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MIL NADU ARCHIVES

ERNMENT OF TAMIL NADU

PUBLIC WORKS. DEPARTMENT

G.O. No. / B.P. No. 2267-W Press. / Mis.

Dated 15.9.1881 197 .

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PUBLIC WORKS DEPARTMENT.

1/2267

General.
Establishment.

No. 2,267 W.

No. 107.

FROM

THE SECRETARY TO THE GOVERNMENT OF MADRAS,
Public Works Department,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
Public Works Department.

SIR,—In reply to paragraph 10 of your letter No. 681 G. of the 5th May 1881, I am directed to state that paragraphs 4 and 5 of Colonel Mullins' letter, No. 270 I. of 12th April, contained proposals which, if adopted, would to a considerable extent remove the inconvenience caused by the present method of distributing establishment charges.

2. As however it appears from your telegram of the 11th ultimo that these proposals are not considered sufficiently definite, the Honorable the Governor in Council considers it desirable to restate the whole question with a view to its final settlement.

3. Moreover, a reconsideration of the remedy suggested in paragraph 4 of Colonel Mullins' letter above quoted, as based on the actual cost of establishment determined independently according to the circumstances of the several executive divisions, has convinced the Government, that however apparently reasonable, it is impracticable, owing to the necessity in this Presidency of providing a general establishment for the execution of all classes of work indiscriminately (except as regards Local Funds), which though most economical in the general interests, introduces complications as regards the distribution and incidence of the establishment charges which cannot be readily solved in this way.

4. There are in reality two very different and independent questions to be decided: *first*, the amount to be contributed to Provincial Funds from Irrigation, Military, and other Imperial Funds, on account of the general Public Works Establishment, the cost of which is met in the first instance wholly by Provincial; and, *second*, the distribution of the Irrigation share of that contribution between the various heads under which Irrigation expenditure is recorded.

5. With regard to the first question, the Irrigation share of the contribution is by so much the largest that if its amount can be satisfactorily settled, the shares due to the other heads of service are of comparatively small importance, and this letter will therefore have reference mainly to Irrigation.

6. Colonel Mullins' letter above quoted, and the note which accompanied it, show that a reconsideration of the mode of calculating establishment charges is imperatively necessary. In my letter No. 479 W. of 22nd February last, it was shown that by the present system of distributing establishment charges, Provincial Funds had paid no less than Rs. 8,55,000 more than their legitimate share of these charges for the two years 1878-79 and 1879-80, and in my letter No. 225 W. of 27th January last, forwarding the Provincial Budget for 1881-82, it was shown that this excess would amount to Rs. 2,80,000 for the current year, the contributions from "Irrigation," "Military" and "Imperial Other Services" falling short by Rs. 1,71,000, Rs. 43,000 and Rs. 29,000 respectively of their fair amount under an equal

all round distribution proportional to expenditure, and by Rs. 2,19,000, Rs. 40,000 and Rs. 27,000 of what they would be if calculated upon the actual distribution of the establishment now employed.

7. These figures necessarily only dealt with the charges brought forward in the year's programme, but as shown in paragraph 14 of my letter No. 1,697 W. of the 9th July 1881, if the scale of normal establishment therewith submitted be sanctioned a further difference in excess for the establishment due to the proposed increase of charge for the current official year of about 3 lakhs (19·17—16·13 lakhs) and for 1882-83 of about 4½ lakhs (20·64—16·13 lakhs) will have to be provided for.

8. Attached to my letter No. 225 W. was a table showing the revenue and working expenses of irrigation in Madras, Bombay, the North Western Provinces and the Punjaub, from which it appeared that even if a percentage of the revenue in other Provinces, much exceeding the known cost of collection in Madras, were considered as debitable to Revenue, the balance far exceeded the 25 per cent. on works expenditure allowed in this Presidency.

9. An examination of figures for other years shows similar results, and it is believed to be beyond controversy that throughout the provinces of Northern India, where the same establishment is employed in supervision of engineering works and assessment of revenue, if the works establishment be calculated at 25 per cent. on the works expenditure, the balance will be found to be about 16 per cent. on the revenue, while if the Revenue charges be taken at 10 per cent. on the revenue the balance will be found to be upwards of 40 per cent. as against "Works" expenditure only.

10. In Madras, while the Revenue charges excluding the cost of conservancy establishments are under 7·2 per cent. on the revenue, the Public Works Department charges are limited to 25 per cent. on the "Works" expenditure with a small addition on account of special establishments (proportion of Secretary's Office, &c.,) which raises the proportion to about 27 per cent.

11. The principle of adjustment of establishment charges by a percentage on the works expenditure takes no account of the fact that though in this Presidency the revenue is neither assessed nor collected by the Public Works Establishment a large proportion of the work of the latter is nevertheless strictly revenue work, and would be required if nothing whatever were spent upon maintenance of works.

12. This is recognized in the case of the conservancy establishments, which are almost entirely of the class usually understood as "petty," but it has also to be recognized in the case of the superior establishments, both engineering and subordinate.

13. The purely revenue duties connected with the management of irrigation works may be stated as :—

I.—The distribution of water.

II.—The annual assessment of the demand on account of the state on the irrigated area.

III.—The collection of the annual demand.

IV.—Magisterial duties in reference to the Canal Act.

14. On the canals of Northern India the Public Works Officers perform the duties under I, II, and IV, and the Civil Officers collect the Revenue III. While no doubt under II the duties of departmental officers may be onerous, it is thought that the position assigned under IV may in many respects prove advantageous and lighten their general work.

15. The duties under the three last heads are not performed by the Public Works Department in Madras, but the first is so to a great extent, and should be provided for.

16. The extent of this duty varies in different localities, being greatest on the great Delta Systems and other Productive Works, and least on the Minor Works which come under the general head of Irrigation and Navigation.

17. The total revenue due to Productive Works is at present approximately 60 lakhs, and to Irrigation and Navigation 90 lakhs; of the latter two-thirds or 60 lakhs is considered to be directly due to Irrigation.

2/2267

18. It is believed that a charge of 6 per cent. on the revenue due to the former works and 3 per cent. on the latter might legitimately be debited to Revenue. With these additions the Revenue charges in Madras against Irrigation would still be much below those incurred in other parts of India.

19. The debit on account of Productive Works must of course vary with the revenue, but for Irrigation and Navigation it is considered desirable that the contribution be taken at a fixed amount, and I am directed to suggest that this sum be Rs. 1,80,000, being 3 per cent. on 60 lakhs.

20. The debit to Revenue of a certain portion of the establishment charges would relieve to some extent the Provincial Revenues of the weight thrown upon them by the present system of distribution, and if a reasonable grant for expenditure on Imperial Works could always be counted on, the remaining establishment charges might be considered as fairly covered by 25 per cent. upon that expenditure. But the Honorable the Governor in Council is constrained to observe that the grants from Irrigation and Imperial Funds have hitherto been considerably lower than what would be reasonably equitable with reference to actual circumstances. The uncertainty as to what these grants would be, with the resulting doubt as to what will be the ultimate cost to Provincial of the Public Works Establishment has, I am to say, seriously hampered the Provincial finances, and precluded the possibility of providing for works held to be absolutely indispensable in all other provinces. (See also paragraphs 47 and 48 of my letter No. 1,697 W. of 9th July 1881.)

21. In order to avoid this uncertainty in future, I am directed to suggest for consideration that the percentage should be calculated on a minimum grant of Rs. 25,00,000 for Irrigation and Navigation (exclusive of Productive), of Rs. 6,00,000 for Military Works and of Rs. 5,00,000 for Imperial Other Services. In other words that the minimum contribution on account of Public Works Establishment should be Rs. 5,00,000 and Rs. 1,20,000 and Rs. 1,00,000 for the above three heads respectively.

22. This with the debit to Revenue of Rs. 5,40,000 and the special grant of Rs. 2,50,000 promised on account of Protective Works in paragraph 7 of your letter No. 681 G. of 5th May last, would make up a total of Rs. 15,10,000 exclusive of the establishment for "Capital Productive," which for the current year will be about Rs. 30,000.

23. The total cost of Establishment as detailed in my letter No. 1,697 W. of 9th July last is Rs. 2,06,400, and the contribution of Local Funds will not exceed Rs. 90,000, so that the balance falling on Provincial will be about Rs. 4,29,000, and will probably come to not much less than 40 per cent. on the works expenditure.

24. With regard to establishment for Capital expenditure on Productive Works, the Honorable the Governor in Council would propose that in cases where these works form special charges the actual cost of the establishments employed, which will nearly always be less than 25 per cent., be debited to the Works; and that where, as in the case of the Godávari and Kistna Works, they are carried out by establishments employed on general duties, the usual 25 per cent. be charged.

25. The proposals which I am directed to submit may therefore be summed up as follows, that the contribution from Imperial Funds on account of Public Works Establishment charges be composed of—

(*a.*) Rs. 1,80,000 per annum on account of revenue from Ordinary Irrigation and Navigation Works.

(*b.*) Six per cent. on the revenue from Productive Works.

(*c.*) The actual cost of establishment employed on Capital Productive Works where these form distinct charges; in other cases 25 per cent. on the expenditure.

(*d.*) Twenty-five per cent. on all other expenditure with the following minima:—
Rs. [illegible],000 for Irrigation excepting Productive; Rs. 1,20,000 for Military; Rs. 1,00,000 for Imperial Other Services.

(*e.*) Rs. 2,50,000 on account of investigations connected with Protective Works and other large projects.

The above sums to cover all establishment charges including those for conservancy and special establishments.

26. For the reasons assigned in paragraph 2 it is not contended that the principle here advocated gives absolutely accurate results, but these will, it is thought, be found fairly correct as relates to the distribution between Imperial and Provincial, and have the advantage of being in accord with the mode of calculating similar charges in other Provinces.

27. I am further to add that if the Government of India were willing to make a fixed grant of 16 lakhs annually for all establishments other than those for "Capital Productive" (which must, it is thought, remain dependent upon yearly grants), subject to revision from time to time as the grants under "Protective" sensibly increase, as it is hoped may be the case, such an arrangement would commend itself to this Government.

28. In conclusion I am to invite the attention of the Government of India to the correspondence marginally noted and to the statement in paragraph 6 of this letter, from which it will be seen that during the lengthened period over which this discussion has extended "Imperial" has gained and Madras "Provincial" has lost over 8½ lakhs, and to solicit that as a partial compensation retrospective effect may be given to the principles now submitted for consideration, if approved, so far as regards the past year 1880-81, or that at least a sum of 3 lakhs be contributed in adjustment of the accounts of that year—or again, should this be inconvenient that a corresponding sum be given as an additional grant-in-aid to "Provincial" for the current official year.

Letter to Govt. of India, No. 456-B.I., dated 16th July 1880.
Do. do. No. 270 I., dated 12th April 1881, paragraph 5.
Do. do. No. 337 W., dated 8th Feb. 1881, paragraph 27.
Do. from do., No. 581 G., dated 5th May 1881, paragraph 10.
Do. to do., No. 1,697 W., dated 9th July 1881, paragraph 17.
Telegram to do., dated 7th September 1881.

I have the honor to be,

Sir,

Your most obedient servant,

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

Fort St. George,
15th September 1881.

Exd. S. T. Austin.
Spare Copies

3/2267

GENERAL
ESTABLISHMENT.

Govt. of [1881] Madras.

PUBLIC WORKS.

To

THE SECRETARY TO THE
GOVERNMENT OF INDIA.

Dated September, 15th.

Issued

Read *Encl.*

G.O., 15th September 1881, No. 2,267 W.

SEPTEMBER.
No. 107.

DISTRIBUTION OF COST OF THE PUBLIC WORKS
ESTABLISHMENT IN THE MADRAS PRESIDENCY.

Fgj

0/20

Sir

In reply to your
Telegram of the
I am directed to
forward a cert. by Col. Pendleton
Executive Engr
Letter No 270 I J
12th April last containing
definite proposals, which
if adopted would
to some extent remove
the inconvenience caused
by the present method of
distributing establishment
charges -

In forwarding the papers
from your telegram under
reply, and your subsequent
telegram of the -

that these proposals are not considered sufficiently definite, the Govt of the province in Council considers it desirable to secure the whole question, with a view to its final settlement.

There are in reality two distinct and independent questions to be decided; first the amount to be contributed from Irrigation, Inland and Imperial funds on account of the Public Works establishment, which is met in the first instance by Govt & Provincial, and second the distribution of the Irrigation share of that contribution between the various heads under which Irrigation expenditure is recorded.

Colonel Strachey's letter above quoted, and the note which accompanied it, show that a reconsideration of the mode of calculating establishment charges is imperatively necessary. In my letter No 479 dt. 22nd October last, it was shown that by the present system of distributing establishment charges, Provincial funds had paid Rs 2,55,000 more than their equitable share of these charges for the two years 1870/71 and 71/72

With regard to the first question, the proportion of the contribution & so much the largest, that if its amount can be satisfactorily settled, the shares due by the other heads of service are of comparatively small importance, and this letter will therefore have reference mainly to Irrigation.

In my letter No 2256 dt 27th January last, for the Provincial budget for 1872/73, it was shown that this accep. would amount to 2,00,000 for the current year, the contributions from Irrigation, Inland, and Imperial funds for other services [illegible]

by Rs 1,71,000, Rs 42,000 and Rs 29,000 respectively if their fair amounts under an equal all round distribution proportional to expenditure, and by Rs 2,13,000, Rs 40,000 and Rs 27,000, if what they would be if calculated upon the actual distribution.

The establishment now employed.

The form attached to the last printed letter was a table showing the Revenue and Working Expenses of Irrigation in Madras, Bombay the North Western Provinces and the Punjab, from which it appeared that even if a percentage of the Revenue

6/242

in other Provinces much exceeding the known cost of collection in Madras were considered as debitable to Revenue, the balance for exceeded the 25 on works Expenditure per cent allowed in the Rules.

An examination of figures for other years shows similar results, and it is believed to be beyond controversy that throughout British India, if the cost of establishment employed in inspecting & organising work and collecting revenue, & the works establishment be calculated at 25 per cent on the works expenditure the balance will be found to be about sixteen per cent

on the Revenue, which if the be taken at ten per cent on the Revenue the balance will be found the expenditure 2 per cent on the works expenditure -

In Madras, while the Revenue Departmental charges are under ten per cent on the Revenue, the Public Works Dept. charges are limited to 25 per cent on the works expenditure, with a small deduction on account of Irrigation and Special establishments, which raise the percentage to about 27 per cent -

The principle of establishment charges as a percentage on the works expenditure takes no account of the duties in this Presidency the revenue is not collected by the P.W. establishment but a large proportion

including the cost of revenue establishments

a large proportion of the work of the latter is really revenue work, and would be required if not a pie were spent upon maintenance of works -

This is recognised in the case of the revenue establishments, which are almost entirely employed on Irrigation works, but it has also to be recognised in the case of the supervising establishments, both engineering and subordinate -

The land revenue duties connected with the management of irrigation works are 1st The distribution of water and 2nd The making of the annual assessment and Registration duties -

The two last are performed by the P.W.D. in

Incidence, but the first is, to a great extent, and should be provided for -

The extent of this duty varies in different localities being greatest on the great delta systems and other productive works, and least on the minor works which come under the general head of Irrigation and Navigation -

The total revenue due at present on Productive works is at- proximately 60 lacs, and on Irrigation and Navigation 90 lacs; of the latter two thirds, or 60 lacs is considered the direct due on Irrigation -

It is believed that a charge of 5 per cent on the revenue due on the former works and 2½ per cent on the latter might

legitimately be debited to revenue - With these additions, the revenue charges on Incidence would still be much the same incurred - that is Rs 1,50,000 - on account

The Productive works and Navigation works will come with the revenue; but for Irrigation and Navigation it is evident desirable that the contribution be taken at a fixed sum, and I am directed to suggest that this sum (being 2½ per cent on 60 lacs Rs 1,50,000 -) debit to Revenue - return on the establishment relieve of charges would be the Provincial

Revenues of the empire
might stem as from stem
of the present system of
distribution, and if it
is a reasonable grant for
on Imperial accounts
expenditure, could always
be counted on, the re-
maining ~~6 to 8~~ establish-
ment charges might be con-
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expenditure - But the
Govt. in C. is convinced
as that the grants from
Imperial and Provincial funds
have not hitherto been such
as can consider reasonable
with reference to actual
circumstances, and the
uncertainty as to what
those grants will be, and
consequent uncertainty as to
what will be the estimate

cost to Provincial [illegible]
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Establishment should
be Rs 5,00,000, whereas

and Rs 1,00,000 for the
above three heads respectively -
This with the debit to
Revenue of Rs 4,50,000* and
the special grant of Rs
2,50,000 provided on
account of Protective works
in your letter No - - /
- - - , would make
up a total of Rs 14,49,000
exclusive of the
establishment for carrying
Protective - which for the
current year will be about
Rs 30,000 -
~~The total cost~~
The total cost of estab-
lishment as detailed in
my letter No - - /
- - - is Rs 20,64,000
and the contribution from local
so that the balance falls
on Provincial, ~~which~~

* 5 per cent on Rs 60,00,000 (as per 1/3)
+ Rs 1,50,000

Funds will not exceed Rs 30,000

and will probably not
come to much less than
50 per cent on the works
suspended -
With regard to
establishment for carrying
on Protective - Productive
works, the Hon the Sir C.
would perhaps state in
these works your charges
ages whether special ~~establishments~~
establishments are employed for
the actual cost of ~~works~~
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The Inspectors which

Rs 1,40,000 for Sanitation
Rs 1,20,000 for Improvement
other services -

(c) Rs 2,50,000 on account of investigations connected with Protective works and other large projects -

The above sums to cover ~~the cost~~ all establishment charges, conservancy and petrol establishments -

I am further to add that if the present Sanitation ~~work~~ were willing to make a fixed grant of 15 lacs annually In all establishments other than those for capital Productive Works it is thought remuneration dependent upon the yearly grant), subject to

may therefore be made expenditure; that the contribution from Imperial funds on account of establishment charges be confined to

(a) Rs 1,50,000 per annum on account of revenue from existing Irrigation & Navigation works

(b) Five per cent on the revenue from Productive works -

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Rs 5,00,000 for Irrigation & Navigation Productive -

tions on at the end of
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siderably diminish the
~~Bills~~ Bills pre
sent- ~~In this case the~~
~~distribution of the charge~~
~~would be made in the~~
~~manner indicated above~~
~~& adjustments~~ this

17/270 P. W. D.

To

The Secy to the Govt of India
P. W. Deptt.

Sir,

In reply to
para 10 of letter No 698 G.
Govt of ~~India~~ dated the
5th May 1881 I am
directed to state that
paras 4 and 5 of
Colonel Mallins letter
No. 240 I of 12 April
~~last~~ contained ~~definite~~
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A Considerable

2. As however it appears
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"extra precedents"

[proportion of Secretary's Office]

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I am to say as to what will be the ultimate cost to Provincial of the P. W. Establishment, has seriously hampered the Provincial Finances, and precluded the possibility of providing for works held to be absolutely indispensable in all other provinces (See also paras 47 & 48 of my Letter No 1697 W dated 9th July 1881)

On a minimum grant of Rs 25,00,000 for Irrig" & Navigation (exclusive of Productive) of Rs 6,00,000 for Military Works and of Rs 500,000 for Imperial + Other Services.

17. In order to avoid this uncertainty in future I am directed to suggest for consideration that the percentage should be calculated on a minimum grant for Irrigation and Navigation (exclusive of Productive) of Rs 25,00,000 for Military works of Rs 6,00,000 and for Imperial other services of Rs 5,00,000. In other words that the

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18 This with the
debit to Revenue of
Rs ~~1,60,000~~ 5,40,000 and the
special grant of
Rs 2,50,000 promised
on account of Pro=
ductive Works in para 7 of
your letter No. 681 S of 5th May last
would make up a
total of Rs ~~4,10,000~~ 15,15,000
exclusive of the es=
tablishment for Ca=
pital Productive
which for the current
year will be about
Rs 30,000.

It will be seen that the
total debit to Irrigation
will not differ greatly from
the twelve and a half lakhs
specified in para 6 of Govt.
Resolution letter No 2702 S of 12th
April last.

19/7/07

19 The total cost of
establishment as de=
tailed in my letter
No. 1697 W. of 9th July
last is Rs 20,64,000
and the contribution
of Local Funds will
not exceed Rs 90,000
so that the balance
falling on Provincial
will be about Rs ~~3,40,000~~ 4,29,000
and will probably not
come to much less than
~~50~~ 40 per cent on the Works
expenditure.

20. With regard to
Establishment for
Capital expenditure
on Productive Works
the Honorable the
Governor in Council
would propose
that

that in cases where these works form special charges the actual cost of the Establishments employed, which will nearly always be less than 25 per cent, be debited to the works and that whereas in the case of the Godavari and Kistna works, they are carried out by Establishments employed on general duties, the usual 25 per cent be charged.

21. The proposals which I am directed to submit may therefore be summed up as follows:

follows; that the contribution from Imperial Funds on account of P. W. Establishment charges be composed of

(a) Rs. ~~15,000~~ per annum on account of revenue from Ordinary Irrigation and Navigation Works.

(b) ~~Five~~ per cent on the revenue from Productive Works

(c) The actual cost of Establishment employed on Capital Productive Works where these form direct charges; in other cases 25 per cent on the expenditure.

1d/ 25 per cent on all other expenditure with the following minima.

Rs 5.00.000 for Irrigation yielding Productive; Rs 125.000 Rs 140.000 for Military; Rs 10.0.000 for Imperial & other Services.

12/ Rs 2.50.000 on account of investigations connected with Protective Works and other large projects.

The above sums to cover all establishment charges including those conservancy and Special establishments -

23 I am further to

22

For the reasons assigned in para 2 if it is not contended that the principle here advocated give absolutely accurate results: but these will it is thought be found fairly correct as relates to the distribution between Imperial & Provincial and have the advantage of being in accord with the mode of Calculating Similar charges in other Provinces

16

to add that if the Govt of India were willing to make a fixed grant of 15 lacs annually for all establishments other than those for Capital Productive (which must it is thought be maintained dependent upon yearly grants) subject to revision at the end of every ten years, such an arrangement would commend itself to this Government.

(from time to time as the grants under "Protective" reasonably increase as it is hoped may be the case.)

24 - In conclusion I am to invite the attention of the G of I to the correspondence marginally noted

and to the statement in para 5 of this letter by which it will be seen that during the extended period over which this discussion has extended "Imperial" has gained and deducted "Provincial" has lost over 8½ Lakhs, and to solicit that as a partial compensation the principles now submitted for consideration may if approved be given retrospective effect to, so far as regards the past year 1880-81, or that at least a sum of 3 Lakhs be contributed in adjustment of the accounts of that year again if this be inconvenient that a corresponding sum be given as an additional grant-in-aid to "Provincial" for the current official year —

retrospective effect may be given to

11/5/81

Draft for Approval

The Govt of India in their telegram of 12th ult asked for more definite reasons in regard to the proposals made in Colonel Hutton's No 269 I regarding the incidence of the charge for the Irrigation Establishment was transferred next day to him; it was not known till the 19th ultimo that this memo remarks was submitted

A perusal of this will show that the attempt here is to trace the method of charging off the Irrigation Establishment on the actual cost of such determined independently of division by divisions according to the circumstances of each on the principle recommended to Government in his Secret letter to the Govt of India No 270 I of 12 Dec

I can myself imagine no more convincing argument of the utter hopelessness of endeavouring with our present mixed System to elaborate a scheme which should be so based (ascertaining possibly in the delta systems) then is afforded by a perusal of these terms which merely leads into but never gets rid of a perfect labyrinth of figures, and which I venture to think if sent out to the Prof I called must become the effort of delaying indefinitely the settlement of a question, the delays in regard to which has already as will be seen from the draft herewith sent created "Provincial" some 8½ Lakhs of Rupees!

The question is in fact one that must in the main be settled on broad principles, and

23/226

I think the draft I hereto submit be approved (which the words of Major Pennycuick treats it in the right way, makes no unreasonable demands, and suggests a settlement which though possibly requiring revision as time goes on and works increases is so simple that it will save endless trouble in account &c

In the aforesaid statements which I received from Jammu Canal Office it will be seen that with the exception of the Eastern Jamuna Canal which he says is "exceptionally favourable" and the Mundatia Canals of the Lower Sutlej & Chenab which are a fact almost take care of themselves our works are managed far cheaper than any others —

The Canal Establishments of different India distribute the waters, make the arrangements

assessments I have assessed duties under the Canal Act & the Civil Debts Collect the assessments as entered in the Canal Water demand Statement

The assessment no doubt must add to an enormous duties & the cost of collection may sometimes trouble be known (since the administration of the Canal Act is amply counterbalanced by the consideration influence in getting labour by his reform &c—L

Under no circumstances while it be possible I believe to show that the demand now preferred is in any sense unreasonable, or indeed by that matter comparable with the demands which accepting the under of Northern India as a standard might with justice be preferred

11.9.82

22670

24/12/267

Year	Expenditure		Revenue		
	Works	Establishment	Direct	Indirect	Total
		Godavari			
75-76	1,63,950	(a) 90,480	57,590	15,80,228	16,37,818
76-77	149,350	(a) 87,460	63,930	15,95,154	16,58,484
77-78	149,310	(a) 88,130	67,120	18,00,293	18,61,413
78-79	170,510	(a) 94,310	96,860	17,64,460	18,61,320
79-80	177,635	2,22,857	75,445	18,73,688	19,49,133
					17,93,633 Average
		Kistna			
75-76	139,150	(a) 62,770	15,280	8,27,007	8,42,289
76-77	121,700	(a) 57,810	28,000	7,98,444	8,26,444
77-78	109,890	(a) 54,310	21,300	9,36,702	9,58,002
78-79	1,11,730	(a) 55810	25820	8,97,579	9,24,399
79-80	1,19,278	1,16,373	33,234	10,17,647	10,50,961
					9,00,423 Average

N.B. "Works" include all charges except Establishment and Tools and Plant

"Direct" revenue is amount of realizations during year

(a) Exclusive of charges in Civil Dept.

A

Col. Civil Dpo.

2 5/12/707

Year	Expenditure		Revenue		
	Works	Establishment	Direct	Indirect	Total
		Godavary.			
75-76	1,63,950	(a) 90,480	57,590	15,47,520	16,05,110
76-77	1,49,350	(a) 87,460	63,330	16,17,970	16,81,300
77-78	1,49,310	(a) 88,130	61,120	15,77,900	16,39,020
78-79	1,70,510	(a) 94310	96,860	15,89,190	16,86,050
79-80	1,77,635	2,22,857	75,445	16,18,000	16,93,445
		Kistna			
75-76	1,39,150	(a) 1,62,770	15,280	8,04,280	8,19,560
76-77	1,21,700	(a) 57,810	28,000	7,81,040	8,09,040
77-78	1,09,890	(a) 54,310	21,300	8,57,890	8,79,190
78-79	1,11,730	(a) 55,810	25,820	8,14,400	8,40,220
79-80	1,19,278	1,16,373	33,234	7,41,000	7,74,234

N.B. "Works" include all charges except Establishment and Tools and Plant.
"Direct" revenue is amount of realisations during year
(a) Exclusive of charges in Civil Department.

(True Copy)

John Stuart Lt R.E.

Ag: Chief Engineer for Irrg.

(B)

24/2260

Canals	Outlay on Works	Establishment 25 per cent on Works	Establishment Remainder	Revenue	Percentage of col. 4 on col. 5.
	1, 2	3	4	5	6
averages for years	75.76 to 79.80 (inclusive).				
Permanent					
Ganges	3,94,011	98,503	5,12,446	3,136,761	16.3.
East Jumna	89,520	22,380	95,946	9,15,350	10.5
West Jumna	138,165	34,541	2,29,631	13,47,306	17-
Baree Doab	2,41,562	60,391	1,99,783	9,00,259	22.2
Inundation					
Upper Sutlej	49,268	12,317	30,684	1,08,617	28.2
Lower Sutlej and Chenab	1,29,629	32,407	17,555	3,48,161	5.0
Indus	1,55,126	38,781	54,359	1,92,964	28.2
For the year 1879.80 only					
Godavery	1,77,635	44,409	1,78,448	16,93,445	10.5
Kistna	1,19,278	29,819	86,554	7,74,234	11.2

"Works" outlay includes all maintenance charges except Establishment and Tools & Plant. Establishment includes charges in Civil as well as P.W.D.
The figures for the Godavery and Kistna are only for the year 1879-80 as the charges in Civil Dept for Establishment are not included in the account of former years. These figures are approximate as the Revenue accounts for the two works have not been finally made up.
N.B. The great difference in Establishment charges on the L. Sutlej & Chenab is owing to the employment of Statute Labor thereon.

(True Copy)
John Strachey Colonel R.E.

27/2267

Copy of Telegram.

To,

Simla

Works.

Dated 16th May 1871.

Daesaur G.B. 269-71

12th April give infor-

mation required in

para 10 Govt 681

Sup R.E.S.

S. P. No. 4000 - G. T. Press.—No. 188.—12-5-88.—1000000.

Traffic Code Form C L.

Class. S

INDIAN TELEGRAPH.

Local No. 232

26/2 71

From (Station) Ootacamund

To (Station) Simla

Words.	Day.	Hour.	Minute.
20/3	11	14	8

OFFICIAL INSTRUCTIONS.

To (Person) Works Madras

FROM (Person) Works

1	2	3
Your	telegram	of
sixteenth	2nd	Proposal
10	269	15
not	sufficiently	definite
13	14	more
clear	Reasons	18
16	17	
fully		

RECD. FROM L. N.

AT Hrs. Mts., BY

SENT TO

AT Hrs. Mts., BY L. N.

Telegraph Master.

OOTACAMUND 11-7-31

Irrigation

Memorandum

Simla 14 July 1881
No. 1729 W

In para 10 of their letter No 681 G. of the 5 May 1881, the Govt of India say that a large part of the P.W. Establishts appears to be required for the supervision of the distribution of water and other revenue purposes, and it is intimated that the promised views of the Government of Madras will be awaited. This paragraph seems to have been written in ignorance that the views of Government had already been fully conveyed to the Govt of India in Simla No. 269 I. 12 April 1881 and letter No 270 I. of the same date

2. Colonel Sankey telegraphed to Simla on 16 May to know whether these papers gave the information required, and the reply came by telegram dated 11 July saying that the proposals made by this Govt were not sufficiently definite and asking to give reasons more fully

3. The proposals were briefly that the Government of India should sanction either
1st the debit to Imperial Irrigation of $\frac{2}{3}$rds of the cost of the P.W. Establishts whatever that might be, or

C.E. No 1662 a/15 Dec 81
Transferred to Civil Branch
Submitted with Govt of India letter 681 G.
11-7
C.6.9.82

2nd. A scale of establishment for irrigation work, at a cost not exceeding 12½ lakhs

4. It is not possible to judge from the telegram what the Government of India want - The proposals were as definite as they could well be made, and the reason for them is that for a large part of the work done for Imperial by Provincial Establishments no allowance was in any form or shape at present made, was not only clearly stated but fully demonstrated

5. Colonel Dunlop has however received from Genl. Grafton a D.O. letter dated 7 July, which may perhaps serve to indicate how the Govt. of India telegram can be answered

1st. Genl Grafton admits that 25 per Cent on Works outlay with the addition of the cost of the Chief's Dept. and this Establishment, does not nearly cover the cost of the Irrigation Establishments required, and he has afforded information showing that elsewhere than in Madras such Establishments

NB Ten annas = $\frac{2}{3}$ of 18·75 Lakhs the amount assumed cost of our normal Establt since the increase to net cost has been Estimated (P.O. No 1697 dtd) at 20·62 Lakhs the figure for the Irrigation Dept. with transfer was struck at 13·76 Lakhs

Costs much more.

2nd. He considers that the cost of irrigation establishment should be determined independently of rate percentages, and there I agree, but how is this to be done in Madras where there is no separate establishment? He here appears to ignore the circumstance that a scale of establishment for irrigation work, within a limit of 12½ lakhs, was one of the arrangements proposed for the consideration of the Govt. of India, on the ground to which he refers, as an alternative to the debit to Imperial of two thirds of the cost of whatever Establishment might further the whole Presidency be deemed requisite.

It may be noticed that though the Establishment ought to be regulated by the work to be done, it is necessary to show what the resulting percentages would be especially as the debiting one part of the cost in that to works outlay is governed by a percentage on such outlay

3rd. It was shown in letter No. 270.I. that a scale of establishment costing 12½ lakhs would result in a charge of 5½ lakhs debitable to works outlay & one of 7 lakhs to Revenue, the latter being estimated at 150 lakhs. Genl. Grafton asks "how were the revenue figures obtained" In para 6 of the note in Desp No. 269.I. it is mentioned that the revenue due to irrigation and realized in the Civil Dept. was as entered in the Budget of 1880-81

Productive Public works lakhs	58.44
In the works	90.52
"	148.96

These figures are furnished by the Revenue Board for entry in the Budget.

There are some receipts realized in the P.W.D also, and the 150 lakhs represented approximately the irrigation revenue.

For 1881-82 the figures are

	Civil Dept.	P.W.D
Productive P. works	60,00,000	1,29,420
In the works	91,38,000	15,600
	151,38,000	1,45,020
Total		152,83,020

Reference was made in the same paragraph of the note to the future exclusion from the operations of the P.W.D of the upkeep of irrigation works not classed as Imperial, and the order No. 284.I. of the 5 May 1880, under which the separation is being effected, was quoted in the margin. The elimination of minor irrigation works from the scope of the operations of the P.W.D will necessarily reduce the amount of revenue now debitable to establishment charges which will be distributed like, but it will not reduce to any appreciable extent the revenue work to be done as with the distribution of water from such minor works the Department has not been concerned

It cannot yet be definitely & completely stated what the revenue due to irrigation will in the future be, but the information already collected will enable an approximation

to be made

Particulars have been received for 9 Districts, and adopting the proportion found for these for application to the other Districts the general results are as follows

Productive Public Works which remain unaltered — 60 lakhs

Irrigation navigation Public Works Net Revenue
Systems (including Cl 12 after outlay) — 2,47,783
Works forming a Continuous record is maintained — 20,32,500
Other works — 43,12,413
Total — 65,92,696

Revenue due to irrigation at ⅔rds of this Total — 43.95 "

Total — 103.95 or say 104 lakhs

The full revenue of the minor works is similarly — 67.42 lakhs
and the revenue due to Irrigation — 44.95 "

The total revenue for the year of which the revenue due to Irrigation has been thus distributed was — 209.82 lakhs

Irrigation — 5.443 millions of acres

Taking the revenue due to Irrigation, with which the P.W.D will be concerned, at 104 lakhs as above

† Should be 13.76
See Note under Surface

an establishment costing 12½ lakhs, of which 1 lakh may be assumed to be needed for project investigations and for the moment 5½ lakhs as the debit to works outlay, would involve a percentage on revenue of ~~6.25~~ 5.77

Debit to Revenue 6 lakhs

Before this (or any other percentage) can be recommended for sanction it will be necessary to consider 1st what ~~the~~ charge is needed 2nd what its probable effect on returns from, and therefore on the development of, irrigation works would be.

6. Before however examining into these questions it may be well to enumerate the various points on which the General Committee asks for information. These are

4th What are the duties in Madras to be carried out by the P.W. Officers and to be paid for out of revenue and under these duties are
(1) the distribution of water
(2) the making of the annual assessments
(3) Magisterial duties
(4) &c. (not specified)

The answer is only the first at present

and that this is the principal
duty. Leave ab for the most the
Superintendent do not carry him up
to Yanam, and the Magisterial work
is comparatively slender and irregular.
Still because Law there will for a time
at least be an increase of Magisterial
work, and whether Magisterial
powers be or be not conferred on
Canals Officers, the principal part
of the work to be done under the Act
will inevitably fall to the P.W. Establish
ments.

The water distribution duties will
be but slight and occasional
in connection with this irrigation
under "Other works", the irrigation
revenue appertaining to which
is approximately $\frac{2}{3}$ of 43,12,413 =
28,74,942 or say $28\frac{3}{4}$ lakhs. It would
probably be fair therefore to debit
to this one third only of the Per-
Centage allowance for other Establish
ments, which therefore, be found
to be. In other words the revenue
over which generally a percentage
will be calculable will be
104 = $28\frac{3}{4} + \frac{28\frac{3}{4}}{3} = 84\frac{5}{6}$ lakhs
say 85 lakhs.

5th. Whether if the Delta works were
Completed a less establishment
would suffice?

This question practically leads to

the consideration of the scale of
establishment required
(1) for maintenance purposes only
(2) for carrying out improvements
on any considerable scale
(3) for the investigation of new
projects.

It will be evident that the present
Circumstances of the several
Irrigation systems, differing as they do
Considerably, render it necessary
to show what is required in
each case

Godavari Delta

Better Godavari Delta the time is
not very far distant when all the
major improvements will be Completed
and expenditure under Capital
will either cease or be of small
amount - The Eastern & Western
Sections of the Delta are now far
advanced towards Completion,
and in the Central Section
alone have any very extensive
improvements to be carried out.
The ultimate area of irrigation
is estimated at acres 610,000
The present area naturally
varies from year to year. It
was as great as 592,548 acres
in 1877-78 a Fasli year;
575,838 in 1878-79; since which
time a considerable decrease
has naturally taken place;
Lands for future purposes be
taken to be 550,000

for the next 7 years or 10 there will be, if funds be available, considerable expenditure on improvements - Thereafter the maintenance of the works and the management of the irrigation will be the chief duty of the P.W. establishments in connection with the Delta System, but there will be some work such as River embankments, River Conservancy, &c.

The normal expenditure on works in the 2 Divisions after completion of the improvements will then considered be about as follows.

P.P. Works Revenue account	Rs. 2,25,000
I & N works	15,000
Agricultural works -	30,000
Total	" 270,000
I & F. Hosting Plant maintenance	" 20,000

In the Krishna Delta the improvements to be carried out are very extensive and will take nearly if not quite 25 years for their completion

The ultimate area of irrigation is 470,000 acres
" present area of do is about 270,000 "
The amount total spent on works in connection with the improvements, is 66 lakhs or very much more than has been spent since

× Rs 38,92,960 upto end 1879-80

Krishna Delta

9 Sanctioned up to 1879-80 Expenditure Rs 15 Lakhs

Cauvery Delta

the Commencement 34/35 1893-56

The normal expenditure on Works in the 2 Divisions, apart from outlay on improvements, will be about for some years about,

P.P. Works revenue account	Rs. 130,000
I & N works	10,000
Agricultural works -	10,000
	150,000
I & F. Hosting Plant maintenance	15,000

Irrigation spends the outlay on Revenue account with increase Division

Cauvery Delta Division for the present

Concerned almost exclusively with maintenance & irrigation management. Some improvements, eg. the regulation of the Cauvery at the Grand Anicut, have been designed & estimated for, but there is nothing in progress except the regulators at the head of the Trivandrapoy which are nearly finished

The investigations for the final improvement of the Delta have yet to be commenced.

The normal expenditure on works inclusive of improvements will, in the 2 Divisions be about

P.P. Works revenue account	Rs. 60,000
I & N works -	" 15,000
Agricultural works	" 60,000
	135,000

Thus, the principal systems, will suffice to indicate what is necessary. In the Godavari Delta the establishments may be organized on a normal scale with such extra subordinate establishment as the intended programme of improvements may necessitate. In the Kistna on the other hand what will be the normal scale of establishment when the works have advanced to about the same state as in the Godavari will suffice for the supervision for some years to come of a considerable portion of the improvements and further that an extra establishment will be needed.

6th. How much could be spent economically in Godavari & Kistna if funds be supplied as wanted

Funds for P.W. works.

These Systems are not the only P.W. works to be taken into account. The Sangam Project has recently been sanctioned & is about to be started.

The Penner Ancut System is under preparation & will be ready shortly after the Govt of India, to which works in Godavari have been done for about 6 years, may be sanctioned -

The answer may be taken to be on works only

Godavari Delta	2 lakhs
Kistna "	3.5 "
Sangam project	3.5 "
Other Systems	1.0 . 10
The corresponding Sub'l charge	2½
Total grant required.	12½

This is 8 lakhs more than the grant applied as the limit.

Works to be done in the Division in which 3 principal systems are situated.

7. Godavari Establishment

(1) The normal expenditure of Rs. 27,000

(2) Expenditure on improvements for about 7 years 2,00,000

(3) Management of irrigation water distributaries area from 5,50,000 to 6,10,000

Irrigation revenue (including P.W. receipts) say 20 lakhs.

Kistna

(1) The normal expenditure of Rs. 1,50,000

(2) Expenditure on improvements for upwards of 20 years 3,50,000

(3) Management of irrigation water distributaries area from 270000 to 470,000

Irrigation revenue (including P.W. receipts) from 9,30,000 to 14,90,000

Separate answer 12 lakhs

Kattu Canvery

(1). The normal expenditure of Rs. 1,35,000

(2) Expenditure on improvements - Nothing definite known.

(3) Management of ~~irrigation~~ water distribution

Area about 800,000

Irrigation revenue 29 lakhs.

8. How Conservancy Establishments are directly chargeable to Revenue account: what their cost is & will probably be in the future is noted below the former from the Budget of 1881-82

	Present	Probable
Godavari	Rs. 50,255	52,500
Kistna	26,856	36,000
Canvery.	9,102	25,000
	85,643	113,500

Numerous small charges under Agricultural & I & N in these Divisions which must not be taken into account & the amount entered under "probable" will suffice to cover all.

9. There is also the cost of the Establishment employed on distribution - The total is Rs. 52,608 and the incidence varies with the grants under the several heads - For the current year the charge to Productive P.W. is small viz Rupees 15,123 of which less than 3000 is debitable with "establishment" and "Direction"? ✗

Vide Statement marked A

to Capital and the rest to Revenue Some probably be apportioned the charge to Revenue account will not exceed for the

Godavari	Rs 5,000
Kistna	" 4,000
Canvery	" 3,000

There will then be chargeable to Revenue account in the

Godavari	Rs 57,500
Kistna	" 40,000
Canvery	" 28,000

Exclusive of any charge the P.W. Establishment Executive or Administrative (often the Chief Engr. for I) /.

10. It is not practicable under present arrangements to show what the proportion of charges for Superintendence - Direction & Establishment will be but they will be apportioned on 5 per cent on Outlay

11 According to the distribution Statement given in Appendix A to G.O. No. 1697. W. 9 July 1881 the Cost of the Executive Establishments allotted to the Divisions Concerned will be

Godavari	Rupees 97,297
Kistna	" 95,840
Canvery	" 94,665

The executive establishment
considered under sufficient for
all the works in the Godavari District
except the construction of 1 lakh
of cutlay on improvements in
Locks, for which extra executive
establishment of this kind may
be required.

Construction ?

The results will then be as follows.

System	Works cutlay for normal establishment	Charges for establishment. Divisional Account	Imperial	Conservancy & P.J.	Total	Debit to works at 25 per cent	Debit to Revenue account	Revenue	Percentage of col 8 on col 9 or debit to Revenue
1	2	3	4	5	6	7	8	9	
Godavari	370,000	18,500	92,297	57,500	173297	92,500	80797	20 lakhs	4.04
Kistna	400000	20000	95,840	40,000	155,840	100,000	55,840	12 do	4.65
Cauvery	135,000	6750	91,663	25,000	126413	33,750	92663	29 do.	3.19
			294,800				229,300	61 do	3.76
					At present			57.38	4.00 nearly

It thus follows that for the principal irrigation systems, in connection with which the P.W. Officers have the largest amounts of revenue to conserve, a debit of 4 per cent to Revenue is likely to cover the whole cost of establishment.

12. Statement A. gives the particulars of executive establishment for 17 Divisions out of 26, exclusive of the 4 Project Divisions - Of the 9 Divisions not included 4 will have no irrigation expenditure and in the other 5 the ordinary expenditure will be small.

This should be in C

? (

1 West Coast
2 Buckingham Canal
3 (Presidency + Bangalore
4 Consulting Architect
5 Ganjam
6 Vizagapatam
7 Bellary
8 Cuddapah
9 Kurnool

* Rev. Works elapsed as Imperial 12,28,852
" do debit to irrigation 819,235
the total of this 2.73

The cost of the executive establishment
of the 17 Divisions is Rs. 7,11,040

The do of the 6 Divisions
in the 3 Deltas 284,800

Sungum Project Divn
which is special 42869 327669

Establishment of 10 Divisions 3,83,371

The other establishment Charges, exclusive
of General Direction & account
are

Chief Engr's Office - P.P.W 1620
Audit & 37485 39105

Conservancy Establishment P.P.W 6543
Audit & 30246 36789 75894

459,265

Establishment of 10 Divisions exclusive of
General Direction & account

The Average ordinary grant in Rs 8,64,118

" annual outlay from this
grant in the 3 Deltas is
Godavari 270,000
Kistna 150,000
Cauvery 135,000 533,000

Normal outlay in 15 Divisions 1309,118

Probable outlay in the 5 " say 209,118

Normal outlay in 10 Divisions 1,100,000

20 per cent on this is 220,000

The balance Establishment
Charges debitable to Revenue
would be 239,265

and the revenue against which
it would be debitable would be
Total as in para 6. viz. lakhs 85

Add 3 Deltas 57.38
" 5 Divisions * 2.73 60.11
24.89

The resulting percentage would be 9.61
or put at about 3 times would would be
proper, seeing that at 3.2 for Executive
& Conservancy & 0.8 for Genl. Direction

under works at the 4 per cent deducted above for the 3 Deltas.

In some three 10 Divisions there will no doubt be some other such Irrigation; and some works to be carried out from Protective funds which will be additional to the ordinary grant. Taking down the charge to Revenue to 4 per cent of which 3.2 per cent would belong to Essential Establishment, Contingencies, and Establishment under repairs to be about as follows;

Establishment charges to be distributed	2,39,265
3.2 per cent on 24.9 lakhs	79,648
Balance to be covered by Special allotment	1,59,617
Corresponding outlay	7,98,085

Appendix D to G.O. No. 1697. W. 9/7/81 Contemplates an Expenditure on Protective Irrigation works of 1 inclusive of the Deltas, in

1882-83	9 Lakhs
1883-84	17 "
	26 "
average	13 "

but such Expenditure is only improbable, and carrying out projects would have to be carried out by other than the Divisional Ordinary Establishments.

13. It follows from the above summary that for these Divisions generally the Scale in Appendix A will cost too much for maintenance purposes only together with such

So it is intended

improvements as will form the ordinary work of the Department. That in several instances the Scale does not require can be clearly shown. Take for instance Tirchinopoly & Madura: the Executive Establishments are estimated to cost

Tirchinopoly	Rs. 45,939
Madura	" 40,843
	86,782

The Periyar Irrigation works are

	area.	Revenue	Net due to I.
Tirchinopoly	108,132	475,002	3,16,668
Madura	68,674	247,226	164,817
	176,806	7,22,228	481,485

There are only "other works" in these two Districts and a debit of 2 per cent on the Net due to Irrig: will be quite as much as will be reasonable

Debit to Revenue at 1½ per cent on Rs. 451,500 =	Rs. 7,704
leaving chargeable to works	79,078
Corresponding outlay	3,95,390
Now the Maintenance outlay will probably not exceed 10 per cent on the Revenue or	72,223
Rs. 6,000 say 3 per cent & will in Irrign allowance	21,666
Assume that the outlay on major improvements will be	36,111
Total Irrigation outlay	1,30,000
Probably the new Irrigation outlay will not exceed	40,000
Total	1,70,000
20 per cent on this	34,000
Net Corresponding Establishment	15078

Director Account. 0-4
Executive &c. 1.6

Or in other words the Executive Establishment of these 2 Divisions should be reduced about one half - It was recommended sometime ago that Madhura should be made a Subdivision of Trichinopoly, and evidently this works will be quite inadequate for 2 Divisions -

14. Of the other heads the Establishment allotted to Santhavasal is not only inadequate but in remarkable contrast to that given to the 2 Divisions above noticed

That appears is marginally shown and its contribution Rs. 34,106

its irrigation is

	area	Revenue	Residents
C&R Systems	2430	8688	
Other do.	148,487	731962	
	150,917	740600	493,733
Other works	64,535	333196	222,131
	215,452	1073796	715,864

This Division has 1½ times nearly the Revenue of the other two together & the establishment is less than that of either and only 40 per cent of that of the two. However a large part of its revenue is derived from import and irrigation Systems, which need a handsome for proper supervision. Taking the Revenue by centages as above declared, the charges the Cost of Establishment / charges Revenue would be

	E.E.	A.E.	W.S.
Trichinopoly	1	1	8
Madura	1	1	8
	2	2	16

	E.E.	A.E.	W.S.
	1	1	5

Ordinary	18.64
P.P.W in 2 Dittos	3.50
	22.14

Dated above

3.2 per cent on 493,733 = 15,799
1.6 do .. 222,131 = 3,554
19,353

The Irrigation works outlay in this Division will probably be about,

Maintenance 10 per cent Rs.	1,07,379
M.O. works 3 do.	32,214
Major Improvements say	70,407
	2,10,000
Total Irrigation outlay —	
Probable non irrigation outlay	25,000
Total	2,35,000
20 per cent on this	47,000
add charges debt Revt.	19,353
Remarks cost of Establishment	66,353

as Rs 32,247 more than the Scale allows.

15. Approximately the proper cost of the normal Establishment for Irrigation work will be

25 per cent on Works outlay (22.14 lakhs) lakhs 5.53

4 per cent of 60 + ⅔ (2280) = 75.20 lakhs 3.008
2 do on 28.75 " 0.575
3.583

Ord. Conservancy Establishment			
P.P.W	92756		
Irrna	30,246		
Probable increase	27857	1.508	2.075
	150,859		7.605

and 10 per cent for leave .760
8.365

16 - The data are necessarily imperfect for determining the

Establishment required for carrying out improvements on a considerable scale - All that can be done is to make an approximation - In para 6 above it has been stated that 12½ lakhs can be spent economically for some years to come on Protective Public works and of this sum the part belonging to Works outlay will be lakhs 10

& the amount provided for under normal Estt. 3.50 6.50

Probable outlay on Protective works which are not classified as Protective 5.50

Total 12.00

Establishment provision at 25 per cent 3.00

17. The establishment required for the investigation of irrigation projects may be estimated to cost 1 lakh - The outlay may be larger for a time until some of the projects are ready for execution, but on the other hand the establishment needed for execution work in connection with Protective works will be smaller than that appropriated - 2.375 lakhs for establishment connected with the investigation & execution of Protective Irrigation projects will

example.

18. The Summary will then be as follows.

Description	Regular Establishments.			Conservancy Establishments.	Total
	Directions & Accounts	Executive	Total		
	Lakhs	Lakhs	Lakhs	Lakhs	Lakhs
Normal Establishments	1.673	6.692	8.365	1.508	
Extra for P.P.W	.325	1.300	1.625		
Special for Protective Works —					
Construction	.275	1.100	2.375		
Investigation	.200	0.800			
	2.473	9.892	12.365	1.508	

To enable the debits to Works outlay and to Revenue to be properly made it will be necessary that the actual Cost of the Executive Establishment of each Division, in the case of the Godavari, Kistna Hanumy Deltas, of two Divisions, should be recorded and distributed in the proportions laid down in the Rules for the time being in force. The administrative Accounts will then correspond with the facts.

19. It will be seen that as above worked out, the debit to

(1) Works outlay will be
Normal Establishment — 6.083
Extra do — P.P.W 1.625
Special do — Protective W 1.375 9.083

(2) Investigation Protective works which will ultimately form

(3) Revenue

Normal Sch: 2.282
Conservancy do 1.508 — 3.790

Grand Total 13.573

20. The only remaining point to be noticed with reference to the end of para 5 above is the effect of a charge of 4 per cent against revenue on the financial results of irrigation works. Inthe absence of complete Capital & Revenue accounts only a few cases can be adduced

(1) Godavari Delta System - The ultimate Capital outlay & the ultimate Revenue are not yet known, but the subjoined figures will serve to indicate that the proposed charges will not affect the remunerative character of this system

	Lakhs	
Revenue due to Irrigation	19.04	In P.W.D 94,000 - Rd. 18,10,000
Maintenance, Works	*2.25	
Establt. charges on do	.56	
do do - Revenue 4%	.76	
do do. Civil Dfr. 7.2%	1.30	
Maintenance Tools & Plant	*.20	5.07
Net Revenue		13.97

*. More than at present but almost what it should be to these the figures in Para 6 above have been taken

*or 18.10 lakhs

Capital outlay (Direct charges) 86.12 — To end of 1881-82 - vide Budget abstract A

Per Centage of returns 16.22

(2) Kistna Delta System - The approximate ultimate outlay and

W. 312.1. 12 May 1881

revenue are given in the P.W.D marginally noted, and are as follows.

Ultimate outlay Direct charges Lakhs 139.00
do Direct & Indirect do " 166.71

Ultimate revenue Rev. Dfr. " 13.94
do P.W.D .96
Total 14.90

Maintenance - Works Lakhs 2.700
Establishment charges on do " .675
do do on Revt. at 4 per cent " .596
do do do R.D. at 7.2 % on 13.94 Lakhs " 1.004
Maintenance Tools & Plant .150 — 5.125
Net Revenue 9.775

Per Centage of returns on Direct charges 7.03
on Direct & Indirect do 5.87

Canarese Delta System
Penner Anicut System
Srivaikuntam do.

Further than 3 P.W. Systems, the necessary particulars are not available but it is however certain in the case of the Canarese Delta that the charge will not make any material reduction of the large profits which have been realized from the small outlay of about 14 lakhs 3 so far incurred. The Penner Anicut system will probably also be able to bear the charge, which will not exceed 9,000 Rupees

In the case of the Srivaikuntam Anicut system, on which hitherto the charges have, as a result of floods, been abnormally heavy, any additional charge will be covered

against its remunerative self-
he will be unprepared to wait for some
years longer in order to be able to
ascertain the normal maintenance charges on the amount of which the financial results of this project will depend.

4. On the whole it is believed that if the establishment for irrigation work be constituted on a scale the cost of which will be covered by the 25 per cent allowed on works not large, and by 4 per cent on the revenue of the more important Irrigation Systems & works, with 2 per cent on the revenue of "Other works" (Irrigation) classed as Imperial, it will suffice for the duties which have to be performed, & will at the same time not be excessive. The charge for Revenue management will then be for the important Irrigation works P.W.D 4 per cent on revenue
Rev[d] Def. 7.2 do — do
Total 11.2 do — do

Other Imperial Works P.W.D 2.0 per cent on rev[e]
Rev[d] Def. 7.2 do — do
Total 9.2 do

These figures will be found to compare favourably with those allowed for Irrigation Works

in other parts of India, where the similar charges for the 5 years 1875-76 to 1879-80 were as follow.

vide Statement B with Secretary of State's D.O. letter of 7 May 1881

Permanent Canals

Ganges	16.3	per cent
East Jumna	10.5	do
West Jumna	17.0	do
Baree Doab.	22.2	do
	66.0	
average	16.5	

Inundation Canals

Upper Sutlej	28.2	
Lower Sutlej & Chenab.	*5.0	
Indus	28.2	
	61.4	
average	20.5	

* Stated to be due to employment of Statute labour.

Ootacamund 19 August 1881

Edmund Chamberlain Colonel
Chief Engineer for Irrigation

Do for Secy to Govt PWD &c.

Telegram dated 16 June 1881 to Govt of India
do — 11 July " from do.
Memorandum No. dated 19 August 1881
by the Chief Engineer for Irrigation

Forwards, Completion Sanctioned by
Government of India

Lieut Col Colvin
20/8/81 Forwd to Govt of India

Statement showing the total annual cost of the Executive Establishment in each Division as proposed in Bng Pc 17494 dated 14th July 1887

Divisions	Executive Engineers: Average pay = 27650/36 = 768 — No.	Executive Engineers: Amount	Assistant Engineers: Average pay = 18450/47 = 396 — No.	Assistant Engineers: Amount	Upper Subordinates: Average pay = 27550/185 = 149 — No.	Upper Subordinates: Amount	Surveyors & lower Subordinates — No.	Surveyors & lower Subordinates — Amount	Sub Divl allowances — No.	Sub Divl allowances — Amount	Office Establishment: Division: Class	Division: Amount	Sub Division at 31: No.	Sub Division at 31: Amount	Detached officer at Rs 25: No.	Detached officer at Rs 25: Amount	Bascaree at 17½ Rs: No.	Bascaree at 17½ Rs: Amount	Filty Establishment: Medical: Amount	Storekeeper: No.	Storekeeper: Amount	Lascars at 6 Rs: No.	Lascars at 6 Rs: Amount	Total monthly Cost	Total annual Cost	Travelly allowances ⅛ of Col 26	Contin. Establishm. Rs 100 per annum	Total	Remarks
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Godavari Eastern	1	768	3	1188	7	1043			1	30	Spl	323	3	93	3	75	8	52½	57	1	30	20	120	3773½	45282	7560	1200	54042	* includes Rs 600 for local allowance
" Western	1	768	2	792	7	1043					1st	298	2	62	3	75	3	52½		1	25	16	96	3211½	38538	4817	1200	44555	97297
Kistna Eastern	1	768	3	1188	6	894					Spl	323	3	93	3	75	3	52½	83	1	30	20	120	3626½	43678	5460	1200	50158	
" Western	1	768	2	792	7	1043					1st	298	2	62	3	75	4	70	60	1	25	17	102	3295	39540	4942	1200	45682	95840
Nellore	1	768	1	396	7	1043			1	30	2nd	253	2	62	3	75	3	52½		1	20	16	96	2795½	33546	4193	1200	38939	
Tungnum	1	768	2	792	6	894					2nd	253	2	62	3	75	3	52½		1	20	16	96	3012½	36150	4519	1200	41869	
M. & C. Canal	1	768	2	792	6	894					1st	298	2	62	3	75	3	52½		1	25	16	96	3062½	36750	4594	1200	42544	
Coimbatore	1	768	1	396	5	745			1	30	2nd	253	2	62	2	50	2	35		1	20	14	84	2443	29316	3665	1200	34181	
North Arcot	1	768	2	792	5	745					2nd	253	2	62	2	50	13	52½		1	20	15	90	2832½	33990	4249	1200	39439	
Salem	1	768	"	"	5	745					3rd	220½	-	-	2	50	3	52½		1	15	9	64	1905	22860	2857	1200	26917	
South Arcot	1	768	1	396	5	745					1st	298	1	31	2	50	3	52½		1	25	12	72	2437½	29250	3656	1200	34106	
Chingleput	1	768	1	396	6	894			1	30	2nd	253	2	62	2	50	3	52½		1	20	15	90	2676½	31386	3923	1200	36509	
Trichinopoly	1	768	1	396	8	1192	11	340	1	30	3rd	253	2	62	3	75	4	70		1	20	18	108	3314	39768	4971	1200	45939	
Tanjore	1	768	2	792	8	1192					1st	298	2	62	4	100	4	70		1	25	19	114	3421	41052	5132	1200	47384	91663
Negapatam	1	768	2	792	7	1043					2nd	253	2	62	3	75	4	70		1	20	18	108	3191	38292	4787	1200	44279	3 Deltas 254800
Tinnevelly	1	768	2	792	7	1043					1st	298	2	62	3	75	4	70		1	25	18	108	3241	38892	4862	1200	44954	
Madura	1	768	1	396	8	1192			1	30	3rd	220½	2	62	3	75	4	70		1	15	18	108	2936½	35238	4405	1200	40843	
Project Division A	1	768	2	792	3	447	4	530			Spl	270½	-	-	3	75	2	35		"	"	9	54	2971½	35658	4457	1200	41315	
" B	1	768	1	396	4	576	4	530			Spl	270½	-	-	2	50	3	52½		"	"	9	54	2717	32604	4075	1200	37879	143127
" C	1	768	2	792	3	447	4	530			Spl	270½	-	-	3	75	2	35		"	"	9	54	2971½	35658	4457	1200	41315	
" D	1	768	"	"	"	"	4	530			Spl	270½	-	-	"	-	-	-		"	"	3	18	1586½	19038	2380	1200	22618	
																							Total		736326	92041	25200	854167	

Project Divn: 143127
17 Divisions 711040
6 Divisions 3 Delta 254800
11 Divisions 456240

N.B. 1. The Military pay of Military officers and subordinates and the temporary Executive & Survey Establishments are not taken into account in this Statement for want of information as to their distribution by Divisions

2. The distribution shown in Columns 16, 18 and 23 is the best approximation that can be made at present

3. The total of the salaries in each class has been taken and divided by the total number of officers in each

19 August 1887

Colonel RS

Statement A

No. 2267 W.

Government of Madras,

PUBLIC WORKS DEPARTMENT.

46/29.

To

The Secretary to the
Government of India.
P.W. Dept.

Dated Fort St. George the 16th Sept. 1881.

Sir,

In reply to para 10 of your letter No. 681 G of the 5th May 1881, I am directed to state that paras 4 and 5 of Colonel Mullins' letter No. 270 S of 10th April contained proposals, which if adopted would lead to a considerable extent remove the inconveniences caused by the present method

I do not think that Govt can entirely have concurred in Col. M.'s suggestion in his letter of 12 Apr. of a separate Irrig. Dept. &c. I opposed it. Govt have always advocated the present system.

of distributing establishment charges.

2. As however it appears from your telegram of the 11th ultimo that these proposals are not considered sufficiently definite, the Honorable the Governor in Council considers it desirable to restate the whole question with a view to its final settlement.

3 Moreover a reconsideration of the remedy suggested in para 4 of Colonel Mullins' letter above quoted as based on the actual cost of Establishments determined independently according to the circumstances of the several Executive Divisions, has convinced

Lines attached to this passage mean that the amt. earned by Establishments employed on Irrig.n works are current to like other works entailing a further Establishment charge

the Government that however apparently reasonable it is impracticable, owing to the necessity in this Presidency of providing a general Establishment for the execution of all classes of work indiscriminately (except as regards Local Funds) which though most economical in the general interests, introduces complications as regards the distribution and incidence of the Establishment charges which cannot be readily solved in this way

4. There are in reality two very different and independent questions to be decided, first, the amount to be

contributed to Provincial
funds from Irrigation, Military
and other Imperial funds
on account of the general
Public Works Establishment,
the cost of which is not
in the first instance wholly
by Provincial, and second,
the distribution of the
Irrigation share of that
contribution between the
various heads under which
Irrigation Expenditure is
recorded.

5. With regard to the first
question, the Irrigation share
of the contribution is by
so much the largest, that
if its amount can be
satisfactorily settled, the
shares due to the other heads
of service are of comparative
small importance, and this
letter will therefore have
reference mainly to Irrigation
6. Colonel Mullins' letter
above quoted, and the note
which accompanied it, show
that a reconsideration of
the mode of calculating
establishment charges is
imperatively necessary. In
my letter No. 479 W of 21st
February last, it was shown
that by the present system
of distributing establishment
charges, Provincial funds
had paid us less than Rupees
8,55,000 more than their
legitimate share of the

charges for the two years
1878-79 and 1879-80, and
in my letter No 225 W of
27th January last, forwarding
the Provincial Budget
for 1881-82, it was shown
that this Excess would
amount to Rupees 2,80,000
for the current year, the
contributions from Irrigation,
Military and Imperial,
Other Services falling short
by Rupees 1,71,000, Rupees
43,000 & Rs 29,000 respectively
of their fair amount, under
an equal allotment.

distribution proportional
to Expenditure, and by
Rs 2,19,000, Rs 40,000 and
Rs 7,000 of what they

would be if calculated
upon the actual distribution
of the establishment now
employed.

4. These figures necessarily
only dealt with the charges
brought forward in the
years programme, but as
shown in para 14 of my letter
No 1697 W of the 9th July 1881
if the scale of normal
Establishment therewith
submitted be sanctioned
a further difference in Excess
for the Establishment due
to the proposed increase of
charge for the current official
year of about 3 lakhs
(19·17 – 16·13 lakhs) and for

1882-83 of about 4½ lakhs (20.64 – 16.13 lakhs) will have to be provided for.

8. Attached to ~~the last~~ my letter No 225 W ~~K~~ were a table shewing the Revenue and Working Expenses of Irrigation in Madras, Bombay, the North Western Provinces and the Punjaub, from which it appeared that even if a percentage of the Revenue in other Provinces, much exceeding the known cost of collection in Madras, were considered as debitable to Revenue, the balance far exceeded the 25 per cent on works Expenditure allowed in this Presidency.

9. An Examination of figures for other years shows similar results, and it is believed to be beyond controversy that throughout the provinces of Northern India, where the same establishment is employed in supervision of engineering assessment works and collection of revenue, if the works establishment be calculated at 25 per cent on the works Expenditure, the balance will be found to be about 16 per cent on the Revenue, while if the Revenue charges be taken at 10 per cent on the Revenue the balance will be found

to be upwards of 40 per
cent as against "Works"
Expenditure only.

10. In Madras, while the
Revenue charges excluding
the cost of Conservancy
Establishments are under
7·2 per cent on the Revenue
(~~exclusive of the charge~~
~~in Marine Establishment~~
~~to be taken over 7½ per cent~~
~~as it is intended to do the~~
~~10 per cent towards~~
~~other charges not~~
~~chargeable to Revenue~~) the
P.W. Department charges
are limited to 25 per cent
on the "Works" Expenditure
with a small addition
on account of Special

Establishments (proportion
of Secretary's Office &c.)
which raises the proportion
to about 27 per cent.

"

11. The principle of ad-
justment of Establishment
charges by a percentage
on the Work Expenditure
takes no account of the
fact that though in this
Presidency the revenue is
~~written~~ assessed ~~&~~
collected by the
P.W. Establishment a large
proportion of the work of
the latter is nevertheless
strictly revenue work,
and would be required if
nothing whatever were spent
upon maintenance of Works.

12. This is recognized in the case of the Conservancy establishments, which are almost entirely of the class usually understood as "petty" but it has also to be recognized in the case of the superior establishments, both engineering and subordinate.

13. The purely revenue duties connected with the management of irrigation works may be stated as:-

I. The distribution of water.

II. The ~~levy of the~~ annual assessment. assessment of the demand on account of the State on the irrigated area

III. The collection of the annual demand.

IV. Magisterial duties in reference to the Canal Act

14. On the Canals of Northern India ~~[illegible]~~ the Public Works officer performs the duties under I, II & IV, and the Civil officers collect the Revenue III. While no doubt under II the duties of departmental officers may be onerous, it is thought that the position assigned under IV may in many respects prove advantageous and lighten their general work.

15. The three last heads of duties under the are not performed by the M Dept in Madras, but the first is so to a great extent, and should be provided for

16. The extent of this duty varies in different localities, being greatest on the great Delta systems and other productive works, and least on the Minor works which come under the general head of Irrigation and Navigation.

17. The total revenue due to Productive works is at present approximately 60 lakhs, and to Irrigation and Navigation 90 lakhs; of the latter two thirds or 60 lakhs is considered to be directly due to Irrigation.

18. It is believed that a charge of 6 per cent on

the revenue due to the former works and 3 per cent on the latter might legitimately be debited to revenue. With these additions the revenue charges in Madras against Irrigation would still be much below those incurred in other parts of India.

19. The debit on account of Productive Works must of course vary with the revenue, but for Irrigation and Navigation it is considered desirable that the contribution be taken at a fixed amount, and I am directed to suggest that this sum be Rs 180,000 being 3 per cent

on 60 lakhs.

20 The debit to Revenue of a certain portion of the establishment charges would relieve to some extent the Provincial Revenues of the weight thrown upon them by the present system of distribution, and if a reasonable grant for Expenditure on Imperial Works could always be counted on, the remaining Establishment charges might be considered as fairly covered by 25 per cent upon that Expenditure. But the Hon'ble the Governor in Council is constrained to observe that

the grants from Irrigation and Imperial Funds have hitherto been considerably lower than what would reasonably equitable with reference to actual circumstances. The uncertainty as to what these grants would be, with the resulting doubt as to what will be the ultimate cost to Provincial of the P.W. Establishment has, I am to say, seriously hampered the Provincial Finances, and precluded the possibility of providing for works held to be absolutely indispensable in all other provinces. (See

also paras 47 and 48 of my letter No 1697 W of 9th July 1881.)

21. In order to avoid this uncertainty in future, I am directed to suggest for consideration that the percentage should be calculated on a minimum grant for Irrigation and Navigation (Exclusive of Productive) of Rs 25,00,000, for Military Works of Rs 6,00,000 and for Imperial and Other Services of Rs: 5,00,000. In other words that the minimum contribution on account of P.W. Establishment should be Rs 5,00,000 and Rs

one as minimum grant of Rs 25,00,000 for Irrigation & Navigation (exclusive of Productive) of Rs 6,00,000 for Military Works and of Rs 5,00,000 for Imperial & other Services

1,25,000 and Rs 1,00,000 for the above three heads respectively.

22. This with the debit to Revenue of Rs 5,40,000 and the special grant of Rs: 2,50,000 promised on account of Protective Works in para 7 of your letter No 681 G of 5th May last, would make up a total of Rs 15,15,000 Exclusive of the Establishment for "Capital Productive" which for the current year will be about Rupees 30,000.

23. The total cost of establishment as detailed in my letter No 1697 W of

and the to be undertaken of Local Funds will not exceed Rupees 90,000 so that the balance falling on Provincial will be about Rs 4,29,000 and will probably not come to much less than 40 per cent on the Work Expenditure.

23. With regard to Establishment for Capital Expenditure on Productive Work, the Amount the Governor in Council would propose that in cases where these works form special charges the actual cost of the Establishment employed, which will rarely always be less than 25 per cent, be debited to the Works; and that where, as in the case of the Godavari and Kistna Works, they are carried out by Establishments employed on general duties, the usual 25 per cent be charged.

24. The proposals which I am directed to submit may therefore be summed up as follows; that the Contribution from Imperial Funds on account of P.W. Establishment charges be composed of

(a) Rupees 1,80,000 per annum on account of Revenue from Ordinary Irrigation and Navigation Works.

(b) Six per cent on the

Revenues from Productive Works.

(c) The actual cost of Establishment employed on Capital Productive Work where these form distinct charges; in other cases 25 per cent on the Expenditure.

(d) Twenty-five per cent on all other Expenditure with the following minima:-

Rs 50,000 for Irrigation excepting Productive; Rs 1,25,000 for Military; Rs 10,000 for Imperial other Services.

(e) Rupees 2,50,000 on account of investigations connected with ~~Protective~~ Protective Works and other large projects.

The above sums to cover all establishment charges including those for Conservancy and Special Establishment.

25 For the reasons assigned in para 2 it is not contended that the principle here advocated gives absolutely accurate results; but they will, it is thought, be found fairly correct as relates to the distribution between Imperial and Provincial, and have the advantage of being in accord with the mode of calculating similar charges in other Provinces.

26 I am further to add

that if the Government of India were willing to make a fixed grant of 16 lakhs annually for all establishment other than those for Capital Productive (which must, it is thought, remain dependent upon yearly grants) subject to revision from time to time as the grants under "Protective" Railways are thereby increased as it is hoped may be the case in future years, such an arrangement would commend itself to this Government.

2. In conclusion I am to invite the attention of the Govt of India to the correspondence marginally noted and to the statement in para 6 of this letter from

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Letter to India No. 450 B.S. of 16 July 1881.
No. to do No. 270 S. of 12 April 1881, para 5.
No. to do No. 329 Rly of 5 July 1881. " 10
No. para do No. 381 G. of 5 July 1881 " 17.
No. to do No. 397 Rly of 9 July 1881 "
Telegram to do of 7 September 1881

which it will be seen that during the lengthened period over which this discussion has extended, "Imperial" has gained and Madras "Provincial" has lost over 8½ lakhs, and to point that as a partial compensation the principles now submitted for consideration may, if approved of, be given retrospective effect to, so far as regards the past year 1880-81, or that at least a sum of 3 lakhs be contributed pro adjustment of the Accounts of that year - or again should this be inconvenient that

retrospective effect may be given to

...da corresponding sum be
...y given as an additional
...grant-in-aid to "Pro-
...-vincial" for the current
...official year.

12-9-81

G.O. #36-7 & 8 dt. July/81.
" 267 & 270 dt. " 12th Aft.
" 1727 dt. 13 July/81
" 456 dt. 16-do-80.

The Hon'ble the Finance

98/2267

Draft letter to India
dispatched 15/9/81.
SC Dept 28/3/87

4094

Govt. of [1881] Madras.

PUBLIC WORKS.

To

Dated

Issued

Recd. Encl.

G. O. 15 Sept 1881, No. 23

Nos.

Distribution of cost of Ch
Ch. Establishment & Ch
Inundations

Subd. à Receipt
Treps