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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No.	418	Press
		Mis.
92-73		
Dated	8-7-1869	

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
8th January 1869.*

No. 92. Read the following Proceedings of the Madras Government in the
Military Department —

Communicating a letter from the Bombay Govern-
ment, forwarding copies of a report on the
progress in sanitary improvements in that Pre-
sidency. (Here enter 15th December 1868, No 4,849.)

No. 93 ORDER THEREON, 8th January 1869, No. 48.

MILITARY WORKS, No. 5

Ordered to be recorded.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

Exd. S. T. Augustia.

Govt. of 1869

PUBLIC WORKS.

To

Dated January, 8th

Recd

Encl

G O, 8th January 1869, No 48

JANUARY.

Nos. 92-93

Sanitary improvements.—Proceedings
Military Department communicating letter
from the Government of Bombay, forward-
ing copies of a report on the progress in
sanitary improvements in that Presidency,
recorded.

Proceedings of the Madras Government, Military Department,
15th December 1868.

Read the following papers:—

No 370 From the Deputy Secretary to Government, Military Department,
to the Secretary to Government, Military Department, Madras, dated
Bombay Castle, 9th November 1868, No. 5619

Referring to the endorsement from the Government of India, to your address,
No 210, dated 10th July last, I am directed to forward, for the information of the
Government of Madras, the accompanying five printed copies of a report by the
Sanitary Commissioner, Bombay, on the progress in sanitary improvements in the
Bombay Presidency.

From the Sanitary Commissioner, to the Secretary to Government, Military Department, dated
Poona, 18th September 1868, No 266

With reference to your memorandum No 6001, I have the honor to submit a report on the
"Progress in Sanitary Improvement" in the Bombay Presidency

2. As noted in the report, the subject can be dealt with by me only in general terms
- 3 All the plans alluded to in the report have been submitted, from time to time, to
Government

General Report on the Progress made in Sanitary Improvement

In noticing the progress made in sanitary improvement in the Bombay Presidency, the Sani-
tary Commissioner can deal only with generalities To enter upon particulars, and to define the
stage of progress at which works have arrived, would pre-suppose the possession of information
which is held only by local authorities or Executive Officers, and entail a treatment of the subject
as pertaining to stations or places

2. "The Regulations, * * * found at page 44 of the 'suggestions in regard to sani-
tary works required for improving Indian stations,' published in 1864," have special reference to
the duties of Inspecting Medical Officers

EUROPEAN TROOPS

3 Copies of the weekly statistical returns of sickness and mortality, and of the monthly
sanitary reports rendered by Medical Officers in charge of British Troops, are furnished to the
Office of the Sanitary Commissioner, and information is thus obtained of the amount of disease
and mortality among the troops, of the general sanitary condition of barrack premises and Canton-
ments, and of the circumstances of the Soldier and his family in respect of lodging, of lavatory,
latrine and cooking accommodation, and of dietary, dress, duties and sources of amusements
These monthly sanitary reports likewise pass under review of the authorities in the Medical,
Adjutant General's and Quarter Master General's Departments

- 4 Opportunity is thus afforded of prominently bringing to notice, and of applying remedies
to defects as they arise, and of rectifying, as far as practicable, what seems in need of correction

5 In the annual sanitary reports for the Presidency, the state of the public health, and the
condition of the Soldier, are treated of in considerable detail

6 Barracks—Standard plans have been carefully prepared, and new constructions in
accordance therewith are in progress at several stations The principle of providing for all dormi-
tories on an upper floor has been held in view, and the lower or ground floors—on well raised
plinths—have been appropriated for day, dining, orderly, office, rooms, and such like accommoda-
tion. A plan prepared by the present Sanitary Commissioner for Bombay, and providing on an
upper floor for the accommodation of all the occupants of a barrack, has not been followed It has
been ruled, on the score of economy, that one Serjeant must be lodged in the transept of the
ground floor

Accommodation has, meanwhile, been much increased by the erection of temporary struc-
tures, and it was ordered in 1865, that there should be inscribed on the door of each room the
number of men it could legitimately contain.

Considerable alterations have been made, and benefit has resulted, by opening new doors and converting windows into doors in old barracks. After consideration of the opinions of many Officers consulted on the subject, the conclusion has been come to that new barracks on the plains should have all doors and no windows, but that at hill stations there should be a proportion of windows according to local circumstances.

Verandahs in many old buildings have been opened up by the clearance away of partitions put up for affording ablutionary convenience, &c. In new constructions, the front, and the wind-ward half of end verandahs are kept clear, and even in rear verandahs a clear width of 4' is kept free of all enclosure walls.

Openings, either continuous or at suitable intervals have been provided in the roof-ridge of many structures, and ventilation has thereby been greatly promoted.

The ventilation of the ground floors of barracks is shown, in the approved plans, to be secured by vertical air-shafts contained in the thickness of the wall.

Plank ceilings are given to new barracks. Detailed plans of an approved construction for entire roofing, with ridge ventilation arrangements complete, have been prepared.

Fire-places on an approved plan, in general accordance with plate XIII of the "suggestions," are provided in all new barracks at stations where it is thought they may be wanted.

Punkies and wetted tatties are made use of, in the hot weather, in barracks at stations where, at certain seasons, such cooling devices are considered necessary.

7. *Lavatory*—Conveniences have been greatly increased by the provision or appropriation of places for the purposes of ablution, and approved plans for new lavatory structures have been prepared.

A supply of water by gravitation, shower baths, and fixed basins, and foot pans with supply, overflow and discharge, pipes, have been provided in some barrack lavatories at stations, and it has been stated that the convenience was great and the working satisfactory. In the meantime, however, it is understood that every Soldier is about to be furnished with a portable basin.

8. *Latrines* have been generally altered to admit of dry conservancy being practised, and it is reported that the system works satisfactorily. An approved plan of barrack latrine has been prepared.

9. *Urinary* sheds have been erected within a few paces of the ends of barracks, and due provision has been made for night-closets in projections from the upper floors in new barracks.

10. *Cook-houses*—Extended and improved accommodation has been provided, and the means of cooking are reported to be generally ample.

It is not known that any steel ovens or boilers have been fitted in cook-houses, but the approved plans—which have been prepared and circulated for guidance—contemplate the introduction of such conveniences.

11. *Wash house and Laundry*—There are no such buildings, and there are few—if any—stations where the water supply is sufficiently abundant to allow of clothes-washing being effected systematically in the vicinity of barracks.

Laundries are *desiderata* at stations where the run-fall is great, and washing machines in convenient connection with family quarters would probably prove a boon.

12. *Recreation and amusement*—Gymnasia have been established at various stations, and an Instructor of Gymnastics has been appointed.

It is understood that gymnastic exercises are practised under Sergeant Instructors in Corps, and that every practicable facility is given for the amusement, and healthy employment of Soldiers.

Accommodation for the practice of gymnastics is—in some cases at least—ordered to be provided in the ground floors of new barracks. Such provision will be objectionable if tan or sawdust be used for the floors.

Libraries and reading-rooms, skittle and bowling alleys, and such like accommodation, on approved plans, have been provided in some instances, and are being so in others.

13. *Family quarters*—New buildings, according to an approved plan, have been constructed at several stations, and appreciation of the accommodation afforded therein has been expressed. Improvements in the ventilation, and in the out buildings of family quarters have been, in many instances, effected.

14. *Warrant and Non-Commissioned Officers' quarters* have partaken in the improvements, which have been generally effected in barrack buildings, and approved plans are followed in the new quarters which have been or are being constructed.

15. *Officers' quarters*—The lodging of Commissioned Officers is, in many instances, very indifferent. There has been no amendment under this head.

Plans for Commissioned Officers' quarters have been prepared and approved by the Bombay Government, but it is believed that no building has been actually commenced on the approved plan.

A decision as to the form of accommodation to be provided seems to have not yet been arrived at by the Government of India.

16. *Hospitals*—Most of the remarks offered with respect to barrack buildings are applicable to hospitals, as regards improved ventilation and subsidiary conveniences.

"Conclusions" as to the principles for guidance with specimen plans, but it is believed in 1866, by the Government of India, and were accompanied with specimen plans, but it is believed that no new hospital on an approved plan for European Troops has yet been erected.

The existing hospital accommodation, in its amended condition, is in general sufficient at some places—notably at Depots—a want of proper provision for the sick is at times felt, and tents have to be used. At a few stations only is there any hospital dormitory accommodation on an upper floor.

Detached buildings for the isolation of patients suffering from contagious diseases, dangerous to life, have, it is believed, been provided at some stations.

NATIVE TROOPS
17. The *lines of Native Troops* have, in several stations, been re-constructed on a much improved plan, and such work is now in progress.

18. *Latrines* have, in many instances, been provided for the convenience of Native troops, and the conservancy of the vicinity of such lines is understood to have undergone considerable improvement. The copious use by Natives of water for ablution after alvine discharges has hitherto prevented a satisfactory application of dry conservancy to the latrines of Native troops, but plans adapted to the desired object have been prepared and recommended for adoption.

19. An inspection of the statistical returns of sickness and mortality among Native troops is afforded to the Sanitary Commissioner, and sanitary reports are rendered annually by the Senior Medical Officer of Native Troops at each station.

CANTONMENTS
20. *Water supply*—No systematic arrangement for examination of the water of stations has been made, but from time to time, opportunity has been taken of forwarding to Bombay, specimens of water from various places for analysis by the Chemical Analyst to Government.

21. In the matter of water for drinking and cooking purposes, little or no improvement has been made in the mode of distribution. This is still generally effected by drawing by means of dipping a vessel into a storage receptacle.

The conveyance of water in tanned skins, carried by men or pack animals, is still in almost universal use.

22. The process of simply straining water for domestic use through a cloth is a common practice.

An imperfect attempt at the filtration of water for drinking is made in European Soldiers' quarters by an arrangement of earthen vessels, with perforations in the bases, and containing sand and charcoal. The system works most unsatisfactorily.

Designs for a better process of filtration of water for general use have been prepared.

24 *Sanitary Police*.—Boards of health have been instituted in every Cantonment, and these are charged with the duty of preserving cleanliness.

Nuisances, however, are rife in all large bazaars, and the condition of places where horses and cattle are kept in numbers is not satisfactory.

26. *Drainage*—Eaves' gutters have been provided to many old barracks, and the provision of them to all new constructions was contemplated. It has, however, been recently intimated by Government that roof gutters might be dispensed with in the new barracks.

28 No steps are known to have been taken towards
stations

30 Manure yards have been established in suitable localities in the neighbourhood of Military stations. Thither large quantities of refuse matters are conveyed daily, and there has accordingly been much improvement in the mode of disposal of sewage.

31 A proposition has been made to establish a

31. A proposition has been made to establish farms in the neighbourhood of stations, with the object in part of providing for the disposal of refuse matters as manure, but it is not known that there is a probability of the proposal being carried, in any instance, into effect at an early period.

32. There has been

GENERAL POPULATION

GENERAL POPULATION

33 No special health establishment is known to exist any where out of the city of Bombay.

India, where people are massed, sanitation is very defective. It is not known that any general system of conservancy exists in Mofussil villages. Scavenging establishments are not

35 Scavenging establishments are retained, and it is believed that public latrines have been provided in some places. Nuisances, however, are rife in all large bazaars, and the condition of places where horses and cattle are kept in numbers is not satisfactory.

36 Sub-soil drainage has not been attempted, and the condition of the soil is generally poor.

36 Sub-soil drainage has not been attempted, and storm waters are mostly carried away by natural channels. In bazaars and towns the system of drainage is imperfect, and the construction of drains bad.

37 There is reason to believe that

37 There is reason to believe that many of the poorer classes suffer from deficiency and unwholesomeness of food, and it is not known that any direct means are used to prevent the consumption of unwholesome food or drink

38 Disposal of the dead is made at night

38 Disposal of the dead is made, it is believed, in most places in an objectionable manner,
the work of burning or of burial being badly effected

39 A system of registration of deaths

39 A system of registration of deaths among the general population was instituted in 1865, and in 1867 an effort was made to trace the movement of, and localize disease by dividing or sectioning, for registration purposes, districts and towns. It is unquestionable that the results attained and published in the annual sanitary reports are very inaccurate.

41. On occurrence of epidemic cholera, report thereof is forthwith made by the Police, and measures of relief are taken, by the despatch of Medical aid to any locality where the disease shows greater prevalence, and by a wide distribution of remedies.

42 Great improvement has been made in sanitary respect among assemblages of people at fairs or places of pilgrimage. A Sanitary Police is established, with whom lie the duties of directing the mode of encampment; the conservancy of the sources of water supply, the provision of field latrines; the prevention of commission of nuisances; the removal of filth, and the prohibition of sale of decayed fruit and other deleterious articles of food.

13 In the matter of water for drinking and
been made in the mode of distribution.

POONA, 18th September 1868.

POONA, 18th September 1868.

No. 371. ORDER THEREON, 15th December 1868, No. 4849.

Communicated to the Sanitary Commissioner, with reference to Proceedings of Government, 29th July 1868, No. 2961.

(Time Extract.)

(True Extract.)

Ans. 20/11/19 **Lieut.-Colonel,**
Deputy Secretary to Government

To the Sanitary Commissioner.

Public Department, ...
 Adjutant General, ...
 Quarter Master General, ...
 Inspector General Indian Medical Department, ...
 Public Works Department, ...

for information

Not to be used.

Exd. A. W. Cooke

Chas. D. D.
 Govt. of 1868 Edmund
 MILITARY. 1852.

To

THE SANITARY COMMISSIONER

Ac, &c, &c.

Dated December, 15th

Recd. " 21st No 10

G O, 15th December 1868, No. 4819

S.

DECEMBER.
 Nos. 370-371.

Communicating a letter from the Bombay Government, forwarding copies of a report on the progress in sanitary improvements in that Presidency.

with the letter

101

2 sent

Ordered the ac.

Dec 11

W. H. D. D.
8-10-1868

[Signature]

4952
Govt. of 1868 Madras.

PUBLIC WORKS.

To

cc, cc, cc.

Dated

1868

Enc

G O 8 Jan 1868 No 48

Nos. 92-98

Sanitary improvements

Pro. Ind. Depd Commr.
-creating letter from the
Act of Bombay forward.

-in copies of a report on
the progress in sanitary
improvements in that
Residency recorded.