2. Date of repair 15-7
3. Initials of Repairer

M.R.O. 1—30,000—16-10-29.

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

Cons. 2-1-58

G.O. No. 71-172 Press / Mis.

53-54

Dated 23-1-1954

Not to be folded or roughly handled

No. 53. Read the following letter from Captain H. YULE, Officiating Secretary to the Government of India; to H. FORBES, Esq., Acting Secretary to the Government of Fort Saint George, dated Fort William, the 12th January 1858, No. 152.

SIR,

I am directed by the Government of India, to request that the Right Honorable the Governor in Council will be good enough, if possible, to place the services of Colonel Arthur Cotton at their disposal for a short time, in view to his affording this Government and that of Bengal the benefit of his experience and advice as to the measures which it may be advisable to adopt for the regulation of the inundations and the embankments of the Cuttack rivers.

2. The question is closely allied to some of those which have been the subject of Colonel Cotton's attention and exertions in the public service for many years, and it seems to the Governor General in Council but reasonable on so important and special a question to seek the benefit of that experience which has been required in fields most nearly similar.

3. Printed papers on a part of this subject have already been transmitted to the Government of Fort Saint George by the Bengal Government on the 7th September last, and a considerable mass of additional data which has not yet been submitted to Government has been collected by Captain J. C. Harris of the Bengal Engineers.

4. The accompanying copy of a letter of this date to the Government of Bengal will assist in conveying a general idea of the present state of the case.

5. Should Colonel Cotton's services be available it will be desirable that he should not long delay his journey to Cuttack, visiting this Presidency either before or afterwards as may be most convenient to himself.

Letter from Captain H. YULE, Officiating Secretary to the Government of India; to A. R YOUNG, Esq., Secretary to the Government of Bengal, dated Council Chamber, the 12th January 1858, No. 151.

SIR,

The papers regarding the rivers and embankments of Cuttack which accompanied your letter No. 2968 of 15th December, having been laid before the Right Honorable the Governor General in Council, together with the reports on parts of the same subject by Captains Beadle, Harris and Short, which were printed last year, I am directed by His Lordship to communicate the following observations and orders.

2. The injury apprehended or experienced from the floods, is 1st to the Town of Cuttack, the very existence of which is annually threatened; 2nd, to the lands of Central and Southern Cuttack generally from the constant breaches in the very imperfect embankments.

3. The former matter was the Chief subject of the reports already printed. Various proposals were made by the Officers who wrote them, differing in the exact manner, but all agreeing in recommending heavy works for the regulation of the waters which divide at Cuttack into the two branches Mahanuddee and Kajooree. To the growing aggrandisement of the latter at the expense of the former, they attribute not only the danger to Cuttack City (about which it is presumed there can be no doubt) but also the great damage done from breach and topping of embankments in Pooree District.

4. It appears however to have been generally assumed by those Officers that both evils might be remedied in whole or in part by the establishment of such regulating works as have been proposed, and that with these might be combined a scheme of irrigation and perhaps of navigation analogous to those now in progress in the great Coromandel Deltas.

5. Captain Harris the Executive Engineer of Cuttack embankments, was in the beginning of last year relieved from his duties in order that he might devote his whole time to the investigation of this subject. His first results were printed in the publication already spoken of. But that embraced only a small portion of the subject. Before he had completed his work he was unluckily called away(in July last) for special duty in the Central Provinced. There is no distinct information as to what he had done up to that date, but he had, it is believes collected a mass of levels and other data. He is now under orders to return to his Civil employment.

6. In the papers now sent up Captain Young, the Officiating Chief Engineer throws doubts on the efficacy of any such regulating scheme as has been proposed, because the floods in the Mahanuddee (he says) are as destructive as those in the Kajooree; throws doubts on the success of any irrigation scheme and suggests, apparently as the best thing that can be done, to sweep away the embankments and let the rivers take their will.

7. That the floods in the Mahanuddee are as destructive as those of the Kajooree seems improbable when it is observed that the remissions on account of *inundation* in Cuttack district have in the last quarter century amounted to only Rupees seven thousand, six hundred and ninety-five, whilst those in Pooree have amounted to Rupees three lacs, thirty-one thousand, three hundred and three.

8. That irrigation would have some chance of being profitable is shewn by the fact that remissions on account of *draught* in Cuttack district amounted in the same period to Rupees twelve lacs, twenty-seven thousand, and seventy-five, and in Pooree district to Rupees four lacs, forty-nine thousand, two hundred and sixty-one.

9. That the only practicable course is to throw down the embankments and let the rivers work their will *may* be established as it was considered to be established in the case of the Damooda after years of careful investigation and thought. But that such a trenchant solution of the difficulty should be adopted before any proof has been brought forward of the impracticability of scientific regulation, and when it is known that the existing embankments have been made at Haphagard and without any general plan by former native authorities or on the merest local requirements, would be a heavy discredit to this Department.

10. It appears to the Governor General in Council that orders on the General and permanent measures to be adopted cannot be given without extreme rashness until much fuller data are collected, or are submitted, if they have been collected.

11. What is now wanted is the adoption of such measures as will alleviate or stave off threatening evils, until the data for a full judgment on the case may be available.

12. The Governor General in Council would direct then that in the mean time the existing embankments should be repaired with as much judgment and efficiency as may be possible; that all that the experience of the embankment Officers can suggest in the use of brushwood, rough stone, and such expedients, for the protection of the revetment walls of the city of Cuttack, be done at once, and that the former orders* for the preparation of quarry material be carried out.

* No. 2046 of 12th Octr. 1855.

13. Captain Harris should in the meanwhile complete his data, especially with reference to the capacity of the Mahanuddee and its off shoots, and to a general scheme of improved embankments.

14. At the same time it seems but rational, on so important and special a question, to seek for that experience which has been acquired in circumstances most nearly allied. Having regard therefore to the great experience in more or less analogous operations, which has been enjoyed by several Officers of the Madras Corps of Engineers, the Governor General in Council has resolved to call on the Government of Madras to invite Colonel Arthur Cotton, or failing him, some other Officer of nearly similar experience to visit Cuttack after Captain Harris's return, and to give the Government of Bengal the benefit of his advice on the subject of the regulation of these rivers.

15. Since the preceding orders were drafted your Junior Secretary's letter No. 38 of the 7th Instant has been received; from which the Government of India is glad to learn that a part

3X

of its instructions have been anticipated in the measures now taken for the present security of the city, by raising the revetment and protecting its foundations.

No. 54. ORDER THEREON, No. 171; dated 29th January 1858.

Resolved that a copy of the foregoing letter and of its enclosure be forwarded to Colonel Arthur Cotton, and that he be requested to proceed to Calcutta for the purpose of carrying out the wishes of the Government of India, as early as practicable, after the completion of the duty on which he is at present engaged with His Excellency the Commander-in-Chief.

2. Colonel Cotton will exercise his own discretion as to proceeding to Calcutta at once or visiting Cuttack on his way.

(Signed) H. FORBES,
Acting Secretary to Government.

No. 55. Ordered in consequence that the following letter be despatched.

From H. FORBES, Esq., Acting Secretary to the Government of Fort St. George; to Captain H. YULE, Officiating Secretary to the Government of India, D. P W., dated 29th January 1858, No. 172.

SIR,

I have had the honor of submitting to the Right Honorable the Governor in Council your letter of the 12th January 1858, and I am directed to inform you in reply that Colonel Arthur Cotton has lately proceeded on a tour with the Commander-in-Chief, in order to plan, under His Excellency's instructions, defensive works for the Arsenals and Magazines in the Cantonments of Bangalore, Bellary, and Kurnool.

2. A Telegraphic despatch from Sir Patrick Grant has informed the Government that the duty on which Colonel Cotton is engaged will be completed within a fortnight from this date, and he has been directed then immediately to proceed to Calcutta and place his services at the disposal of the Government of India.

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No 151

From

Captain H Yule,
Offg Secretary to the Govt of India,

To

A. R Young Esquire,
Secretary to the Govt of Bengal.
Dated the 12th January 1858
No 157

Pub. Works Dept. Irrig.
Publics

The papers regarding the rivers and embankments of Cuttack which accompanied your letter No 4968 of 15th December having been laid before the Right Honble the Governor General in Council, together with the reports on parts of the same subject by Captains Beadle, Harris and Short, which were printed last year, I am directed by His Lordship to communicate the following observations and orders -

2 The injury apprehended or experienced from the floods, is 1st to the Town of Cuttack, the very existence of which is annually threatened. 2nd to the lands of Central and Southern Cuttack generally from the constant breaches in the very imperfect embankments

3 The former matter was the chief subject

subject of the reports already printed. Various proposals were made by the Officers who wrote them, differing in the exact manner, but all agreeing in recommending heavy works for the regulation of the waters which divide at Cuttack into the two branches Mahanuddee and Kajoorie. To the growing aggrandisement of the latter at the expense of the former, they attribute not only the danger to Cuttack City about which it is presumed there can be no doubt, but also the great damage done from breach and topping of embankments in Pooree district.

4 It appears however to have been generally assumed by those officers that both evils might be remedied in whole or in part by the establishment of such regulating works as have been proposed, and that with these might be combined a scheme of irrigation and perhaps of navigation analogous to those now in progress in the great Coromandel Deltas.

5 Captain Harris the Executive Engineer of Cuttack embankments, was in the beginning of last year relieved from his duties in order that he might devote his whole time to the investigation of this subject. His first results were printed in the publication already spoken of. But that embraced only a small portion of the subject. Before he had completed his work he was unluckily called away in July last for a special duty in the Central Provinces. There is no distinct information as to what he had done up to that date, but he had, it is believed, collected a mass of levels and other data. He is now under orders to return to his civil employment.

6 In the papers now sent up Capts Young the Offg. Chief Engineer transmits his opinion on the efficacy of any such regulating scheme as has been proposed, because the floods in the Mahanuddee he says are as destructive as those in the Kajooree; throws doubt on the success of any irrigation scheme and suggests, apparently as the best thing that can be done, to sweep away the embankments and let the rivers take their will.

7 That the floods in the Mahanuddee are as destructive as those of the Kajooree seems improbable when it is observed that the remissions on account of inundation

in

in Cuttack district have in the last quarter
century amounted to only Rupees seven thousand, Rs 7,695
six hundred and ninety five whilst those
in Pooree have amounted to Rupees three Lacs, Rs 3,31,303
thirty one thousand three hundred and three

8 That irrigation would have some
chance of being profitable is shewn by the
fact that remissions on account of draught
in Cuttack district amounted in the same
period to Rupees twelve Lacs, twenty seven Rs 12,27,075
thousand and seventy five and in Pooree
district to Rupees four Lacs forty nine thousand, Rs 4,49,761
two hundred and sixty one.

9 That the only practicable course is to
throw down the embankments and let the
rivers work their will may be established as
it was considered to be established in the case of
the Damooda after years of careful investiga-
tion and thought. But that such a treatment
solution of the difficulty should be adopted
before any proof has been brought forward of
the impracticability of scientific regulation,
and when it is known that the existing em-
bankments have been made at haphazard
and without any general plan by former
native authorities or on the merest local

requirements

requirements would be a heavy discredit
to this Department. 97

10. It appears to the Governor General
in Council that orders on the general and
permanent measures to be adopted cannot
be given without extreme rashness until
much fuller data are collected, or are submitted
if they have been collected.

11 What is now wanted is the adoption
of such measures as will alleviate or stave
off threatening evils, until the data for a
full judgment on the case may be available

12 The Governor General in Council
would direct then that in the meantime
the existing embankments should be repaired
with as much judgment and efficiency
as may be possible, that all that the experience
of the embankment officers can suggest in the
use of brushwood, rough stone, and such ex-
pedients, for the protection of the revetment
walls of the city of Cuttack, be done at once,
and that the former orders for the preparation
of quarry material be carried out.

13 Captain Harris should in the mean-
while complete his data, especially with reference
to the capacity of the Mahanuddee and its
offshoots

offshoots, and to a general scheme of improved embankments.—

14. At the same time it seems but rational, on so important and special a question, to seek for that experience which has been acquired in circumstances most nearly allied.— Having regard therefore to the great experience in more or less analogous operations which has been enjoyed by several officers of the Madras Corps of Engineers, the Governor General in Council has resolved to call on the Government of Madras to invite Colonel Arthur Cotton, or failing him, some officer of nearly similar experience to visit Cuttack after Captain Harris's return, and to give the Govt. of Bengal the benefit of his advice on the subject of the regulation of these rivers.

15. Since the preceding orders were drafted your Junior Secretary's letter No. 38 of the 7th instant has been received, from which the Govt. of India is glad to learn that a part of its instructions have been anticipated in the measures now taken for the present security of the city, by raising the revetment and protecting its foundations.

Council Chamber
The 12th January 1858

I have the honor to be &c.
(Signed) H. Yule, Captain
Offg. Secy. to the Govt. of India.

(True Copy)
H. Yule
Offg. Secretary to the Govt. of India.

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No. 152.

From
Captain H. Yule,
Offg Secretary to the Govt of India,

To
H. Forbes, Esquire,
Acting Secretary to the Government
Fort Saint George.

Dated the 12th January 1858

Public Works Dept.
Public

Sir,

I am directed by the Government of India to request that the Right Honble the Governor in Council will be good enough, if possible, to place the services of Colonel Arthur Cotton at their disposal for a short time, in view to his affording this Government and that of Bengal the benefit of his experience and advice as to the measures which it may be advisable to adopt for the regulation of the inundations and the embankments of the Cuttack Rivers.—

The question is closely allied to some of those which have been the subject of Colonel Cotton's attention and exertions in the public service for many years, and it seems to the Governor General in Council but reasonable on so important and special a

a question to seek the benefit of that experience
which has been acquired in fields most nearly
similar.—

3 Printed papers on a part of
this subject have already been transmitted
to the Government of Fort Saint George by
the Bengal Government on the 7th September
last, and a considerable mass of additional
data which has not yet been submitted to
Government has been collected by Captain
J. C. Harris of the Bengal Engineers.—

4 The accompanying copy of a letter
of this date to the Government of Bengal will
assist in conveying a general idea of the present
state of the case.—

5 Should Colonel Cotton's services
be available it will be desirable that he
should not long delay his journey to Cuttack,
visiting this Presidency either before or afterwards
as may be most convenient to himself.—

I have the honor to be
Sir
Your most Obedient Servt
H. Yule
Offg Secy to the Govt of India

Fort William,
The 12th January
1858

Ex. Col.

157
P. W. D.

No. 171.

Extract from the Minutes of Consultation
Under date the 29th January 1858.

Read the following
Official
Letter from the Secretary
to the Govt. of India in
the Department of
Public Works.

(Here recite 1/12 January 1858 No 152.)

It
Ordered that a
copy of the foregoing
letter & of the enclosure
be forwarded to Colonel
Cotton & Major Reed
& that he be requested
to proceed to Calcutta

Public Works Dept. dated 29th January 1858
No. 171 to Lieut. Col. Cotton.

No. 153.

From Officiating Secretary
to the Govt. of India.

To the Secretary to the Govt. of India.

Dated 12th January 1858

Received 27th January 1858

Sir,

With reference to your letter No. 171 dated 29th ultimo, I am directed to request that Lieutenant Colonel Cotton may be desired to proceed to Calcutta without delay, and that he may be informed that the Government of India desire that the Bengal portion of the Irrigation Establishment may be placed under the charge of that officer, and that he may be instructed to make such arrangements as may be considered desirable to adapt for the regulation of the irrigation of the Cuttack Rivers.

I have &c.

(Signed) [illegible]
Secy to Govt of India

No. 153.

Lieut. Col. Cotton
Public Works Dept.
&c. &c. &c.

For the purpose of
carrying out the
views of the Govt. of
India, as early as
practicable after the
completion of the duty
which he is at present
employed with Sir Ex.
No. Comd. in Chief -
- Colonel Cotton will
therefore direct
an to proceeding to
Calcutta whence on
arriving Cockburn will
say.

E. B.

4 Copies to the Military Secy.
1 " " Col. Cotton - Sign.

Public Works 1858 Dept.
Dr. to Cons: 2nd February.

No 171.

Extract Mins: of Cons:
Dated 29th Jany 58.

Requesting Colonel
A. Cotton to proceed to Calcutta
in accordance with the wishes
of the Government of India, for
carrying out the measures for the
regulation of the inundations
and the embankments of the
Cuttack rivers, after the comple-
tion of the duty on which he is
at present engaged with His
Excellency the Commander-in-Chief.

No 53 & 54.

Pub. Dept.
5 V

Barrackpore Bellary, 1 Nov 1858.

2 A Despatch &c.
Sketch from Lt
Patrick Grant
informing the Govt. that
the duty on Thick Colored
Cotton is imposed while
he embodied within a
fortnight from date;, and he has
been directed &c
immediately to proceed
to Calcutta and place
his services at the
disposal of the Govt.
of India —

Fort St. George
29 Dec 1858.

Public Works 1858. Dept.
Dy. to Cons. 2d February

No. 172.

From
The Offg. Secy to the
Govt. of India
Dated 29th Jany. 58.

Intimating, that Colonel A. Cotton has lately proceeded on a tour with the Commander-in-Chief in order to plan under his Excellency's instructions, defensive works for the Arsenals and Magazines in the Cantonments of Bangalore Bellary, and Fort St. George, and that he has been ordered on the completion of the work, to proceed to Calcutta, and place his services at the disposal of the Government of India.

No. 55