the men both in the morning and afternoon. Equally, a special date should be fixed, at least once weekly, when the whole of the night-soil and rubbish conservancy carts should be assembled for inspection, and their defects be reported to the Chairman for orders.

8. *Cattle Slaughter-house.*—Beyond the fact that an imperfect attempt had been made to cement point the floor, the slaughter-house is in the same state as reported in former inspection notes. The same may be said of the *sheep slaughter-house.* In the case of the latter, a completely new design is requisite. In both the public water service should be introduced for distribution by taps. Hydrants, to which a hose with nozzle can be attached, should also be supplied for flushing purposes. The municipality should secure standard plans from the Sanitary Board, and get their municipal overseer to draw up design for the present building according to these plans as far as feasible.

9. *Market.*—The raised basement should be provided with a drain along its length. The public water-supply should be introduced, and distribution be carried out by taps. White silicate paint should be employed for the wooden pillars.

10. *Grave-yards.*—Vettiyans should be licensed and should be required to see that burials are conducted in a systematic

Chairman's Remarks.

Four iron carts have now been purchased.

The assembling is done at 2 P.M. in the afternoon. The checking in the morning was found to delay the work and therefore abandoned. At present the sweepers and toties are in their respective places before 6 A.M. The town is so compact that there is no difficulty for the sanitary inspector, the maistries and the peons to notice at once when a toti or sweeper is not at his post.

A building on the new standard design will cost more than Rs. 2,000, which is very high as compared with the receipts from this source. The council will, however, build one as soon as funds permit.

At present water is easily drained off and so there does not appear to be any necessity for a drain along side the raised basement. There are taps outside the market building which are sufficient for the use of people resorting to the market. The open yard and the stalls inside are used simply by vegetable sellers in the morning and evening. There is no necessity to wash the inside of the market. White silicate paint will be employed for the wooden pillars as suggested.

The suggestions will be attended to.

Inspection Notes.

manner so as to economize the ground instead of at irregular intervals as at present conducted.

11. *Vaccination.*—At date of inspection, the unsatisfactorily large number of 160 cases were "pending," of which 73 had been referred to the Magistrate. No special vaccination depôt has been provided. Consequently, the operation is carried out in the verandah of a hospital. The patients, as soon as they are operated upon, expose their arms to the sun—about the best way conceivable for effectually killing the vaccine. A small vaccination depôt is essential, and I advise the council to apply for plans to the Sanitary Board accordingly. The following shows the state of infantile vaccination:—

Chairman's Remarks.

Steps will be taken to have a depôt built as soon as possible.

Total births from 1st January up to 30th June 1895.	Number vaccinated successfully.	Number vaccinated unsuccessfully at the first time.	Number vaccinated a second time because first operation proved unsuccessful.		Postponed under medical certificate at the end of six months.	Died.	Left the town for.	Unaccounted for.	Percentage of successful vaccinations to total births.
			Successful.	Unsuccessful.					
603	363	22	6	..	2	101	41	19	61·2

12. *Registration.*—The following are the results of registration during the last three years:—

Years.	Ratio of births per mille of estimated population.	Ratio of deaths per mille of estimated population.	Percentage of deaths from						Ratio per mille of deaths of infants under one year of age to registered births in the previous year.
			Cholera.	Small-pox.	Fever.	Dysentery and diarrhœa.	Injuries.	All other causes.	
1893	29·7	21·3	..	..	51·7	0·3	1·4	46·6	111·1
1894	30·9	22·9	0·3	..	37·0	..	1·4	61·3	165·4
1895	41·4	21·9	0·3	..	38·1	0·3	0·8	60·5	255·5

These figures prove that the registration of births demands increased attention.

The council is giving its best attention to the matter.

Kumbakónam,
4*th July* 1896.

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

EXTRACT from the Proceedings of the Ádóni Municipal Council, dated 3rd August 1896.

* * * * *

1. Read inspection notes of the Sanitary Commissioner for Madras on this town received with his letter No. 1301-S. of 4th July 1896.

Resolution.—The Chairman will draft replies in the light of the discussions which have taken place in the council on the several points touched upon in the notes.

EXTRACT from the Proceedings of the Ádóni Municipal Council, dated 24th August 1896.

* * * * *

1. Read inspection notes of the Sanitary Commissioner for Madras on the Adóni Municipality with Chairman's replies thereto.

Resolution.—Approved.

Forwarded.

(Signed) R. H. CAMPBELL,
Collector.

4th September 1896.

ORDER—No. 1769 M., dated 17th October 1896.

Recorded.

(True Extract.)

A. T. ARUNDEL,
Ag. Chief Secretary.

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

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