M.R.O. 1—77,006—8-6-37.

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MADRAS RECORD OFFICE.

Government of Madras.

Public Works **DEPARTMENT.**

G.O. No. 342-345	141-142	Press / Mis.
Dated	18- 1-	1843.

Not to be folded or roughly handled

Read the following papers:—

No. 342. From the Assistant Secretary to the Government of India, Public Works Department, to the Joint Secretary to Government, Public Works Department, (Irrigation Branch,) dated Fort William, 28th November 1872, No. 1,021-I.

In acknowledging the receipt of your letter No. 2,521 of the 25th ultimo, forwarding a Note by the Acting Chief Engineer for Irrigation explaining that it was Mr. Fraser, and not Mr. Thornhill, who by an erroneous estimate misled the Government of Madras origirally as to the return to be obtained from the Madras Water Works Project, I am directed to draw your attention to the last paragraph of this office letter No. 768-I. of the 9th September last, and to repeat the request that the Government of India may be furnished with a *complete* copy of the correspondence (including the Special Committee's Report) which accompanied Colonel Carpendale's letter No. 2,172 of the 23rd August 1871, submitting the revised scheme for sanction.

2. I am also to inquire whether any, and if so what, notice has been taken by the Government of Madras of Mr. Fraser's error above mentioned.

No. 343. From the Superintending Engineer, 3rd Division, to the Secretary to Government, Public Works Department, dated Bellary, 30th November 1872, No. 2,011.

I have the honour to enclose a letter from Mr. Fraser, C.E., Executive Engineer of Bellary, requesting that certain correspondence regarding the Red Hill Lake enlargement may be furnished to him.

No. 581, dated 28th November 1872.

From W. FRASER, Esq., C.E., Executive Engineer in charge of Bellary Range, to the Superintending Engineer, 3rd Division, dated Bellary, 28th November 1872, No. 581.

My attention has been drawn to a paragraph in the *Madras Athenæum and Daily News* of the 12th instant, in which allusion is made to some correspondence between the Supreme and Madras Governments regarding the Madras Water Works.

2. The question discussed appears to be *by whom were the Madras Government misled* regarding the profitable return from the storage works, that is, the area of land and the probable quantity of water available for irrigation.

3. From the article in question it seems that, eventually, the Madras Government arrived at the conclusion that they had been misled by the statements in my report.

4. As I consider this conclusion unjust towards me, and as I am desirous of placing the facts in my defence before the Government, I have the honour to request that you will be good enough to obtain for me a copy of the correspondence referred to.

No. 312.

No. 344. *Note by the Chief Engineer for Irrigation.*

Mr. W. Fraser having seen in the *Athenæum and Daily News* of the 12th ultimo an article on the Madras Water Works Project, in which it is stated that

the Government were misled relative to the probable returns from that project by him, has applied for a copy of the correspondence to enable him to place the facts before Government.

2. The part of the article in the *Athenæum and Daily News* to which Mr. Fraser refers is an exact re-production of paragraph 2 of the letter No. 2,521, dated 25th October last, to the Government of India, and that Officer is therein stated to have misled this Government on two points, namely, as to the probable return from new lands to be brought under irrigation, and as to the quantity of water likely to be available for irrigation.

3. Mr. Fraser's statement on the first point is contained in the last part of paragraph 20 of his report, printed in Proceedings, Madras Government, of the 11th April 1866, No. 1,102, and it runs thus:—"The general difference between the assessment on dry and wet cultivation in the vicinity of Madras is 5 Rupees an acre, but as the land to which this water could be applied pays nothing now, we may take the increase at 7 Rupees an acre, which on 8,571 acres would amount to nearly 60,000 Rupees a year." He goes on to say "if this calculation is even nearly correct, the return on the irrigation part of the project alone would yield a fair percentage on the entire amount proposed to be expended." Upon what information Mr. Fraser based his remark that 5 Rupees an acre is the "general difference between the assessment on dry and wet cultivation" is not apparent from the papers, but it would seem that he supposed that the anticipated revenue returns would be subjected to examination in detail, and confessedly the area he expected to irrigate was defined merely as a portion of the large extent of waste lands known to be commanded by the proposed reservoirs, so that his argument could at best have been founded only on analogy.

4. The Government unfortunately appear to have mistaken Mr. Fraser's assumption for an ascertained fact; paragraph 7 of the Order on the report accepts the calculations given in the latter; and, in paragraph 6 of the letter No. 1,376 of the 30th April 1866, to the Government of India, they speak of the waste land to be irrigated as being "susceptible of being improved to yield an assessment which, though calculated by Mr. Fraser at 7 Rupees, may, in the opinion of this Government, range considerably higher, owing to the proximity of the lands to the Presidency."

5. So far as I am able to judge Government were misled on this point, not so much, if at all, by Mr. Fraser, as by the geographical position of the land which, until quite a recent date, it was thought might properly be assessed at a high rate. It was, indeed, only after an accurate investigation made by the Director of Revenue Settlement that the real circumstances of the land were discovered, and it became known that, notwithstanding its proximity to the Madras market, it would bear but a very low, instead of an exceptionally high, rate of assessment.

6. There is a remark in Mr. Fraser's report which is apparently much at variance with the opinion of the Committee. He says (paragraph 19 of the report) "most of the waste lands under these lakes is of an unusually fruitful character, being, for the most part, alluvial deposit." The Committee, on the other hand, allude* to "the poverty of the soil," and again at the end of paragraph 11 they say, "The apparent leniency (referring to low average rate of assessment) is readily accounted for by there being no really good regada or other rich lands to take into account."

* Report, Proceedings, Madras Government, 23rd August 1871, paragraph 9.

7. The second point on which Mr. Fraser is deemed to have misled the Government is the quantity of water likely to be available for irrigation. There have been many opinions on this subject; the data have all along been, and still are, very imperfect, and there is nothing better than opinions, or deductions from insufficient data, even now available. Comparing, however, Mr. Fraser's calculations, which will be found in paragraph 18 of his report, with the latest conclusions, namely, those contained in the report of the Committee and its Appendix A, the following results will be exhibited.

8. Mr. Fraser estimated that the lakes would hold in round numbers 138½ millions of cubic yards, and, on the one hand, he intimated that he did not take credit for any additional supplies, which undoubtedly would be received, nor, on the other hand, did he make any deduction for evaporation and absorption. He showed, moreover, that deducting the water to which existing cultivators under the tanks had a claim, there would remain 93½ or 114 millions of cubic yards, according as that claim was taken to include the average supply received, or the maximum retainable, by the unimproved reservoirs, and then he assumed that 100 millions might be safely taken as the quantity to be disposed of; allotting 40 millions to the supply of Madras, the remaining 60 millions were supposed to be available for the extension of irrigation. Turning now to the report of the Committee and its appendix, it will be seen that the late Major Ryves made his calculations in a somewhat different manner. He thinks that the tanks may receive and store in such a season as 1870, the only year for which a detailed record of the freshes was in existence, 200 millions of cubic yards between June and December; but, on the supposition that the freshes of that year were more than usually favourable, he takes 160 millions as the quantity likely to be stored, and from this he deducts 45 millions for evaporation and 32 millions for town supply, leaving 83 millions for existing and prospective irrigation. He allows 7,545½ cubic yards per acre instead of the 7,000 allowed by Mr. Fraser, both allowances being hypothetical; and, making this allowance on 4,980 acres of existing cultivation the balance available for extension of irrigation becomes 45 millions of cubic yards against Mr. Fraser's 60 millions. Now, the area of the two lakes when quite full is about 32 millions of square yards, and so the above allowance of 45 millions of cubic yards for evaporation is at the rate of nearly 1½ yards in depth over the maximum area. During a considerable part of the irrigation season, however, the diurnal loss by evaporation would be more than compensated for by rainfall and local drainage, so that it is perhaps more than probable that Major Ryves' deduction is in excess of what is necessary. At any rate there would seem to be nothing misleading in Mr. Fraser's calculations of quantity. His views of the capability of the Cortiliar to fill the tanks has so far been confirmed, for there has been no want of water hitherto; the rest depends upon the special circumstances of the season, and no one can accurately estimate the details upon which the quantity of irrigation water will depend with-

out far more information in the shape of records of supply received, amount of loss by evaporation, rainfall, etc., than is at present, or indeed is likely to be, available.

9. I may notice in conclusion that the full level of the water in the Cholaveram tank has been fixed* for the present at 1 yard below Mr. Fraser's limit, or 5 yards above the old calingulah crest level, the reason being that the change in the arrangements for crossing the Boosykal valley by a single bank and weir, instead of a double bank and aqueduct, caused the flooding of valuable lands, and it was thought advisable therefore to reduce this submergence to a minimum by lowering the full supply level in the reservoir. This alteration reduced the capacity of the reservoir by about 8 millions of cubic yards, and of this Mr. Fraser, of course, had no knowledge, while it is uncertain, and unascertainable from his memorandum, whether Major Ryves was acquainted with this fact.

* *Vide* paragraph 7, Clause 12 of the Executive Engineer's letter No. 1, dated 1st January 1870, printed in Proceedings, Madras Government, 26th April 1870, No. 1,100.

FORT ST. GEORGE. (Signed) J. MULLINS, Lieut.-Colonel, R.E.,
11*th December* 1872. *Chief Engineer for Irrigation.*

No. 345. ORDER THEREON, 18th January 1873, No. 171.

IRRIGATION, No. 28.

ON a further consideration of the circumstances attending the first approval of the Madras Water Works Project as submitted by Mr. W. Fraser, the Special Executive Engineer employed on its preparation, the Right Honourable the Governor in Council is of opinion that that Officer cannot be held responsible for the difference which has been found to exist between the rate of assessment on waste lands under the tanks as at first estimated, and that which, after investigation, it has been deemed practicable to impose. Mr. Fraser's assumed rate has been shown to be incorrect, but as he was no authority on this particular subject, and as he manifestly did not expect the Government to accept his calculations without these being first confirmed by the Revenue Officers, the Government (who omitted thus to verify them) were themselves responsible for the erroneous estimate of the financial value of the project, on which their recommendation for its sanction by the Government of India was based.

2. The Government are likewise of opinion that Mr. Fraser's estimate of the quantity of water likely to be available for the extension of irrigation was as accurate as could reasonably have been expected, taking into account the data available, which data were clearly set forth in his report.

3. The Government of India will be informed of the conclusions at which His Excellency in Council has now arrived, and His Grace the Secretary of State for India will also be addressed on this subject.

(Here enter No. 172, dated 18th January 1873.)
(True Extract.)
(Signed) J. MULLINS, Lieut.-Colonel, R.E.,
Joint Secretary to Government.

To W. Fraser, Esq.
To the Chief Engineer for Irrigation.
" Revenue Department.

Exd. E. C. Shunker.

PUBLIC WORKS DEPARTMENT,
FORT ST. GEORGE, 18*th January* 1873.

No. 346.

No. 172.

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
PUBLIC WORKS DEPARTMENT.

IRRIGATION, No. 29.

SIR,—I am directed, with reference to the Acting Joint Secretary's letter No. 2,521, dated 25th October 1872, and, in reply to the Assistant Secretary's letter No. 1,021-I. of the 28th ultimo, to transmit, for the information of the Right Honourable the Governor-General in Council, a copy of the order as per margin on the subject of the erroneous estimate of the anticipated returns from the Madras Water Works Project, which was laid before the Government of India when this project was first submitted for sanction in 1866.

Letter No. 1,376, dated 30th April 1866.

2. I am further to express the great regret of this Government that, in the first instance, the revenue side of the question was not fully examined, and that the geographical position of the land was, as it really appears to have been, assumed to render certain the reasonableness of a rate of assessment, which has since been shown to be so greatly in excess of that which can with fairness be levied.

3. His Excellency in Council, I am to say, is sorry, that, when the Government of India called for information as to the incidence of the responsibility for the incorrectness of the opinions expressed with regard to this project, the real character of Mr. Fraser's calculations of returns was not rightly apprehended.

4. It may be here noticed that, at the time the Madras Water Works Project was brought forward, there was no one whose special duty it was to examine completely its several bearings and to take care that all requisite information with regard both to its engineering and revenue details was duly obtained and reviewed. This circumstance, while it does not excuse, does in some measure account for the circumstances noticed in this correspondence.

5. The papers called for by the Government of India are herewith transmitted.

I have the honour to be,
Sir,
Your most obedient servant,

Lieut.-Colonel, R.E.,
Joint Secretary to Government.

Exd. E. C. Shunker.

PUBLIC WORKS DEPARTMENT.

No. 3 of 1873.

TO THE RIGHT HONOURABLE

THE SECRETARY OF STATE FOR INDIA.

My Lord Duke,—An error having been committed in attributing to Mr. W. Fraser the blame of misleading this Government with respect to the water supply likely to be available for, and the returns to be expected from, the Madras Water Works Project, and it being probable that the letter to the Government of India containing this erroneous statement will have been transmitted to your Grace, we think it right to transmit, for your information, the enclosed copy of our Proceedings and of the letter which has been addressed to the Government of India in connection therewith.

Proceedings No. 171, dated 18th January 1873.

2. We much regret that any such mistake, as was made six years ago with regard to this project, has occurred, and we trust that the greater care, which is now bestowed upon the examination of all Irrigation projects supposed to be of a remunerative character, will prevent a recurrence of the disappointment which has resulted in this instance from want of sufficient investigation at the proper time.

We have the honour to be,
My Lord Duke,
Your Grace's most obedient,
humble servants,

Fort St. George,
23d January 1873.

Exd. E. C. Shunker.

FORT ST. GEORGE.

PUBLIC WORKS DEPARTMENT.

Letter to the Right Honourable the Secretary of State for India.

Dated 23 January
No. 3 of 1873.

FORWARDING, with remarks, papers on the subject of the erroneous estimate of the anticipated return from the Madras Water Works Project.

List of papers submitted to the Government of India, connected with Letter No. 172 dated 18th Jany/73.

1 Report by the Asst Director of Revn Settlement to the Secretary to the Board of Revenue regarding the approximate set of Rates for the various soils in Sydapett and Saidapett.

1 Copy of Govt No 1100 dated 26th April 1870.

1 —do— 1578 —do— 5th June 1871 to Collr with a Copy of Govt in the Revn Dept No 939 dated 29th May 1871.

1 Copy of Govt No 2171 of 23d August/71

1 Copy of Memorandum by Colo C. A. Brett Rd on the Estimate for completing the Red Hills & Cholaveram Tanks Enlargement.

Dept 27/1/73.

probable that the letter
of the Government of India
containing this erroneous
statement will have been
transmitted to your Grace
we think it right to
transmit for your infor-
-mation the enclosed
copy of our Proceedings
and of the letter which has
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-munerative character,
will prevent a recurrence
of the disappointment,
which has resulted in
this instance from want
of sufficient investigation
at the proper time.

We. 14/12/72

25

Public Works Department

Relative from Sir Alex. Arbuthnot

Letter to the Right Honorable the Secretary of State for India

Dated 23rd January No 3 of 1873

Encl 4 Copy sent per Overland Mail on the 31st January 1873.

Copy sent to the Govt of India on the 31st Jany/73.

Forwarding with remarks, papers on the subject of the erroneous estimate of the anticipated return from the Madras Water Works Project.

Read.

Sir. Alex. Arbuthnot.

From the Govt of India (P.C. No 1021 of 28th Nov/72
From the Chief Engr 3d Dist (P.C. No 2011 of 30 Nov/72

" Chief Engr Trichy (P.C. No 312 of 11th Dec/72

On a further consideration of the circumstances attending the first approval of the Madras Water Works projects as submitted by Mr. W. Fraser, the Special Executive Engineer employed on its preparation

the Right Honorable the Governor in Council is of opinion that that Officer cannot be held responsible for the difference, which has been found to exist between the rate of assessment on waste lands under the Tanks as at first estimated, and that which, after investigation, it has been deemed fair and reasonable. Mr. Fraser assumed rate had been shown to be incorrect, but as he was no authority on this particular subject, and as he manifestly did not expect the Government to

practicable to

(who omitted these words by error)

to accept his calculations without these being first confirmed by the Revenue Officers, the Government were themselves responsible for the erroneous estimate of the financial value of the project, on which their recommendation for its sanction by the Government of India was based.

2 The Government are likewise of opinion that Mr. Fraser's estimate of the quantity of water likely to be available for the extension of irrigation, was as accurate

accurate as could reasonably have been expected, taking into account the data available, which data were clearly set forth in his report.

3 The Government of India will be informed of the conclusions at which His Excellency in Council has now arrived, and His Grace the Secretary of State for India will also be acquainted on this subject

H. E. &c.

To

3 to P. Fraser Esqre.
5 " Ch. Engineer for Irrign
21 " Rev Dept
Desp 23/6/73.

To

The Secretary to the Government of India.

Sir

I am directed with reference to the Acting Joint Secretary's letter No 252 dated 25th Apr 1873, and in reply to the Asst Secretary's letter No 1021 I of the 28th Ultimo to transmit for the information of the Right Honorable the Governor General in Council a Copy of the order as per margin on the subject of the irrigation estimate

I

of the anticipated returns from the Madras Water Works project, which was laid before the Government of India when this project was first submitted for sanction in 1866:

Letter No 1376 of 30th April 1866.

2 I am further to express the great regret of this Government that, in the first instance, the Revenue side of the question was not fully examined, and that the geographical position of the land was, as it really appears to have been, assumed to render certain the reasonableness of a rate of assessment, which has since

since been shown to be so greatly in excess of that which can with fairness be levied.

3. His Excellency in Council, I am to say is sorry that, when the Government of India called for information as to the incidence of the responsibility for the incorrectness of the opinions expressed with regard to this project, the real character of Mr. Fraser's calculations of returns was not rightly apprehended.

4 It may be here noticed that, at the

the time the Madras Water Works project was brought forward, there was no one whose special duty it was to examine completely its several bearings and to take care that all requisite information with regard both to its Engineering and Revenue details was duly obtained and reviewed. This circumstance, while it does not excuse, does in some measure account for, the circumstances noticed in this Correspondence.

Tho

5 The papers called for by the Government of India are herewith transmitted.

14/12/72

Desp. 23/1/73 with 35 Encls
Copy of Govt 172 of 1873.
Papers as per list attached
Desp. 23/1/73.

P. W. Letter Received 23 Jany 1873.

Nos 5-949, 6120 & 6218

Govt. of {1872} Madras.

PUBLIC WORKS.

To

W. Fraser Esquire

Dated

Read. Encl.

G. O. 18th Jany 73. No. 171-172.

Nos. 343 to 345 & 346

Das Public Works Proj. - Papers & orders & papers relating to the subject of the erroneous estimate of the anticipated return from the Madras Public Works Project

Forwarded, with remarks, & papers on the subject of the erroneous estimate of the anticipated return from the Madras