

Recd 7343

Gobt. of (1885) Madras.

MILITARY.

To THE ADJUTANT-GENERAL,
&c., &c. &c.



Dated August, 5th.

Issued

Recd. 2/8/85.

Encl.

G.O., 5th August 1885, No. 4290.

No 1972 Wd. 25th Augt 1885

AUGUST.
Nos. 42-43.

Sanitary—Reports and Returns.

Copies of a memorandum by the Army Sanitary Commission on the health returns of British Troops in Madras for 1883 and on enteric fever among the troops, forwarded by Her Majesty's Government with remark.

2. S. copies sent to Govt 3/9/85
W. H. Anderson

No. 1972 Wd. 25th Augt 1885

Communicated to
the Supts Supt IV. IV and V Circles
for information

2 The question of improving
the water supply
to the troops at Bangalore
is under consideration

W. H.
19-8-85.

2 Copies required by Govt
for only

Communication signed by
D. W.

S. S. III Circle

S. S. IV Circle

S. S. V Circle

Military Dept.

1972/8
1977
1/8/83
1978

GOVERNMENT OF MADRAS.
MILITARY DEPARTMENT.

5th August 1885, No. 4290.

Sanitary—Reports and Returns.

Read the following:—

No. 42. *Despatch from the Right Honorable the Secretary of State for India, to His Excellency the Right Honorable the Governor in Council, Fort St. George; dated India Office, London, 30th June 1885, No. 8 (Statistics and Commerce).*

I forward, for your information, 70 * copies of a memorandum by the Army Sanitary Commission on the health returns of British troops in Madras for 1883, and on enteric fever among the troops.

2. The prevalence of enteric fever appears to have been almost entirely limited to four stations, of which the most notorious are Bangalore and Secunderabad. It is to be hoped that the remedial measures recently taken in hand will prove effectual in removing the local causes of disease at those stations.

Memorandum of the Army Sanitary Commission on the following papers:—

1. Report on Enteric Fever in the Madras European Army, 1883.
2. Sanitary Report of Madras Army, 1883, by Surgeon-General Madden.
3. Remarks on Surgeon-General Madden's Report by the Commander-in-Chief, Madras.

As these papers all refer to the same subject, it will save repetition to include them in the same memorandum.

1. The average strength of non-commissioned officers and men during the year was 10,612. The admissions to hospital numbered 10,517. The deaths were 108, and the invalids sent home 347. The average constantly sick numbered 633·79, or, in round numbers, 634. The ratios furnished by these figures, when compared with the previous ten years' average, were as follow:—

Per 1,000 strength.					1873 to 1882.	1883.
Admissions	...	...	...	...	1,199·79	991·05
Deaths	...	...	...	...	14·81	10·18
Invalids	...	...	...	...	40·34	32·70

Of the invalids sent to England in 1883, 19·13 per 1,000 were for change of climate and 13·57 for discharge from the service.

These data show that the sanitary state of the Madras European Army has been undergoing improvement, and low as was the death-rate of 1883 it may be noted here that 2·74 per 1,000 of it was due to enteric fever.

2. Leaving out the depôts and small stations occupied by numbers too limited to be used in calculating relative ratios, the next abstract shows the stational death-rates for ten years compared with those for 1883—

Stations.	Death-rates per 1,000.	
	1883.	Previous ten Years.
Madras and Pallavaram ...	8.38	14.35
St. Thomas' Mount ...	5.81	15.14
Cannanore ...	7.26	12.13
Bangalore ...	11.39	10.30
Bellary ...	7.10	10.92
Secunderabad ...	8.78	14.04
Kamptee ...	18.76	16.35
Burma—		
Thayetmyo ...	6.07	16.65
Tonghoo ...	12.55	13.63
Rangoon ...	10.78	14.64

These stations accommodate above 9,000 troops, and the data afford approximate ratios for sanitary purposes. It is hence not difficult to single out the offenders, while the considerable reductions at the other stations show that there must be something wrong with those stations where the ratios have increased. The figures, taken as a whole, show that the most unhealthy station for Madras troops is Kamptee in the Central Provinces, to which we have called attention in previous memoranda. Bangalore is another station where death-rates are persistently high, although it is situated in one of the most healthy climates in India. The Burmese rates, with one exception, are high, but improving, and all the remaining stations have yielded results, for one year at least, which cannot be considered as other than satisfactory.

3. The chief death causes of the year were the following:—

	Deaths.
Enteric fever ...	29
Remittent fever ...	3
Cholera ...	10
Phthisis pulmonalis ...	6
Hepatitis ...	13
Dysentery and diarrhoea ...	6

Deaths from other causes are numbered in ones and twos only, and these larger numbers include the chief sanitary problems of the year.

4. It will be seen that by far the most important death cause of the year was enteric fever, from which there were 94 admissions and 29 deaths. All the deaths from fever, with the exception of three deaths from remittent, were attributed to this fever. In a ten years' period, 1873 to 1882, the average annual strength was 10,934, and the total fever admissions during the ten years amounted to 28,760, or in the ratio of 263.03 per 1,000 of the aggregate strength. In the same period the fever deaths were 139, or 1.73 per 1,000, and of these deaths 126 were attributed to enteric fever. It follows that although the admissions from this fever type do not influence materially the admission-rate from all fevers, the fever death-rate depends mainly on the greater or less prevalence of enteric fever, and to the high death-rate from this disease is due the rise in the fever death-rate of 1883 to 3.01 per 1,000, while the previous ten years' average rate was 1.73 per 1,000.

5. The next abstract gives the prevalence of this fever according to season.

Seasons 1883.	Enteric Fever.	
	Admissions.	Deaths.
First quarter ...	7	3
Second „ ...	14	4
Third „ ...	60	16
Fourth „ ...	13	6
Total ...	94	29

In 1883 the hot and rainy months were those of its greatest prevalence and mortality.

6. The usual liability of young ages and early service was observed in 1883. Thus, out of these 94 admissions and 29 deaths, 71 admissions and 24 deaths took place in men under 25 years of age, and 63 admissions and 19 deaths occurred at periods of service under two years. These facts are stated simply as confirmatory of past experience, and the practical conclusion is that the fever death-rate is mainly influenced by the ages of men sent to India.

7. There are certain apparent anomalies connected with liability to enteric fever to which attention is called by the Surgeon-General. For example, he states that while 19.48 per 1,000 of officers were attacked, none of them died, but that 8.86 per 1,000 of the men suffered, and 2.73 per 1,000 died. In the same way he shows that no children were attacked, but that among women the attacked were in the ratio of 4.86 per 1,000, and the deaths 2.43 per 1,000. As a rule the admission rate among officers is higher than in any other class, and the Surgeon-General makes the remark that, "Although these figures are too few to establish any reliable conclusion, still the greater prevalence of the disease amongst officers would seem to imply that defective sanitation is not the only cause of the disease in India, as it is to be presumed that the officers live under better sanitary conditions than either the men or women." This observation is fully borne out by the facts he cites, as well as by those in regard to age and periods of service already cited, because it is evident that among troops, all of whom are exposed to the same sanitary or insanitary conditions, liability to enteric fever is influenced by age, and by the time men have been in the country. It may be that insanitary conditions act more powerfully at the more susceptible ages, but as an ultimate fact young ages are the fever ages, and it is possible that the greater liability of officers may be due to this element, but if so, it would not account for the non-fatal character of the fever among them, and this raises the question of diagnosis, which lies beyond our sphere.

8. But notwithstanding this aspect of the fact, the present report contains points of importance regarding local sanitary conditions which we shall next refer to. The first of these is the amount of enteric fever at different stations. This is shown in the next abstract.

Enteric Fever Stations.	Average strength, 1883.	Enteric Fever.		Deaths per 1,000.
		Admissions.	Deaths.	
St. Thomas' Mount ...	344	1	...	...
Bangalore ...	1,844	41	11	6.0
Bellary ...	986	8	5	5.07
Wellington ...	614	4	1	1.6
Secunderabad ...	2,276	28	7	3.08
Kamptee ...	693	10	4	5.8
Sitabuldi ...	50	1	1	20.0
Thayetmyo ...	659	1	...	...
Total ...	7,466	94	29	3.88

The first, fourth and two last stations in this list may be left out of the discussion. But it is evident that there are four enteric fever stations, viz., Bangalore, Bellary, Secunderabad and Kamptee which must be dealt with. The facts regarding these stations have been so frequently under discussion that it appears to be scarcely necessary to refer to them, were it not that certain of them are pointedly noticed in the Surgeon-General's report. Beginning with the negative evidence, he says, "The strictest attention is paid to the sanitation of barracks and their surroundings, of latrines, and of food and water-supplies, and no reasonable expenditure that can promote and protect the health and comfort of the soldier is denied. Latrines are all worked on the dry-earth system, and kept scrupulously clean, but although dry earth is a most perfect deodorant, it is impossible to say that it is an equally efficient disinfectant." This merely means that enteric fever takes place where these latrines are in use, but it does not follow that there may not be effluvia, not markedly offensive, that are capable of acting as disease causes. This fact has been long known, and hence the old sanitary rule that immediate removal of all sewage matter to a distance is alone the safe course to follow. "Speedy removal of the defiled earth is aimed at, but it is," he says, "not always possible to get the soldier to throw in dry earth on using the latrine." Of course neglect of this precaution *pro tanto* nullifies the end of the dry-earth system.

9. Although the food supplies generally are "above suspicion," there is an exception as regards milk, and "it is within the range of possibility that milk may at times be supplied in tainted vessels, as the vendors do not appreciate or understand the fastidiousness of the European in the matter of ablution. In fact, the native idea is that water of any kind purifies everything with which it comes in contact."

20. The only other death-causes which appear to require notice are dysentery and liver diseases. The former yielded three deaths, one at Kamptee and two at Rangoon. Hepatitis and abscess of the liver caused 17 deaths. Four of these took place at Madras and St. Thomas' Mount, three at Cannanore, one at Bangalore, one at Secunderabad, two at Kamptee, four at Rangoon, one at Tonghoo, and one on the march.

21. These details appear to be sufficient for our purpose of tracing the relation of the health of troops to local sanitary and personal conditions for the year under review, and the facts taken as a whole appear to warrant the following conclusions:—

- (1) Making allowance for the fact that 1883 was not an epidemic year from fever, the history of the Madras European Army shows that its health has undergone great improvement concurrently with advances which have been made in sanitary works, in general administrative matters, and apparently in improved personal habits of the men.
- (2) That, judged by the mortality from enteric fever and cholera, Kamptee, Bangalore, Secunderabad and Bellary are the stations chiefly instrumental in keeping up the death-rates at present.
- (3) In regard to the three first of these stations, there are sufficient facts in the present report on which to urge strongly the necessity for proceeding without further delay to provide Bangalore with good water. The new points raised in the report as to the state of the Ulsoor tank in dry weather should be further submitted to skilled inquiry.
- (4) The facts regarding Secunderabad point to the necessity for more active sanitary supervision of all places frequented by troops, or for keeping the troops out of them. The question of drainage is also one of urgency.
- (5) No satisfactory account has yet been given of the reasons why Kamptee is so subject to enteric fever and cholera. The data in the present report appear to point to undrained subsoil as a not improbable cause, which, at all events, might be inquired about.

Lastly,—The present report has pointed out the stations to which high death-rates are due, and it would be most advisable to concentrate effort on their improvement.

10th April 1885.

No. 43. ORDER THEREON, 5th August 1885, No. 4290.

Communicated to His Excellency the Commander-in-Chief and the Surgeon-General, Her Majesty's Forces, with reference to Proceedings of Government, No. 1604, dated 25th March 1885.

(True Extract.)

A. Kennedy Herbert

Lt.-Col.,

Offg. Secretary to Government.

To the Adjutant-General, with 8 copies of memorandum.
 " Quarter Master General, with 12 copies of memorandum.
 " Surgeon-General, Her Majesty's Forces, Madras, with 15 copies of memorandum.
 " Surgeon-General with the Government of Madras, with 20 copies of memorandum.
 " Sanitary Commissioner, with 2 copies of memorandum.
 " Public Department, with 10 copies of memorandum.
 " Public Works Department. *with 10 copies of memorandum*

Exd. E. C. Shunker.

Arch 7370

Gobt. of (1885) Madras.
MILITARY.

To THE ADJUTANT-GENERAL,
&c., &c. &c.



Dated August,

Issued

Recd. 22/8/85

Encl.

G.O., 17 August 1885, No 4531

No. 1975 Wd. 25th Augt 1885

AUGUST.

Nos.

7. C. Vide (88) 8106
17-4-85

Retirements—Bonus Compensation.

Indian Ordnance Corps.—Correspondence from Her Majesty's Government relative to the bonus compensation of General Officers of the late —, forwarded by the Government of India.

With Order

Arch 7343

Gobt. of (1885) Madras.

MILITARY.

To THE ADJUTANT-GENERAL,
&c., &c. &c.



Dated August, 5th.

Issued

Recd. 21/8/85

Encl.

G.O., 5th August 1885, No. 4290.

No. 1972 Wd. 25th Augt 1885

AUGUST.

Nos. 42-43.

Sanitary—Reports and Returns.

Copies of a memorandum by the Army Sanitary Commission on the health returns of British Troops in Madras for 1883 and on enteric fever among the troops, forwarded by Her Majesty's Government with remark.

2. Copies sent to Secy 3/9/85

With Order

No. 1972 Wd. 25th Augt 1885

Communicated to the Supts Supts III, IV and V Circles for information

2 The question of improving the water supply to the troops at Bangalore is under consideration

19-8-85

2 Copies suggested for only

Communications signed by

Sx. III Circle
Sx. IV Circle
Sx. V Circle
Military Dept.

19.7.8. 19.7.8. 19.7.8. 19.7.8.

GOVERNMENT OF MADRAS.
MILITARY DEPARTMENT.

17 August 1885, No. 4531.

Retirements—Bonus Compensation.

Read the following:—

No. Military Despatch from the Right Honorable the Secretary of State for India, to His Excellency the Right Honorable the Governor-General of India in Council; dated India Office, London, 9th July 1885, No. 178.

With reference to your Excellency's Military Despatch No. 31, dated 3rd March 1885, I transmit a copy of correspondence during the last two years with the War Office and with the Army Purchase Commissioners regarding bonus compensation of General Officers of the late Indian Ordnance Corps. The correspondence more especially relates to the action of the Army Purchase Commissioners in respect of the retiring funds of the late Indian Engineers; and it will be observed that the War Office adhere to their decision to take no steps to procure the grant of bonus compensation to any General Officer of the Madras and Bombay Cadres of the Royal Engineers, whose retirement does not give a step of promotion in his own cadre.

No. 977-A.

Retirements—Bonus Compensation.

Copy of the above, together with its enclosures, forwarded to the Secretary to the Government of Madras, Military Department.

(By Order.)

SIMLA,
1st August 1885.

(Signed) A. CROOKSHANK, Col.,
Dy. Secy. to the Govt. of India.

No. ORDER THEREON, 17 August 1885, No. 4531
Communicated, and the correspondence transferred, to the Provincial Commander-in-Chief.

(True Extract.)

A. Kenney Herbert Lt.-Col.,
Offg. Secretary to Government.

To the Adjutant General, with 1 enclosure;
Public Works Department. *mk 10 2/c/pun*

Exd. E. C. Shunker.

GOVERNMENT OF INDIA.
PUBLIC WORKS DEPARTMENT.

ACCOUNT
General.

To

Circular No. 13 Public Works.

Dated Simla, July 29, 1885.

Received

B.
No. 1976 Wd/25/8/85

No. 1976 Wd/25/8/85
Communicated in continuation
of C.O. No. 1869 Wd/21st July/82
to officers of the P.W. D. for
information and guidance

2. The Secy. to the Govt.
Committee will be requested to
submit a draft standing order
making the necessary alterations
in, and addition to the rules
present in force in the
subject.

(Sig. CB.

Miser Secy to the Govt.
P.W.D.

19-1-96 *RSU*

Revised rules relating to the execution of works
by the Public Works Department for local bodies
and for private individuals.

S. E.

I

Ch.

S. W. Sh. S.

Ex. P.W. Act.

CHAPTER IX.

*Works carried out for Municipalities,
Port Trusts and other Local Bodies,
and for private individuals.*

80. The department may occasionally, at the discretion of the Local Government or Administration, be called upon to execute works for which the outlay is provided wholly or in part from—

- (a) funds of a public nature, but not included in the financial estimates and accounts of the Empire;
- (b) contributions from the public.

But in each case the definite sanction of the Local Government or Administration is necessary before the work is put in hand.

81. Where a work is to be carried out partly from funds provided in the estimates of the Department and partly from funds of the foregoing nature, the contribution will be considered as a lump sum in addition to the Government grant, and the work executed in strict accordance with the procedure laid down for public works.

82. The realization of contributions for churches is governed by distinct Rules, *vide* Rule XVI of Ecclesiastical rules circulated with Public Works Department Circular No. of 1885. In all other cases the contribution should be realized and paid into the Government Treasury to the credit of the Public Works Department and the amount placed at the credit of "Deposits" in the accounts of that Department before Government is committed to the outlay. This rule can only be relaxed under a special order of a Local Government or Administration, and such relaxation can only be allowed when sufficient security is taken for the realization of the balance of the contribution by fixed and specified dates.

83. In a case where the Department undertakes to design and construct a work wholly from the sources alluded to in paragraph 80, such as a town hall or reservoir for a Municipality, or a school or

hospital for which funds have been raised by subscription, or where the Department is entrusted with the construction of a church for which the funds have been provided and are administered under the conditions stated in Rule XVI (b) of the Ecclesiastical Rules circulated with Public Works Department Circular No. of 1885, the following rules will be observed:—

- I.—The design and estimate will, in the first instance, be drawn up in communication with the parties administering the funds, and must be submitted for the approval of such higher local departmental authority as the extent of the estimate would require in the case of an ordinary public work; but no reference to the Government of India is required, saving that when the estimate exceeds the limit up to which a Local Government can sanction expenditure from public funds, an abstract of the estimate must be sent to Government of India for information.
- II.—Provision must be made to cover the cost of establishment and tools and plant at the established percentages laid down for the province concerned, no reduction being made except with the sanction previously obtained of the Government of India in case of Imperial establishment, or of the Local Government or Administration where the establishment is Provincial.
- III.—Prior to the work being put in hand, a written approval to the estimate and design must be obtained from the authority administering the funds from which the amount deposited was obtained, and an acknowledgment procured to the effect that in undertaking the work the Department does not accept responsibility for unavoidable and reasonable excesses such as would be caused by a rise in the price of labor or materials, by authorized alterations in design, loss by fire or theft, or by other causes which could not be foreseen at the time the estimate was prepared. Any alteration in design must be similarly dealt with.
- IV.—The necessary funds for the prosecution of the work must be realized and paid into the Government Treasury either in a lump sum or

in such instalments and by such dates as the Local Government or Administration shall decide in each case. All amounts so realized must be credited to "Deposits" in the accounts of the Department. No advance of Government money for such purpose will be permitted, and in a case where the money is paid by instalments, Government will not be responsible for any increase in cost, or damage to the uncompleted work, caused by a temporary stoppage of the work pending receipt of further instalments.

- V.—It will be the duty of the officer in charge of the work to bring *at once* to the notice of his superiors and of the local body or individuals any anticipated excesses over estimate; as well as to provide the fullest information in connection with the progress of expenditure, so that no responsibility may attach to Government in the event of the work having to be stopped for want of funds.
- VI.—The expenditure on the work will be accounted for under "Deposits" in strict accordance with Public Works procedure, and a copy of the work voucher will be sent by the Examiner to the Administrators of the funds immediately after the audit of the monthly Divisional Accounts.
- VII.—Local Governments and Administrations undertaking such works should satisfy themselves that the extent to which the Government is responsible in regard to the execution of the work is thoroughly understood both by the parties for whom the work is to be constructed and by the Executive Officers to whom its construction is to be entrusted.
- VIII.—Where the work is of magnitude, or there are any special circumstances which seem to render such a course desirable, an agreement should be drawn up under legal advice.

84. It must be distinctly understood that contributions on account of one work can under no circumstances be utilized in meeting outlay on account of another work, the contributions to which may be in arrears.

Circular No. 13 Public Works.
GOVERNMENT OF INDIA.
PUBLIC WORKS DEPARTMENT.
ACCOUNT.
General.

To

THE GOVERNMENTS OF MADRAS, BOMBAY, BENGAL, THE NORTH-WESTERN PROVINCES AND
ODDH, AND THE PUNJAB, IN THE PUBLIC WORKS DEPARTMENT.
THE CHIEF COMMISSIONERS OF THE CENTRAL PROVINCES, BRITISH BURMA, ASSAM, AND
COORG.
THE RESIDENT AT HYDERABAD.
THE RESIDENT AT MYSORE (THROUGH FOREIGN DEPARTMENT).
THE AGENTS TO THE GOVERNOR GENERAL FOR CENTRAL INDIA, RAJPUTANA, AND
BILUCHISTAN.
THE SUPERINTENDENT OF PORT BLAIR, AND CHIEF COMMISSIONER, ANDAMAN AND
NICOBAR ISLANDS.
THE INSPECTOR GENERAL OF MILITARY WORKS.
THE SUPERINTENDENT OF WORKS, SIMLA IMPERIAL CIRCLE.
THE ACCOUNTANT GENERAL, PUBLIC WORKS DEPARTMENT.

Simla, July 29, 1885.

SIR,

I am directed to forward, for general information and guidance, the accompanying revised rules relating to the execution of works by the Public Works Department for local bodies and for private individuals, and to state that these rules will be duly embodied in the revised edition of the Public Works Code.

I have the honor to be,

SIR,

Your most obedient Servant,

A. G. BEGBIE, Major, R.E.,
Offg. Under Secretary.

Documents accompanying
Rules referred to.