No. 30. Read the following despat from the Right Honourable the Secretary of State for India, (Sanita) to His Excellency the Right Honourable the Governor in Counci Fort St. George, dated India Office, London, 8th August 1872, No.

THE Revenue despatch of your Ex ncy in Council, dated 15th February, No. 5 of 1872, transmitting copies of embodying statistics and informa tion relative to the public health in t as Presidency, has been considered by me in Council.

2. In reply, I forward herewith, e consideration of your Excellency Council, and for the issue of such ders as may be deemed necessary, 13th June 1872. anitary Commission on the subjects copy of some observations by the Arm discussed in those papers.

ENCLO No. 1.

Memorandum by the Army Sanitary Commi on "Proceedings of Madras Government, embodying information relative to ublic Health of the Presidency during Fasli 1280 (1870-71)."

THE most important practical subject in these papers is the occurrence of epidemic malarial fever in the Godavery District, a esumed relation of this fever to the irrigation works carried out of late years in the river

The question is a similar one to that Dr. Plank's report on the outbreak of fever in certain irrigated districts of the North-W ces, described in the Commissioner's remarks on this report of August 25, 1871, and ons have an important bearing on the whole subject of Indian irrigation.

2. The Godavery fever, according t port of Mr. Wright, the Medical Officer, is an ague accompanied, in certain cases, with t or bilious remittent symptoms, sometimes assuming typhoid character. The mortali as this can be ascertained in the present state of the Mortuary Statistics, was very high i 0

3. In the irrigated taluqs of the God very ue ta the death-rates per 1,000 were 7·43, 9·17, 9·60, 15·73, and 23·03 ; average 1 ·0. In the non-irrigated taluqs above the irrigation works the death-rates per 1,000 were 11·28, 13·86, 14·89, and 19·12 ; average 14·79.

4. Mr. Cornish gives the death-rates for five years, ending December 1870, as follows :—

In irrigated taluqs	8·12 per 1,000
In Zemindari estates, mostly on the ea-board and irrigated...	8·5 ,,
In non-irrigated taluqs above the delta	11·05 ,,

5. An important point of comparison might be supplied by the fever death-rates of other districts in Madras Presidency, but unfortunately the registration of deaths cannot yet be depended on for accuracy.

A mortality table for (1870) Fasli 1280 in the papers gives the fever death-rate for Godavery District as 8·05 per 1,000. There are twenty districts in the table, twelve of which have lower death-rates than Godavery ; two districts have the same fever death-rate ; and in five districts the fever death-rate exceeds the Godavery rate. But not much importance can be attached to this comparison for the reason stated.

6. According to Mr. Cornish, as cited by Mr. Wright, the deaths are as 1 to 50, 60, or more of the attacks—a fact which will show the immense prevalence of the disease, and the baneful effects it is likely to exercise on the health and productive power of the population.

7. The most important facts regardi the frequency and fatality of the disease appears to be that it increases rapidly after the rain is comparatively quiescent during the dry warm months, that the disease is most active g winds blowing from the north-east, and from

northerly directions generally; so much so ... rainfall in the north-east monsoon. It i... imperfectly nourished and indifferently cl... increased by barbarous Native medical tre... abolish, at least the starvation part of it, b... to ascertain whether the disease is not aggr... as over-crowding, damp, defective ventilati...

8. The natives, it appears, have an im... and that this fever has notably shown i... Works. The fact is called in question on th... but notwithstanding this fact one can sca... regarding works of undoubted benefit to agri...

9. Mr. Cornish considers that malaria ... may be accepted as a cause. But, on the ot... not accompany irrigation in the affected ... instance, appears to show that the height o... important bearing on the amount of fever.

10. Mr. Wright states regarding th... brought down by the Godavery and deposit... have not, in the mean time, been improved ... provided for by the anicut at Dowlaishweram ... chocked up with mud and silt, and some thin...

11. Another point to be considered as ... river itself above the irrigation works by the ... soil above the anicut having been raised by t...

12. The evidence as to the relation ... irrigation works and the fever is not conclusive, but it nevertheless suggests points such as the following :—

(1.) The water-level in the soil for eve... the year at a sufficient number of points over the irrigated districts might be recorde... ay the effect of irrigation by itself and of the added rainfall might be ascertained. A... such an inquiry it might be determined to what extent irrigation was necessary durin... and whether it may not be the means of adding an element of ill-health during the r... hout adding to the fertility of the soil.

(2.) The effect of the anicut on the water-... a sufficient number of points of districts above it might also be examined. It may be tha... ing up the water-level during the rainy season is an element in the question of the fever in ... districts.

(3.) The condition of the old drainages mer... d by Mr. Wright appears to be a point of considerable importance, which it would be well to ... further into.

(4.) The general question of drainage in connection with irrigation appears to require consideration.

(5.) A more careful distribution and use of water and the introduction of tree-planting also suggested by Mr. Wright might be attended to with advantage.

(6.) It might be well also to examine the effect of irrigation on the domestic water-supply of this district. Dr. Plank found evidence, on his inquiry, of marked deterioration of the water used for domestic purposes in districts where too much irrigation water was applied.

13. Further inquiry on these and cognate points might very well be carried out, but there is evidence to show that possibly improved methods of dealing with the water having reference to seasons, to quantities, and to drainage, would improve the health of the whole district. Irrigation is not a work to be carried out once for all, and then left to itself. It is only an instrument which must be used with the care required to ensure a maximum of advantage with a minimum of risk to health.

War Office,
13*th June* 1872.

(Signed) J. J. FREDERICK,
Secretary.

No. 31. Order thereon, 11th ... ember 1872, No. 1,536.

Miscellaneous.

The memorandum by the Army Sanitary Commission, received with the ...regoing despatch, will be referred to ... O. in that department, 14th June ...

the Public Department, with reference ... 1871, No. 828, for consideration and o...

(True ... ract.)

...ied) W. HUDLESTON,
Officiating Chief Secretary.

To the Public Department.
,, the Department Public Works.
,, the Board of Revenue.

Exd. F. R. Bantleman.

1503

Sanitary

No. 7.

India Office, London.
8th August, 1872.

My Lord,

Para 1. The Revenue Despatch of Your Excellency in Council, dated 15th July, No. 5 of 1872, transmitting Copies of Papers embodying Statistics and information relative to the Public Health in the Madras Presidency, has been considered by me in Council.

13 June, 1872

2. In reply, I forward herewith for the consideration of Your Excellency in Council and for the issue of such orders as may be deemed necessary, Copy of some Observations on the Army Sanitary

His Excellency
The Right Honorable
The Governor in Council
Fort St. George.

Sanitary Commission
on the subjects discussed
in those Papers.

I have the honor to be
my Lord,
Your Lordship's most obedient
humble Servant,

No. 2.

Sanitary
8th Augt 1872

The
Letter to Fort St George
No 7.

Recd 9: Sept 1872

Acknowledging Despatch
No 5 of 15th Feb: 1872, and forwarding with
reference thereto, Copy of some Observations by
the Army Sanitary Commission, for the issue
of such orders as may be deemed necessary
by this Govt -

S.O. No 1536 - 11 Nov/72

No 30

Copy.

9c 2

Memorandum by the Army Sanitary Commission on "Proceedings of Madras Government embodying information relative to the public health of the Presidency during Fasli 1280 (1870-71)".

1. The most important practical subject dealt with in these papers is the occurrence of epidemic malarial fevers in the Godavery District and the presumed relation of this fever to the irrigation works carried out of late years in the river delta.

The question is a similar one to that raised in Dr Planks report on the outbreak of fever in certain irrigated Districts of the North-West Provinces, described in the Commissioner's remarks on this report of August 25th 1871, and both questions have an important bearing on the whole subject of Indian irrigation.

2. The Godavery fever according to the report of Mr Wright, the Medical Officer, is an ague accompanied in

Certain

certain cases with remittent or
bilious remittent symptoms, sometimes
assuming typhoid character.— The
Mortality so far as this can be
ascertained in the present state
of the Mortuary statistics was very
high in 1869-70.—

3. In the irrigated talugs of the
Godavery delta the death rates per
1000 were 7.43 — 9.17 — 9.60 — 15.73 and
23.03 — average 13.0 — In the non-
-irrigated talugs above the irrigation
works the death rates per 1,000 were
11.28 — 13.86 — 14.89 and 19.12 — average
14.79.—

4. Mr Cornish gives the death
rates for 5 years ending December
1870 as follows:—

In irrigated talugs — 8.12 per 1000

In Zemindary estates mostly on the sea board and irrigated — 8.5 — " —

In non-irrigated talugs above the delta — 11.05 — " —

5. An important point of comparison
might be supplied by the fever death
rates of other districts in Madras
Presidency, but unfortunately the
registration of deaths cannot yet be
depended on for accuracy.—

A Mortality table for (1870) Page
1280 in the papers gives the fever
death rate for Godavery district as
8.05 per 1000.— There are 20 districts
in the table 12 of which have lower
death rates than Godavery: two
districts have the same fever
death rate and in five districts
the fever death rate exceeds the
Godavery rate.— But not much
importance can be attached to this
comparison for the reason stated.—

6. According to Mr Cornish as
cited by Mr Wright the deaths are as
1 to 50, — 60, or more of the attacks — a
fact which will show the immense
prevalence of the disease and the
baneful effects it is likely to exercise
on the health and productive power

of the population.—

7. The most important facts regarding the frequency and fatality of the disease appears to be that it increases rapidly after rains, that it is comparatively quiescent during the dry warm months, that the disease is most active during winds blowing from the North East, and from Northerly directions generally; so much so that its increase may be predicted if there be heavy rainfall in the N.E. Monsoon.— It is aggravated by cold winds acting on constitutions imperfectly nourished and indifferently clothed and sheltered, and the mortality is no doubt increased by barbarous Native Medical treatment of the sufferer which Mr. Wright proposes to abolish, at least the starvation part of it, by law.— It would be useful also in any further enquiry to ascertain whether the disease is not aggravated by ordinary sanitary defects in the houses, such as overcrowding, damp, defective

defective ventilation, filth and impure water.—

8. The Natives it appears have an impression that the Godavery delta was formerly healthy and that this fever is has notably shown itself since the introduction of the Godavery irrigation works.— The fact is called in question on the ground that native impressions are not to be trusted, but notwithstanding this fact, one can scarcely suppose that such an idea would have arisen regarding works of undoubted benefit to agriculture had there not been some ground for the idea.

9. Mr. Cornish considers that malaria blowne from unhealthy districts away from the delta may be accepted as a cause.— But on the other hand it must not be forgotten that drainage does not accompany irrigation in the affected districts and that other experience, Dr. Rankè for instance, appears to

show

show that the height of water level in the soil of irrigated districts has an important bearing on the amount of fever.-

10. Mr. Wright states regarding the Godavery "A large quantity of silt is "yearly brought down by the Godavery "and deposited on the land.- But the "old drainages of the delta have not "in the mean time been improved "to carry off the additional quantities "of water now provided for by the "Anicut at Dowlaishweram.- These "drainages have in the mean time "become choked up with mud and "silt and some think that the fever "may be due to this circumstance".-

11. Another point to be considered as bearing on this subject is the back watering of the river itself above the irrigation works by the Anicut, and the probability of the water line in the soil above the Anicut having been raised by this work.-

12.

12. The evidence as to the relation between the irrigation works and the fever is not conclusive but it nevertheless suggests points for enquiry such as the following:-

(1) The water level in the soil for every month in the year at a sufficient number of points over the irrigated districts might be recorded.- In this way the effect of irrigation by itself and of the added rainfall might be ascertained.- As a result of such an enquiry it might be determined to what extent irrigation was necessary during the rains, and whether it may not be the means of adding an element of ill-health during the rainy season without adding to the fertility of the soil.-

(2) The effect of the Anicut on the water level at a sufficient number of points of districts above it might also be examined.- It may be that keeping up the water level during the rainy season is an

an element in the question of the fever in these districts:-

(3) The condition of the old drainages mentioned by Mr. Wright appears to be a point of considerable importance which it would be well to look further into.-

(4) The general question of drainage in connection with irrigation appears to require consideration.-

(5) A more careful distribution and use of water, and the introduction of tree planting also suggested by Mr. Wright might be attended to with advantage.-

(6) It might be well also to examine the effect of irrigation on the domestic water supply of this district.- Dr. Plank found evidence on his enquiry of marked deterioration of the water used for domestic purposes in districts where too much irrigation water was applied.-

17 C 6

13. Further enquiry on these and cognate points might very well be carried out but there is evidence to show that possibly improved methods of dealing with the water having reference to seasons; to quantities, and to drainage would improve the health of the whole district.- Irrigation is not a work to be carried out once for all and then left to itself.- It is only an instrument which must be used with the care required to ensure a maximum of advantage with a minimum of risk to health.-

(sigd) J.J. Frederick
Secretary.-

War Office,
June 15th 1872.-

No. 2.

Copy Memo: by the Army Sanitary Commission
dated 13th June 1872

Rec'd 16 Sept 72

Referred to in Sanitary Letter to
Madras. No. 7. dated 8th Aug. 1872.

No. 1536.

11th Nov. 72

The Memo by the Army Sanitary Commission, received with the foregoing Despatch, will be referred to the Public Dept. with reference to G.O. in that Dept. 14th June 1871 No 828, for consideration and orders.

Pub. Dept. 15 Nov.

5 To the Public Dept. 13 Dec 15 Nov 72
21 " P. W. Dept. "
14 " L.D. of Revenue "

No. 117

Eligible
bona mortis privilege
lease under Sec. 12
of Act pp. 8. of the
Civil Leave Code.

12 Dec 72. Beaucath
for Surgeon Genl.

The Secretary of State.
War Dept.

1/3

*2 To the Officers of Sea Coast Forts, Madison, Dec 14 1872
14 " Board of Revenue ——— " ———
6 " Asst Surgeon General ——— " ———

No 74 1872

1074

Miscellaneous No 7569.

Submitted through the Accountant Genl for the favorable consideration of Government.

Revenue Board Office
Madras
10th November 1872
(By Order)

11640 H. Stokes
Ag Sub Secretary

Accountant General's Office
Recd 12
11 18 72
Ansd

Rev: 1872 Dept
No. 3647.

From The Asst Collector
Seafustoms

To The Secretary
Board of Revenue.

Dated 8th November
Read 12th 1872.

No 921.
Encls: 1.

Forwarding an application for one months privilege leave from Mr. J. G. Blake the Rd Assistant or requests to obtain sanction for the arrangement made thereon. Sanctioned

No 30-31