

(1) Number of pages _____

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MADRAS RECORD OFFICE

Government of Madras

Public works. DEPARTMENT

G.O. No.	759-760	Press
B.P. No.		Mis. <i>file</i>
528 to 536		
Dated	19-3-1874	195

Not to be folded or roughly handled

All communications
should be
the Secretary

No. 696 I.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

IRRIGATION.

To

The Joint Secretary to the Govt. of Madras
Public Works Department
Irrigation Branch

Simla, 2nd October 1897

Sir,

I am directed to acknowledge
the receipt of your letter No. 2016 of the
August last, and accompanying
furnishing the information called for
in Despatch from the Secretary of State
No. 71 dated the 31st July in connection
with the Lungum project, and to
transmit in reply a Note by the
Accountant General on the subject.

2. I am to state that the Government
General in Council considers it proper
that the points mooted therein should
be

be discussed and cleared up before the matter is again submitted to the Secretary of State.

3. A further report will accordingly be awaited.

I have the honor to be,
Sir,

Your Most Obedient Servant

J. W. Rindall Coll. R.E.

Deputy Secretary to the Govt. of India

Off. 1720
Sd/-
The Govt. of India
Sd/-
The Joint Secretary
to Govt. P.W.D.
Mr. Brock
N. 696 I
no.
Dated 27 Oct-73
Recd 13 3
Encl. 1 25/10
P.L. 27 19th March 74
L.B. 528.13.
Call for a
further report
on the Tungur
Project
P.W.D.
27/10/74

No. 55.

Memorandum

The Note of the Accountant General Public Works Department on the Tungur Project contains his views of the probable cost of, and the returns from, the works. According to his calculations, the amount of the estimate of Rupees 25,83,800 submitted to the Government of India should be raised to Rupees 32,38,729 and he reduces the returns from Rupees 203,800 to Rupees 1,87,280.

2. The difference in the total of the estimate is thus made up—

Establishments	Rupees—	3,65,406
Value of land in the beds of certain tanks to be abandoned	"—	1,72,825
Preliminary expenses	"—	46,698
Reductions of cost of works mentioned in para 13 of Note in Pros. Madras Govt. 28 th July 1870	"—	70,000
Total Rupees		6,54,929

* erroneously entered by Accountant Genl. as 25,83,000.

With regard to the addition for establishments, it may be noticed that the estimates provide for the special establishments required for carrying out the works, and not for a share of establishments which, whether the project be carried out or not will have to be paid for. According to my view of the question it is clearly incorrect to charge to a project expenses which are not connected with it, at least in considering its financial merits. Such a course must evidently be misleading. It is one thing to say that Public Works establishments cost about one fourth of the outlay on works, and another to suppose that the cost of a particular project should be enhanced by one fourth of the amount of its estimates for works, when, as is certainly the case, a large part of this establishment outlay is connected with the general administration of the Department, and is

I cannot admit this argument

is independent of the project under consideration. The difference, between the estimate provision and the sum considered by the Accountant General as necessary, will not remain in the Treasury if the project be abandoned, and it should not affect the question as to whether on financial grounds the scheme is one which may properly be carried out.

3 A similar reasoning appears to me applicable to the sum expended on preliminary expenses. These, which actually amounted to Rupees 4,8879 and which it has been suggested in the letter of the 31st December 1873 from the Government of India should be increased by Rupees 2233 for a share of Direction and account, may properly, as regards the actual outlay be deemed a part of the total cost of the project; but the money has been spent

spent, and in deciding whether the scheme should be carried out, this past outlay is not one which can be considered to influence the propriety of future expenditure.

4) The reduction on works amounting to Rupees 70,000 has to be deducted, with an addition of 25 per cent for establishments, from the Accountant General's total.

5) Again, in calculating the returns, the Accountant General considers it needful to make a deduction of Rupees 16,520 on account of the average cost of the Land Revenue collections in the Madras Presidency. If there be the slightest ground for supposing that the execution of the project will add to the cost of the Revenue establishments of the Nellore District, the deduction of that increase from the estimated enhancement of the Revenue would be proper enough, but

10
but to imagine that an addition thereof of Rupees 1377 monthly will be necessitated by the work would certainly be incorrect.

6) If the Accountant General's mode of looking at a project be right, it would seem to be necessary not to stop where he does, but to seek for indirect returns as well as indirect charges. It would not be difficult to show that the Stamp, Abkari, and Salt Revenues increase in proportion to the land Revenue, when the latter is enhanced by improved agricultural conditions, and marked instances of such results, as in the case of the Godavery District, would not be far to seek. It would not be wise however to pass from the region of facts to that of conjecture, and it seems to me more proper to consider a project with reference to its direct

cost

cost and the direct returns, independently of the addenda which might be added almost without limit to either side of the balance sheet. To take a popular example, the direct cost of a hat is about a guinea, and generally people are content to consider the cost at the shop price, or at most at the price including delivery at their own doors. It would be easy however to show that this is not the real cost, and that wear and tear of other apparel, including the old hat, should be taken into account, not to mention the time involved in making a suitable selection, while on the other hand on the indirect returns to be derived from the purchase much might be said.

7 The Accountant General has referred to the small sum, Rupees 25,185, allowed for temporary buildings and contingencies, but this sum is a special

11
special provision, and is independent of the ordinary per centage to which he alludes, which will be found in the estimates of particular works.

8 With regard to the time which may be occupied in the execution of the project, it is certainly very possible that 5 years may not suffice and that, even at the end of the 7 years allowed by the Accountant General, the works would not be finished, but it is hoped that the returns as the works proceed will very nearly balance the interest on the outlay, and that, even if 10 or 12 years should elapse before the last work is completed, the financial result will not be materially affected. The Nellore Ancient works have been in progress for 20 years and are not yet done with, but the returns have all along been satisfactory. Thirty years have not sufficed to finish

finish the Godavery Delta works, but the results have not been the less satisfactory. Another 10 years will probably be employed in doing all that is necessary or proposed; but, so far as I am able to judge there will be no great accumulation of imbalances interest against them. Nevertheless I would not wish to convey the impression that I deem this Tungam project to be as profitable a scheme as even its near neighbour at Nellore. The papers contained in the Proceedings of the 28th July 1870 show very conclusively that its circumstances do not admit of so good a return, seeing that the supply of water has to be secured during a very short period, and that consequently the works are of very large relative capacity and therefore expensive; but, if direct cost and direct returns be alone considered, it would seem that a net return of 6 or 7 per cent. may be expected. The
really

5/12
really important matter is the selection of a competent officer to carry out such a project as this. I have already expressed the opinion that the work estimates are ample, and that some material reductions are feasible; with an efficient Executive Establishment the results will, I think, be better than have been suggested; but it would be useless to attempt to estimate with accuracy the outlay, without knowing ^{whether} the officer in charge will be an able, or merely an ordinary, Executive Engineer. I should certainly estimate the difference of cost in the two cases at 15 to 20 per cent, and that alone would make such a material difference in results, as to make the project profitable in the one case, and a losing investment in the other.

9 When the order of the 18th March 1871 No. 818 was passed, the returns from the irrigation under this project were
estimated

estimated from the reports of the Revenue
Settlement Department, but I under-
stand that since then the assessments,
which were at that time proposed,
have been settled, and that it is now
more accurately known what the
returns would be in the event of the
tracts of country affected being fully
irrigated. Perhaps therefore the Govern-
ment will wish to obtain a further
opinion from the Revenue Department
on the returns to be expected, before
replying to the references made by the
Government of India. -

Fort Saint George
20th January 1874

Colundin

Leath Col. R.E.

Chief Engineer for Irrigation -

To

The Secretary to Government

Public Works Department.

From
The Accountant General
Public Works Department
No. 281.
Simla, 30th September 1873
Received
Note by Accountant
General, Public Works Dept.
on the Estimate for the
Lungum Project.

The cost of this Project
is estimated to amount to
Rs. 2872,825.
Deducting sales of
land, of which more
hereafter the charge
is estimated to
amount to Rs. 27,00,000

But the Chief Engr
considers that the
provision of Rs. 319,200
set down for Estate is
too high, and reduces
it to Rs. 273,000.
thus bringing down the
estimated cost to Rs. 2583,000.

Now a provision of Rs. 319,200

P. 3. 1894. Separate.

No. 55.
No. 651.

From
The Chief Engineer for
Bungabon
To the Secretary to Government
P. M. C.

Dated 20th January
P. M. C. 1874.
Received 4th 1874.

Enc. 3.

Encs: on the Note of the
Accountant General, P. M. C.
containing his view of the
probable cost of and the
returns from the Lungum
Project.
No. 759-760-19-574.

No. 5280.
No. 1. 1874. 1874.

or Rs 273,000 for Establishment
 is certainly too low. The former
 represents about $12\frac{1}{4}$ per cent
 of the probable outlay on works,
 and the latter $10\frac{1}{2}$ per cent, a per
 centage which all our experience
 goes to show can never be
 attained. It is true that in
 para: 101 of the Executive
 Engineer's report, and at para: 14
 of the Chief Engineer's review a
 detail of the Establishment
 to be employed is given, but
 in that detail no provision
 appears to be made for
 Travelling allowances or
 contingencies or for proportionate
 share of charges for Direction and
 account. Moreover it is assumed
 that the work will take 5
 years to complete. But the
 difficulty in procuring labour
 in the District, referred to in the
 Chief Engineer's report will
 it is very probable, cause
 slow progress to be made in

its execution, and if the work
 is finished in 7 years it will
 be as much as can be expected.
 On the whole I think it will
 be necessary to increase the
 provisions for Establishment
 to 25 per cent of the outlay
 on works. The amount of the
 estimate will then stand
 as follows:

works	2,553,625
Establishment @	
25 per cent	638,406
add for	
Preliminary	
expenses not	
included in	
Estimate	46,698

Total 3,238,729
 In this amount the provision
 for contingencies and buildings
 amounts to the small sum of
 Rs 25,185, or about one per
 cent of the provision for works.
 The ^{per}centage might be sufficient
 but I doubt it. 5 per cent is the
 nominal rate, but the reduced amount
 might be allowed to stand as the
 Chief Engineer seems sanguine
 that

that the cost of the works can be reduced.

2. I have made no deduction from the amount of the estimate on account of value of lands in the bed of tanks to be abandoned. The sale of the right of occupation of that land is expected to realize a sum of Rs 172,823 but this amount may fairly be taken as a set off to the loss of revenue on the lands that will have to be taken up for the construction of the work.

3. The Chief Engineer estimates that the charge for simple accumulated interest previous to the work being brought into operation is likely to amount to Rs 280,219 but in the calculation on which that charge is arrived at the interest is taken on mean outlay of the year and it is expected that the project will be brought into operation

I prefer the
but the fact shall
be contained.
L.D.

i.e. the side
which demands
the work - L.D.

operation in 5 years. But to be on the safe side, the interest might be calculated on the total outlay of the year and it might be assumed that it will take 7 years to complete the work. In this view the charge for interest is likely to amount to Rs 391,132 thus

	Outlay	Outlay to end of year	Simple interest at 4 1/2 per cent
1 st Year	183,000	183,000	8,235
2 nd	5,00,000	683,000	30,735
3 rd	6,00,000	1,283,000	57,735
4 th	8,00,000	2,083,000	93,735
5 th	6,00,000	2,683,000	1,20,735
6 th	3,00,000	2,983,000	1,34,235
7 th	2,55,729	3,238,729	1,45,742
	<u>32,38,729</u>		<u>5,91,132</u>

In these figures I have made no set off to the revenue that will be derived while the work is under construction, as it is only reasonable to suppose that

thus?

that such revenue will be absorbed by the working expenses

As regards the prospects of the revenue likely to be derived from the work it is of course not easy to give any figures that may be accepted as perfectly reliable, assuming that the proper credit to Irrigation works should be the difference between the dry and wet rates of assessment.

I beg a reference to the following figures:

Original area of land likely to be brought under irrigation	85,146 acres
The present area is	54,720
On the whole, the difference between dry and wet rates of assessment would yield an annual revenue of Rs.	30,974
To this might be added the probable amount that will be saved on account of remissions of revenue viz	123,896
So that the probable revenue might thus be	59,000
The working expenses are estimated to amount to Rs.	173,896
But this does not include the cost of collection, which in the case of the Madras Land Revenue amounts to 9 1/2 per cent of the gross revenue	50,720

Net probable Revenue

123,176

or about 4 per cent of the capital outlay.

5. Taking the figures given in the Madras letter for gross revenue the result is

Revenue	Rs. 2,38,000
Expenses	50,720
Balance	187,280

Percentage on Capital outlay

Percentage on Capital outlay plus simple interest accumulated during construction of work

On the whole if the estimate for the Project as increased by me is not exceeded the returns might amount to about 4 1/2 per cent, but I am inclined to doubt even if this per centage will be realized.

P. O'Connell Esq. B.A.
Offg. Accountant General

Hll 1/10

Am

Read the following:-

Briefte } H. E. No. 55 of 20 Jan/74

His Excellency the Governor in Council resolves to refer to the Revenue Department the question as to whether any revision of the estimated returns from the Lungum Prospect, as given in the papers received in G.O. N^o 818 of the 18th March 1871, has been rendered necessary by

Carl

1/17/2013

L. M. 65174
 3
 1874
 1874
 1874

by the completion
of the operations
of the Revenue
Settlement Depart-
ment in the part
of the Vellore Dis-
trict, which would
be affected by this
scheme.

W. 24/1/74

W. M.

To The Revenue Dept.,
-- Chief Secy for M^s
-- Dist Secy Vellore

Q. 2 and 3 24/1/74

Ch 6 Feb 7/74

N. 657.

13

This is no doubt
a serious check to the
Sungam project. It
cannot be executed
from Provincial Funds
and as a loan work
it is no longer admissible
- at the rate of return
made out by the Government
of India.

I do not agree with
the Chief Engineer of
Irrigation in the objection
taken to the increased
Estimate for establishment.
The fact is that the
P. W. Department do
not work as a whole
at

at least Cost for materials
must be 25 per cent
and the Government
of India are justified
in distrusting assurances
of economy which are
not supported by fact
or experience. The charge
cannot be lowered
by reducing the cost
of the work and I think
that the Plans for should
be relegated to the
Engineer Department
for revision and
proportionate reduction
if possible. A part of
the project might possibly
be left out for the present.

Preliminary Expenses
are a proper item in
the total expenditure
of the project.

I think that the
proposal to set off
Rs 17,20,000 - Sales of tank beds
against loss of revenue
in land is acceptable
if administration and
verification of this should
be done and amount
if possible, reduced
he might accept
by 2 years as the period
likely to be required
to calculate the revenue
which will fall in from
year to year. I think
if not working expenses
which should absorb
all anticipated revenue
The Collector should
be entrusted with the Revenue
and demand for the reference
to revised account
and

and report

9/2 100'

I concur in the Major's position that only the additional establishment which may be entertained should be charged against the new work. If we force the project absolutely to remain, not a man of the regular establishment could be dispensed with in consequence - and therefore to charge any portion of its cost to this work is a financial refinement bordering on the puerile folly. If the object here is to ascertain what our establishment costs relatively to the work it does, then we may properly take into account the ~~new~~ cost of all work done and say the net charge is so much per cent. on the work done - but when, as here, we want to know what a certain new work will cost, it seems to me absurd to charge against any thing but what it will really cost. If the principle enunciated by the Joint Committee be correct, why should we stop

if with Col. Walker - why should not we charge this new work with the same of Col. O'Connell's pay - and Col. Brindley and in deed of our pay - and the pay of other pay & so on? Where are we to stop if we adopt this course? I would fight this position out. There is another way of looking at it. Suppose we annually spend 100,000 lbs. on public works - employing an est. costing 25,000 lbs. for the purpose, i.e. we spend on work done 75,000 lbs. - & on the other hand that we do 25,000 lbs. - then we are decided which will cost 50,000 lbs. and yield a ^{a possible return} of 25,000 lbs. But we wish to know ex ante how much the time of 5,000 lbs. - is it worth while

can buy these men - in other
words to employ an extra
man of 30 loaves for an extra
time of 120 loaves than for an extra
man of 25 for 75 loaves?

I have made a few notes
on Col O'Neill's memo.

J. D. L. 12/2

The important question in this case, between
the G. I. and the J. I. is whether, in
calculating the debt for the
proposed work, the charge should be
included for the professional fee
of one fixed estate agent in the
construction of the work. I understand
that if this charge is not included, the

work will, in respect of the account &
profitable return to be expected from it,
satisfy the conditions laid down for the J. I.
as regards the grant of loans for
irrigation projects. If otherwise, it
is to be decided, that it will not satisfy
them. But is this the first time that the
question has been raised? Certainly
now after the G. I. has had to decide
in regard to applications for such loans,
there must surely be some rule,
expressed or understood, as to whether
such a charge is or is not to be allowed.
And if there is such a rule, we must
follow it.

In the absence of such a rule, I confess
that I am rather doubtful whether the
G. I. may not be right in including the

Re-shaping according to
H.R. order 651

charge. It is true that, by the suggestion, the
proportionate cost of the permanent establishment
is not part of the outlay on the work; but the
G. I. may ^{not unreasonably} have considered that
no new irrigation works should be made from
loan funds unless they it was likely to be
so profitable as to diminish the cost of
paid establishment, considered as a percentage
in the aggregate expenditure upon irrigation
works in the Presidency.

I should therefore, myself, even supposing no
rule or practice should exist in favor of the ~~same~~
course being taken by the G. I. be inclined to
contact the question with them. Nor would I
send the estimates ^{as proposed} to the public Dept. for reduction
as I think it is very important that the revenue
charges should be given. I think it would be with
reference that the State should not burden
itself with debt, unless for exceptionally
profitable schemes -
I would simply send Mr. J. C. Mullins;
mean, without comment. *W. 28/7/74*

P. W. Dept

759

Proceedings of the Madras Government
Read the following

From the Chief Engineer for
Irrigation } No. E. 557/20 Dated 18/7/74

I am not prepared to
this important project with
re-examination *W. 28/2*

Ordered that the
note by the Chief Eng.
-gineer for Irrigation
be forwarded for the
consideration of the
Govt. of India with
reference to the letters
noted below.

J. P. S.

To *60*
Chief Engineer
for Irrigation } No. E. 557/20
Chennai *W. 28/2*
Despatched 23/3/74
To The Secy. to the Govt.
of India
I am directed to

acknowledge the receipt
of your letter of the
2nd October and 3^d

Received from
circulation to
Paul H. Hinton
Am. B. Soc. Sec. Sec.
A. J. The Governor
of the State of
Illinois
June 27, 1875.

2/3/76

Desp. with LC 23/3/41
25th of Dec. 1799 of 1874

528-530

6514
Govt. of 1874 Madras.

PUBLIC WORKS.

To

The Chief Engineer for
Irrigation
The Secretary to the
Govt. of India

Dated

Recd.

Encl. 3.

G. O. 19 March 1874. 759-700

Nos. 528-529 & 530

Sungum Project. Kallak

22

The Note by the
Chief Engineer for Irriga-
tion on the Sungum
Project, ordered to be
forwarded for the
consideration of the Govt.
of India -