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INDEXED.

[Despatch Abstract.]

Sanitation in Cantonments.

Communicating to the D. A. G. Madras.
Command & to the Local & Municipal Deptt.
Remarks of the Sanitary Commissioner, Madras,
on letter from the Quartermaster General in
India regarding ——— and the crop
to be sown on trucking grounds.

18.12.99

BACK PAPERS.

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FURTHER PAPERS.

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Government {1899} of Madras.
PUBLIC.

Recd.

Regd.

} 1899.

Enclosures

Spare copies

G.O., No. 1386, 18th December 1899.

DECEMBER.

Sanitation in Cantonments.

Communicating to the Deputy Adjutant-General, Madras Command, and to the Local and Municipal Department remarks of the Sanitary Commissioner, Madras, on letter from the Quartermaster-General in India regarding — and the crop to be sown on trenching grounds.

GOVERNMENT OF MADRAS.

PUBLIC DEPARTMENT.

Read—the following papers :—

From the Deputy Adjutant-General, Madras Command, to the Chief Secretary to Government, dated Ootacamund, 27th October 1899, No. B/C-16103.

I am desired by the Lieutenant-General Commanding the Forces, Madras, to forward, for your information, a copy of letter No. 3851-B, dated 22nd September 1899, from the Quartermaster-General in India, drawing attention to certain points connected with sanitation in cantonments generally, and, with reference to paragraph 2, clause I, thereof, to request the favour of being furnished with information as to (1) the best crop that should be sown on trenching grounds, and (2) how soon sowing should take place after the trenches have been filled in.

ENCLOSURE.

From the Quartermaster-General in India, to the Lieutenant-General Commanding the Forces, Madras, dated Army Head-quarters, Simla, 22nd September 1899, No. 3851-B.

In this Department Circular No. 23, dated 15th July 1890, the orders existing on the subject of conservancy in cantonments were recapitulated, and the attention of General Officers Commanding Districts in the Bengal Presidency was directed thereto. The orders reproduced in the

above circular are now to some extent obsolete, and the Commander-in-Chief, therefore, intends, as soon as Army Regulations, Volume XII, have been published, to issue an amended circular to all four Commands, drawing attention to the orders on the subject of sanitation generally as contained in those regulations, as also in the Cantonment Code, 1899. In the meantime, however, His Excellency considers it necessary to direct the attention of all concerned to certain points connected with sanitation, the non-observance of which has been frequently brought to his notice of late, and these are as follow, viz. :—

I.—*The disposal of filth and refuse.*—(a) Greater care requires to be exercised in the selection of the trenching grounds, both as to position with reference to the occupied area and the prevailing wind, and the areas of land which should be assigned for the purpose.

(b) *The burial of filth and rubbish in pits* is prohibited; the regulations concerning dimensions of trenches and amount of matter to be deposited therein, as also the depth of earth with which the trenches should be finally filled in, are to be strictly adhered to in future, and in order to ensure that this is done European supervision must be arranged for. The mere filling in of the trenches with large clods of earth and stones entirely defeats the object of burial in shallow trenches.

(c) The bildars provided by Government for British troops will carry out the disposal of filth in the trenching grounds in strict conformity with the instructions they may receive from the Cantonment Magistrate, and Commanding Officers should take serious notice of any complaints made by that officer.

(d) The trenches are in some instances either not cultivated at all, or are else sown with grass or some other light crop, thus rendering nugatory the object of resorting to cultivation at all; rapid growing coarse crops, such as *bajra*, *jowar* and *lucerne* must be sown in all cases. Owing to climatic and other considerations, it is not possible to lay down any general rule fixing the period within which trenching grounds should be cultivated and cropped, but this should be done at the earliest possible date, and serious notice should be taken of any failure in this respect—see clause (2) overleaf.

(e) Burning should be more largely resorted to in the disposal of bazaar and road sweepings, and of dry litter and rubbish generally, and for this purpose scientifically designed incinerators are not always necessary. A description of the method adopted at Khar in the Swat Valley is subjoined, and this method of disposal might often be resorted to in cantonments. If the site for the burning-ground be judiciously chosen, there need be nothing to object to.

* * *
Method of disposing of litter at Khar
Malakand Force.

In a convenient place an earthen parapet, shaped like a horse-shoe, is thrown up 2 feet high. The litter is brought in by the entrance on donkeys, in bags, &c., &c. Sweepers with forks spread it out inside, to dry. Thereafter it is gradually thrown over the parapet all round and set fire to, outside. Practically the fire never goes out. Ashes accumulate, and the outer ring rises, whilst the interior slope also increases. Three sweepers can work a kiln 120 feet X 105 feet, and this has been found enough for 2,000 animals and lasts for several months. As the sweepers work all day it saves labour to use one large kiln instead of two small ones.

The spreading of bazaar sweepings, refuse and litter over land, with a view to its being eventually dug into the soil as manure, should only be permitted to such extent and under such conditions as may be advised by the local sanitary authorities.

(2) Much of the sickness in cantonments is attributed to the present faulty methods of disposing of filth and refuse and the want of proper and intelligent supervision. The trenching grounds are frequently nothing short of filthy quagmires, and are not only highly offensive in themselves but are absolutely dangerous to the health of the community at large. As you are aware, efforts are being made in the direction of procuring an incinerator capable of effectually disposing of all filth and refuse, both wet and dry, and there is no doubt that this desideratum will eventually be achieved; but in the meantime steps must be taken to preserve the health of the community as a whole and the cordial co-operation of all concerned is essential to this end.

Provincial Boards of Agriculture will doubtless be prepared to advise as to the best crop to be sown on trenching grounds in different localities, as also as to how soon ploughing and sowing should take place after the trenches have been filled in; His Excellency, therefore, requests that under your orders Local Governments be addressed in view to information being obtained on these points and furnished to the local military authorities.

II.—*The frequent inspection and cleansing, as also the disinfection of latrines and conservancy plant generally.*—This is a matter which should receive closer attention than hitherto, and one which His Excellency regrets to note is to a considerable degree lost sight of in British corps, whose aim it should be to excel in a matter of interior economy so nearly affecting their efficiency for active service.

III.—*The disposal of dirty water from cook-houses.*—It is a frequent cause of complaint by medical officers that the dirty water from cook-houses is allowed to flow into small cesspools which cannot be properly emptied and which in consequence become highly offensive. A scale of cook-house receptacles is laid down in the Barrack Regulations, and these should be utilised; and all cook-house cesspools forthwith closed after disinfection. The Commander-in-Chief requests that this point may receive your special attention.

IV.—*The disposal of water from wash-houses.*—Instructions on this subject were recently issued in this office Circular No. 1, dated 1st May 1899.

V.—*The insanitary condition of the horse standings of mounted corps.*—The instructions contained in the Barrack Regulations regarding the renewal of earthen floors should receive closer attention.

VI.—*Drainage generally.*—This is also a matter which requires, and should receive, closer attention. Anything in the shape of cesspools for use in connection with drainage from bazaar latrines should be absolutely prohibited, and all bazaar drains should be frequently flushed.

2. The above are the more important points on which the Commander-in-Chief at the present moment desires to invite attention, but His Excellency hopes that the sanitation of cantonments generally may receive closer care than hitherto, and he requests that the sanitary arrangements obtaining in cantonments may be more carefully enquired into whenever General Officers Commanding Districts and the District Staff Officers performing the duties of the Quartermaster-General's Department make their inspection of cantonments; and further that these officers may be instructed to invariably bring to your notice any instance in which orders may be disregarded or in which it may appear to them that proper sanitary precautions are being neglected.

Endt. No. 2907.

Referred to the Sanitary Commissioner for favour of early remarks.

(Signed) A. R. KNAPP,
Under Secretary.

10th November 1899.

To the Sanitary Commissioner (through the Local and Municipal Department).

From Lieutenant-Colonel W. G. KING, C.I.F., I.M.S., Sanitary Commissioner for Madras, to the Secretary to Government, Local and Municipal Department, dated 6th December 1899, No. 3030-S.

With reference to your endorsement No. 1232, dated 14th November 1899, I have the honour to state that I have no reason to believe that any cereal crop would not flourish over ground that has been judiciously trenched, but that, in my own experience, jowari (cholan) is the crop which has always seemed to me to prosper best. Ordinary garden crops, such as usually raised by natives, consisting of various greens, beans, brinjals, &c., yield admirably—both in quality and quantity. I have also seen oranges, or, at least, the variety known as "batavia oranges," thrive well on poor sandy soil, provided it be trenched.

2. The period when soil that has been trenched can be advantageously used, must differ with the rate of change of the faecal matter brought about by the nitrifying microbes. The more closely the site employed assumes the character of porous humus, the more readily will change be effected. Soils of a clayey character are ill-adapted for the purpose, because they do not admit of free circulation of air from which the nitrifying microbes can be supplied with oxygen, which is essential for their vitality and growth. The closer the night-soil is buried to the surface, the more readily is change effected, as the distribution of these agents declines with the depth; thus, whilst they are rich within the first 6 inches of earth, they commence to diminish after 18 inches, and are markedly less at the depth of 5 feet. These principles being granted, it will be seen that no definite rule can be laid down as to when complete change of trenched night-soil may be expected. It must differ with the nature of the soil, and the depth at which it is placed. The nature of the soil is not a matter in which choice can always be exercised, but the factor of depth can be held in control. No trench should exceed 18 inches in depth, and, if sufficient land be available, the depth should be less than this. Regard having been had to such points, the only way of ascertaining when change has actually taken place, is by examining the contents of trenches in each locality, at intervals after burial. The time required for change in a certain soil having been once ascertained, the results may be regarded as

constant. Hence, in a correctly laid out night-soil trenching ground, it is customary to place wooden labels at the head of each trench, on which is painted the date of closing. In light soil approaching to humus, complete change may be expected in trenches not exceeding 18 inches in depth within three months, and, if not exceeding 9 inches in depth, within two months; whereas, in clayey soils, this may be deferred from six to nine months.

3. I would take this opportunity of remarking, generally, upon the important circular letter issued by His Excellency the Commander-in-Chief that the whole of the matters referred to therein are details which, as recognized by him, it is of the utmost importance for the well-being of the troops should be correctly effected, and that upon this being so depends much as to efficiency and economy in Army administration.

Yet, I maintain that no amount of insistence, or good discipline to render that insistence of utility, will really secure the results aimed at, unless such matters are placed in the hands of executive staffs that not only understand how to carry out the measures required, but have an intelligent appreciation of their importance. Of late, the advantage of possessing Medical Officers for sanitary work has, in cantonments, been recognized; but, unless their efforts are supported by properly educated staffs of the nature indicated, the utility of their services must be greatly minimized. I would therefore take the liberty of pointing out that reform is necessary as to the class of men in charge of executive sanitary details in Cantonments. Such men are usually old soldiers, who have few ideas beyond maintaining punctuality and good order of the conservancy menials. The British Army no longer lacks plenty of well-educated men in the ranks, who could assimilate the training essential for the correct rendering of the duties of sanitary inspectors. Matters such as alluded to by His Excellency the Commander-in-Chief should depend upon duties which should, as a matter of routine, be supervised by sanitary inspectors. Not till the men employed to perform these functions in cantonments are correctly educated for their work, can full or continuous results be expected. On these grounds, I would invite the attention of the General Officer, Madras Command, to the desirability of selected British soldiers being sent to undergo the course of instruction required for certificated sanitary inspectors in this Presidency.

No. 1371.

Transferred to the Public Department.

(Signed) R. W. D'E. ASHE,
Acting Assistant Secretary.

13th December 1899.

ORDER—No. 1386, Public, dated 18th December 1899.

Communicated to the Deputy Adjutant-General, Madras Command, for the information of the Lieutenant-General Commanding the Forces.

(True Extract.)

G. STOKES,
Chief Secretary.

To the Deputy Adjutant-General, Madras Command.
" Local and Municipal Department.

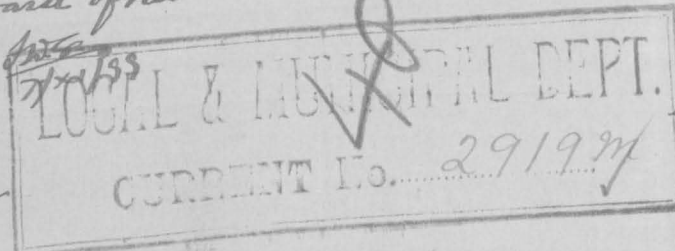
Exd. A. F. Eccleston.

Public (189 4) Department.

CURRENT No. 3038

Note

This is a subject in which
Lt Col W.G. King has taken much
interest in connection with the
Municipalities of this Presy. He
will, therefore, probably answer
the Dab's questions better than the
Board of Rev could do.



From The Deputy Assistant
General
Inndas Command

Order Endorsement: No. 2907
dy 10-11-99

Referred to the Sanitary
Commissioner for favour
of early remarks.

No. B/C 16003

Adm. Secy
Under Secretary

Dated 27
Received 29 } 10-99
Registered 30
Enclosures 1
Spare copies.

Recd
7/11/99

H. W. L.

SUBJECT.

Forwarding copy of a letter
No. 3851 B d 22-8-99 from the
Q. M. G. in India drawing
attention to certain points
connected with Sanitation
in Cantonments & also
requesting for certain infor-
mation as to the work to
be done on trenching ground

To

The Sanitary Comr.
H. R. L. Prud'homme
with the Ch. Secy

En 3/144 M/99

WR
11/11/99

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

Local & Munl. (1899) Department.

CURRENT No. 2919m

From

The Public Department

No. 1232 of 14-11-99
Order

Forwarded

(By order)

J. Ashu
Ag Assistant Secretary

Encl. No. 2907

Dated 10-11-99

Received 11-11-99

Registered 13-11-99

Enclosures 2

Spare copies nil

Further papers sent separately
by book post

SUBJECT.

To

The Sanitary Commissioner

Encl. 4
3144m/99

Referring to the Sanitary
Commissioner for ^{early} remarks letter
from the D. A. G. Madras Command
forwarding copy of a letter from the
D. M. G. in India drawing attention
to certain points connected with
Sanitation in Cantonments and req
for certain information as to the crops
sown on trenching grounds.

Pub. CURRENT No. 2919 13144
 No. 13718 13-12-99
 3472

Transferred to the
 Public Department.

13-12-99
 Asst. Secy.
 Secy. to the Govt.

BACK PAPERS			
G.O.	No.	Department.	Date.

FURTHER PAPERS.			
G.O.	No.	Department.	Date.

Pub.
 Local & Munl. (1899) Department.

CURRENT No. 3472
 3144 M.



From The Sanitary Commr.
 for Madras.

Order

No. 3030

Dated 6th December 1899.

Received } 8/12/99
 Registered }

Enclosures Four.

Spare copies.

SUBJECT.

Submitting his remarks on
 letter from the Q. M. G. in India
 re Sanitation in Cantonments
 and also the crops to be sown
 on trenching grounds.

To The Public Deptt.

13/12/99

added

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

[9
24]

700-17-10

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Public

DEPARTMENT.

UP

B/C No. 16103, dated 27.10.1899

C. No. 3038 From the Dal.

Endt. Pab. No. 2407 d/ 10.11.99 - 2A

3472 " L & M Dept. " 1371, " 13.12.1899

A Col King's letter - followed by
T.A. L & M Dept. - then order.

Order no. 1386, d/ 18-12-99

Comm? to the Deputy Adjt
Genl, Madras Command, for
the information of the L & C
the Forces.

15/12/99 16/12/99

To the Dal, Madras Command,
" " L & M Dept.

Despd.
9-1-1900.

Note for U.S.

It is proposed to print this up,
as Cantonment Administrative
matters will be dealt with in Pub
& the Say Comm's letter will form
a most useful record for future
reference.

15/12/99