M.R.O. 1—77,000—6-8-37.

(1) Number of pages 52

(2) Date of repair 20-2-42

(3) Initials of the Reference

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 82	Press / Mis.
Dated 7-1-	18

Not to be folded or roughly handled

No. 170. Read the following papers :—

Proceedings of the Madras Government in the Revenue Department.

Passing orders on the Proceedings of the Board of Revenue, submitting with their remarks, letter from the Collector of Nellore reporting on the results of the Pennair Anicut. } (Here enter 10th December 1863, No. 2,249.)

No. 171. Proceedings of the Madras Government in the Revenue Department, dated 15th December 1863, No. 2,294.

Read the following letter from J. W. B. DYKES, Esq., Collector of Nellore, to J. D. SIM, Esq., Secretary to Government, Revenue Department, Fort Saint George, dated Nellore, 7th December 1863, No. 415 :—

SIR,

1. I do myself the honor to submit direct the information called for in the Proceedings of the Board of Revenue of the 24th ultimo, received on the 5th instant, so that the information required on the results of the Pennair Anicut at Nellore for 1862-63 may be laid before Government at one and the same time ; whilst a duplicate will be submitted in due course for the consideration and orders of the Board.

2. In paragraph 5, the Board require an Abstract Statement that should distinguish, in the gross, the area occupied before and since the construction of the Anicut, under tanks and channels connected with it, and the area, if any, directly irrigated from new channels. And this abstract if required I will hereafter endeavour to prepare, but now do myself the honor to submit approximately.

Gross approximate area occupied and irrigated before the Anicut was built.	Gross area occupied and irrigated since the Anicut was built.			Increase.
	Under Tanks and channels connected with it.	Under new Channels.	Total.	
Acres.	Acres.	Acres.	Acres.	Acres.
21,928.	32,874.	.....	32,874.	10,946.

3. Taking the area occupied and irrigated last year, as the required area, since the construction of the Anicut, I have calculated the area occupied and irrigated before its construction with reference to the average rate per acre, as shown by last year's accounts, which we have in detail. And thus stated approximately, it will be observed an increase is shown in the general gross area of 11,000 Acres or 50 per cent., and the area irrigated from "new channels" is left blank.

4. The channels have been so much improved that all might be entered as new. But strictly speaking, we are dealing with an old system of irrigation, and as regards the classification required there is no area I could properly enter as "directly irrigated from new channels."

5. As regards the Nellore tank, I have the honor to state that this reservoir has been included not with reference to its present "Ayacut" or area of irrigation, but with reference to the part it is required to play in the Anicut scheme. As brought to the notice of Government in the letters noted marginally,* our area of direct irrigation is very limited. In 1862-63 it was only 3,000 Acres out of 32,000. With a precarious river like the Pennair, not an acre of this limited area would be safe were there not adjacent tanks to fall back upon. And what the lower reservoirs do for direct irrigation further off, the Nellore tank must do for the direct irrigation in the upper portion of the Delta. I am now allowing land to be taken up for direct irrigation on the strength of having the Nellore tank to fall back upon when the river fails us. And situated as it is, we could not well have a more valuable reservoir either for the purposes indicated or the general strengthening of the Anicut scheme. The whole of the waste water is either received by the Sarvapalli channel, or passed to other Anicut works. The whole of the used water is received either by the Iduru, Koduru, Krishnapatnam, or Sarvapalli channels. And thus closely connected, if we had not direct irrigation from both sources mixed up in many villages, I do not think any general results could be given for the Anicut with propriety, that excluded from the calculations the Nellore tank and its expenditure.

* Nos. 37 and 49, dated respectively the 17th November and 22nd December 1862.

6. In paragraph 8, the Board observe that they find no information to show how far the increase apparent in the average revenue from 1856-57 to 1860-61 and in 1861-62, is due to the Anicut. And on this point I beg to state that there had been none given. As shown in the last page of Statement No. 3, whilst the revenue from direct irrigation from the channels in 1861-62 was Rupees 11,616, under the tanks it was Rupees 93,469. And of this amount, if any, how much was due to the obstructions caused in the river in the course of constructing the Anicut, and how much to the repairs executed on the reservoirs to the extent of Rupees 2,09,155, I am unable to distinguish or submit for the information of the Board. I believe that the Anicut had an effect, but that it is not possible or worth our while to distinguish it.

	Rs.
Anicut	
Subsidiary works	3,18,860
Subsidiary Reservoirs	1,41,205
	2,09,155
Total...	6,69,220

7. In paragraph 6, the Board observe that they nowhere find I was ever called on to submit any statements of expenditure or any such comparison as I have instituted. And in paragraph 9, the Board observe it is impossible to ascertain from my figures, the expenditure on the Anicut and its subsidiary works, or how far the increase of revenue affords a fair return for that expenditure, apparently blaming me in this second paragraph for not having been sufficiently explicit on a point they do not find I was required to touch upon. In Statement No. 1, however, in the column of remarks, I have given the required figures, and stated the total cost on the Anicut to be Rupees, 3,18,860 as shown by the accounts of this Office. Including the subsidiary works and reservoirs, I have similarly shown the total cost to be Rupees 8,69,220. And as the results of this expenditure, I have shown in my letter of the 27th July last, that the first year, the Anicut came fairly into play, on a revenue, for some time rising, there had been a sudden rise of 18 per cent. and a return on the expenditure of 6¼ per cent.,* and in my letter of the 29th August, similarly I have shown† that for so much of the Delta as our works were sufficiently advanced in to allow of the comparison being fairly made on the expenditure the gross returns might be considered 10 per cent.; which I observed could be further taken as a rough indication of the results to be expected in the current year when the Krishnapatnam and Sarvapalli channels shall have come fairly into play, results which I trust the Government will consider satisfactory and a "fair return" on the capital expended.

Letter to Board 27th July 1863, No. 238, paragraph 10.

* Paragraph 13.

† Paragraph 3.

8. The Board then proceed to observe that as my calculations are directly opposed to the District Engineer's, "it is evident one Department or the other must be persistently maintaining "a wrong course." What the Department Public Works may be doing, it is not of course for me to answer. But whether as regards the Public Works or myself, I beg the Government to decide, whether on the correspondence before them, the Board are justified in making such an accusation against either the Public Works Department or myself. It is no easy matter to show the returns on an Anicut that supplements a long established system of irrigation. Any accounts that can be drawn up so as to give the required information clearer than those now furnished; I shall be glad to adopt. And in drawing up "the elaborate statements which the "Board presume* are to be accepted as the periodical return the "Secretary of State desired to receive," I beg to state, I was actuated by no "*persistent*" intention to maintain a wrong course, but draw up statements that going fully into details might enable me to realize on a large expenditure of public capital, and form at the same time a sound basis for the report submitted and the collection and record of data for future reports.

* Paragraph 3.

9. In paragraph 13, the Board observe, I have not stated what I propose to make the Inámdars pay for the increased advantages derived by the Anicut. And on this point I beg to refer to my report to the Board of the 21st October, No. 362, showing 20,000 Acres as the area involved, and recommending that 4,000 Acres, the average area irrigated during the ten years from 1850 to 1860, should be taken as the basis, and the Inámdars as a rule made to pay for all they irrigated in excess.

10. What the Inámdars should be charged, that I proposed to make as far as possible a matter of agreement, with reference to any proposals I might receive from the Inámdars, after the Board's orders had been passed on the question of area. But for this purpose, either the Godavery rate or the Kurnool rate could be adopted as our standard, and if thought fit without further reference to private arrangements. The Kurnool rate, I must add, being in my opinion none too much.

11. In prescribing for myself a minimum assessment of Rupees 4 Annas 8 per Acre for the ordinary assessed lands as observed by the Board, I have been guided by what I found the marketable value of water. No special minimum was fixed. But I found Rupees 6 an Acre.

consolidated assessment, was eagerly taken up; and, keeping to the preseribed rates in each village, I have endeavoured to give over the land applied for as much as possible at this rate of Rupees 6 an Acre, the water rate in each case being the difference between this consolidated rate and what the land would be assessed at, if assessed for "dry" cultivation.

12. Under Section 40, Regulation 2 of 1803 referred to by the Board, a Collector is prohibited from increasing the rate of "waram" without the permission of the Board. But this is I presume where the "waram" has been already fixed on the land. And to fix a "waram' or in this case an assessment after an Anicut has been built, with reference to what had been fixed on adjacent land before, would be to build a palace by a hovel and charge the same rent for both.

13. And having now submitted in detail such information as is in my power in respect to the points commented on by the Board, I beg to refer briefly to Colonel Anderson's letter of the 8th October to which I deferred replying, as I informed the Board* in my letter of the 26th October till he should have seen my report.

* 26th October, No. 346, to the Board.
28th idem, No. 290, to Colonel Anderson.
Copies sent.

14. Colonel Anderson, it will be observed, in reality agrees with me as to when the effects of the present Anicut must be looked for, and the points at issue are, 1st, should the expenditure on the tanks or subsidiary reservoirs be considered a normal charge against revenue; and 2ndly, can the effects of the two first Anicuts be readily ascertained. As regards the first point, I am of opinion that it is not a question of whether the expenditure would have been the same or nearly the same, whether the Anicut had been constructed or not, but whether the revenue under those reservoirs can be taken credit for for the Anicut and the expenditure ignored. And looking to the magnitude of the expenditure and the results that have followed similar expenditure elsewhere, I am of opinion, it cannot. Whilst, as regards the second of these two points and the possibility of distinguishing *Anicuts* here again, as I have already said, with reference to the total expenditure, all I can say is, if a distinction can be drawn between the results of the money spent on the Anicuts and the money spent on the reservoirs, I am at fault as to the mode to be pursued, but shall be ready to follow it if pointed out.

15. So far as I am aware, the instructions forwarded by the Government of India through the Accountant General refer to *new works;* they do not take into their scope the case of new works blended with old, and *depending* on the old works for their development.

16. The Nellore Tank, a further point raised by Colonel Anderson, I have already explained, has been incorporated with reference to its use as a reservoir to supplement Anicut irrigation; as one of the works on which Anicut irrigation from the Pennair must depend. And as regards the question asked by Colonel Anderson in the 4th paragraph of his letter, "how is it "possible the first Anicut commenced in 1854-55 could have had any influence on irrigation "works for the three previous years;" it is only necessary here to observe, that this question was asked before Colonel Anderson had seen my report, and from these reports he will have learnt that the accounts were dated from 1851-52, as regards revenue, to afford the means of comparison, as regards expenditure to show so far as the accounts were available what had been of late years spent on our subsidiary reservoirs. Whether this latter object was material, and whether we can properly ignore an expenditure of Rupees 2,09,155, or not, it is for the Government to decide.

From J. W. B. DYKES, Esq., Collector of Nellore, to W. HUDLESTON, Esq., Secretary to the Board of Revenue, Madras, dated Nellore, 26th October 1863, No. 346.

SIR,

1. I have the honor to acknowledge the receipt of the Board's Proceedings of the 20th, No. 6,681, and state that I propose replying to any objection Colonel Anderson may have to make as to the mode in which the Anicut Returns have been drawn up, after furnishing him with a copy of my reports on the subject under dates the 27th July, No. 238, 12th August, No. 251, and 29th August No. 281, respectively.

2. Copies of these reports would have been sent to Colonel Anderson in the first instance, had I anticipated their being two and three months under consultation; I thought on the contrary they would be passed on and printed at once, as the Secretary of State had called for the information at an early date; and I applied for spare printed copies for Colonel Anderson and the other Officers interested, as preferable to the manuscript copies now being prepared with reference to the Board's Official Memorandum No. 849, dated 17th October 1863, informing me that the reports are still under consultation and not likely to leave the Board's Office for some time longer.

From J. W. B. DYKES, Esq., Collector of Nellore, to Lieutenant-Colonel J. C. ANDERSON, R. E., Superintending Engineer, 2nd Division, dated Nellore, 28th October 1863, No. 290.

SIR,

1. With reference to the Proceedings of the Board of the 20th October 1863, No. 6,681, and the accompanying letter from yourself of the 8th idem, No. 796, I have the honor to forward for your information copy of my reply* and of my report on the Anicut of the 27th July No., 238.

* No. 346, dated 26th October 1863.

2. The other two† reports shall be sent as copied.

† Nos. 251 and 281 of 12th and 29th August 1863.

1. Procs. of the Madras Govt. P. W. D., 12th June 1862, No 1,335.
2. Collector's letter to Acting District Engineer, Nellore, No. 311, dated 23rd October 1862, with its enclosures.
3. Do. do. No. 394, dated 24th Dec. 1862, with its enclosure.
4. Do. do. No. 1, dated 8th January 1863.
5. Procs. of the Madras Govt. P. W. D., dated 5th May 1863, No. 1,141.

3. And in conclusion, I beg to call your attention to the correspondence noted marginally, copies of which have been furnished to your Office.

(True Copies.)

(Signed) J. W. B. DYKES, *Collector.*

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1. The subject of paragraphs 9 to 13 will be considered when the Board's remarks are received.

2. The rest of Mr. Dykes' letter will be disposed of in the Department Public Works.

(True Extract.)

(Signed) J. D. SIM,
Secretary to Government.

No. 172.

ORDER THEREON, 9th January 1864, No. 82.

1. The points discussed in these papers, and remaining for disposal in this Department, are as follows:—

(1.) The principle on which the revenue derived from the Pennair Anicut is to be computed, and the form in which the periodical Returns called for by Government are to be prepared.

(2.) The expediency of extending the Coast Canal to Kistnapatam.

2. On the first of these points the Collector and the Superintending Engineer are at issue. The former is of opinion that from the aggregate of the revenue derived from the land brought under the influence of the Anicut, such portion as is due to the tanks and channels now forming part of the integral scheme, but which existed before the construction of the Anicut, should be eliminated; and that in calculating the return on outlay, the expenditure on the maintenance of those tanks and channels since the year 1851-52, or three years before the commencement of the first Anicut, should be taken into account. The Superintending Engineer objects to this mode of calculation, on the ground that the expenditure on the various irrigation works up to the year 1854-55 was quite unconnected with the Anicut scheme, and should not be charged against it. The Collector, in reply, states that during the three years in question a sum of Rupees 2,09,155 was spent in improvements to the old tanks and channels, and that in calculating the return from the Anicut, so large an outlay upon works which now form an integral part of the scheme cannot properly be ignored.

3. The Superintending Engineer also remarks that the Collector has allowed nothing for the effect produced on the revenue by the first two Anicuts, which were carried away in the years 1857 and 1858 respectively.

4. Mr. Dykes acknowledges that the revenue was influenced by these incomplete works, but considers it impossible to calculate it satisfactorily.

5. Colonel Anderson further objects to the expenditure on the Nellore tank being included with that on the Anicut and its subsidiary works, stating that the great mass of the tank Ayacut is above the level of the channel water, and can never derive any benefit from it. Mr. Dykes, however, considers it impossible to separate the Nellore tank from the Anicut scheme, and says that in so uncertain a stream as the Pennair, the Anicut irrigation would be comparatively valueless, were there not some such reservoirs as the Nellore tank to fall back on.

6. The Governor in Council does not consider it necessary to go into each of these points at issue. He quite concurs with the Board of Revenue in the sentiments expressed in paragraph 5 of its Proceedings. A Statement in abstract prepared on reliable data and exhibiting, in the gross, the results of the Pennair system of irrigation is all that is requisite. This Statement should exhibit the area irrigated under old tanks and channels now brought under the influence of the Anicut, and the average revenue derived thereform during the ten years preceding that in which the Anicut was constructed, as also the area since irrigated, including that directly watered by new channels; care being taken to exclude the Ayacut which may be above the level of the channels. In juxtaposition to this should be shown the expenditure on new works and repairs severally for each year during the same period. With these statistics the Government will draw its own conclusions. It is satisfactory to note the results of the Anicut works in the year 1862-63 and the prospective advantages so confidently looked for.

7. The other point in the papers demanding notice is the extension of the Coast Canal. The Governor in Council has, however, forestalled the wishes of the local authorities and of the Board on this subject, and a report from Mr. Kennedy, accompanied by Plans and Estimates for the proposed extension, is now under consideration.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

To the Superintending Engineer, 2nd Division.
" Revenue Department.
" Board of Revenue.
" Contr. Volume of P. W. Accts

Exd. S. T. Augustin.

Contrary they would be passed on & printed

Public Works

9th January 1864

№ 82

Proceedings of the Madras Government, Revenue Department, 15th December 1863.

No. 260. Read the following letter from the Collector of Nellore :—

Submitting the further information called for by the Board of Revenue in their Proceedings dated 24th ultimo, No. 7,426, in connexion with the results of the Pennair Anicut at Nellore. } (Here enter 7th December 1863, No. 415.)

No. 261. ORDER THEREON, 15th December 1863, No. 2,291.

1. The subject of paragraphs 9 to 13 will be considered when the Board's remarks are received.

2. The rest of Mr. Dykes' letter will be disposed of in the Department Public Works.

(True Extract.)

J. Dykes
Secretary to Government.

To the Board of Revenue.
„ Director of Revenue Settlement.
„ Department Public Works. with 2 Recds / to be returned

Exd. S. T. Augustin.

contrary they would be passed on & printed
at

No. 346

Nellore
Collector's Office
26th October 1863

From
J. W. B. Dykes Esquire
Collector of Nellore

To
W. Hudleston Esquire
Secretary to the Board of Revenue
Madras

Sir,

I have the honor to acknowledge the receipt of the Board's Proceedings of the 20th No. 6681 and state that I propose replying to any objection Colonel Anderson may have to make as to the mode in which the Anikat Returns have been drawn up, after furnishing him with a copy of my reports on the subject under dates the 27th July No. 238, 12th August No. 251 and 29th August No. 281 respectively.

2. Copies of these reports would have been sent to Colonel Anderson in the first instance, had I anticipated their being 2 & 3 months under consultation; I thought on the contrary they would be passed on & printed at

Copy in a Letter to England
Dy 20th February 1864 No. 16.

Pt. 1863 Dept.
Pro. of Govt. for Cant.
No. 5265
Pro. of Govt. in the
Revenue Department
Dated 15th Dec.
Received 17th
Q2. No. 2294
E2
Printed
Copying, for disposal, 1 or disposal, from the Collr. of Nellore submitting the further information, called for, in connection with the results of the Rumain Revenue.
No. 82-9th January 1864

at once, as the Secretary of State had called for the information at an early date, and I applied for spare printed copies for Colonel Anderson & the other officers interested, as preferable to the manuscript copies now being prepared with reference to the Board's official Memo No. 849, dated 17th October 1863, informing me that the Reports are still under consultation & not likely to leave the Board's office for some time longer.

I have &c.

(Signed) J. W. B. Dykes

Collector

Nellore, Collector's Office

No. 290.

28th October 1863.

From

J. W. B. Dykes Esquire

Collector of Nellore.

To

Lieutenant Colonel J. C. Anderson R. E.

Sir

Superintending Engineer, Second Division

With reference to the Proceedings of the Board of the 20th October 1863, No. 6681 and the accompanying letter from yourself of the 8th idem, No. 796, I have the honor to forward for your information copy of my reply* & of my Report on the Anikat of the 27th July No. 238.

* No. 346 dated 26th October 1863.

2. The other two† reports shall be sent as copied.

† Nos. 251 & 281 of 12th and 29th August 1863.

3. And in conclusion, I beg to call your attention to the correspondence noted marginally, copies of which have been furnished to your office.

1. Proceedings of the Madras Government, P.W.D., 12th June 1862, No. 1335.
2. Collector's letter to Ag. District Engineer, Nellore No. 311, dated 23d October 1862, with its enclosures.
3. ditto — ditto, No. 394 dated 24th December 1862 with its enclosure.
4. ditto — ditto, No. 1, dated 8th January 1863.
5. Proceedings of the Madras Government, P.W. Deptt. dated 5th May 1863, No. 1141.

I have &c.

(Signed) J. W. B. Dykes

Collector

(True Copies)

J. W. B. Dykes

Collector.

No. 415.

Nellore,
Collector's Office,
7th December 1863.

From,

J. W. B. Dykes Esquire,
Collector of Nellore.

To,

J. D. Sim Esquire,
Secretary to Government Revenue Deptt.
Fort Saint George.

Sir,

I do myself, the honor to submit direct the information called for in the Proceedings of the Board of Revenue of the 24th Ultimo received on the 5th Instant, so that the information required on the results of the Pennair Anikut at Nellore for 1862-63 may be laid before Government at one and the same time; whilst a duplicate will be submitted in due course for the consideration and orders of the Board.

2 In paragraph 5, the Board require

an

Copy in a letter to England
3/20. February 1864 No. 4

No. 5215/63.

In a letter from the Collector of Nellore to the Secretary to Government Revenue Department, Fort Saint George, Dated 7th December 1863 No. 415.

Rec: 3061/63.

Copy of a letter from the Collector of Nellore to the Secretary to the Board of Revenue Dated 26th October 1863 No. 345 Reporting in para 13 of the accompanying letter No. 415.

an Abstract Statement that should distinguish in the gross, the area occupied before and since the construction of the Anicut, under tanks and Channels connected with it, and the area, if any, directly irrigated from new Channels. And this Abstract if required, I will hereafter endeavour to prepare, but now do myself the honor to submit approximately.

Gross approximate area occupied & irrigated before the Anicut was built.	Gross area occupied and irrigated since the Anicut was built.			Increase
	Under tanks & channels connected with it.	Under new Channels	Total	
Acres	Acres	Acres	Acres	Acres
21,928	32,874	"	32,874	10,946

3 Taking the area occupied and irrigated last year, as the required area since the construction of the Anicut, I have calculated the area occupied and irrigated before its construction with reference to the average rate per acre, as shown by last year's accounts, which we have in detail. And thus stated approximately, it will be observed an increase is shown in the general gross area of 11000 Acres or 50 per cent, and the area irrigated from "New Channels" is left blank.

4 The Channels have been so much improved that all might be entered as new. But strictly speaking, we are dealing with an old system of irrigation and as regards the classification required, there is no area, I could properly, enter as "directly irrigated from new Channels."

5 As regards the Nellore tank, I have the honor to state that this reservoir has been included not with reference to its present Ayacut or area of irrigation, but with reference to the part

part it is required to play in the Anikat scheme. As brought to the notice of Government in the letters noted marginally, our area of direct irrigation is very limited. In 1862-63, it was only 3,000 acres out of 32,000. With a precarious river like the Pennair, not an acre of this limited area would be safe, were there not adjacent tanks to fall back upon. And what the lower reservoirs do for direct irrigation further off, the Nellore tank must do for the direct irrigation in the upper portion of the Delta. I am now allowing land to be taken up for direct irrigation on the strength of having the Nellore tank to fall back upon when the river fails &c. And situated as it is, we could not well have a more valuable reservoir either for the purposes indicated or the general strengthening of the Anikat

× Nos. 37 & 49 dated respectively the 17th Nov. and 22nd December 1862.

Anikat scheme. The whole of the waste water is either received by the Sarvapalli Channel, or passed to other Anikat works. The whole of the used water is received either by the Sowru Kodaru, Krishnapatnam, or Sarvapalli Channels. And thus closely connected, if we had not direct irrigation from both sources mixed up in many villages, I do not think any general results could be given for the Anikat with propriety, that excluded from the calculations the Nellore Tank and its expenditure.

6 In paragraph 8, the Board observe that they find no information to show how far the increase apparent in the average revenue from 1856-57 to 1860-61, and in 1861-62, is due to the Anikat. And on this point I beg to

to state, that there had been none given. As shown in the last page of Statement, No. 3, whilst the revenue from direct irrigation from the Channels in 1861-62 was Rs 11,616, under the tanks it was Rs 93,469. And of this amount, if any, how much was due to the obstructions caused in the river in the course of constructing the Anikat, and how much to the repairs executed on the Reservoirs to the extent of Rs 209,155. I am unable to distinguish or submit for the information of the Board, I believe that the Anikat had an effect, but that it is not possible or worth our while to distinguish it.

	Rs
Anikat	318,860
Subsidiary works	141,205
Subsidiary Reservoirs	209,155
Total	669,220

7 In paragraph 6. the Board observe, that

that they no where find, I was ever called on to submit any Statements of Expenditure or any such Comparison as I have instituted. And in paragraph 9. the Board observe it is impossible to ascertain from my figures, the expenditure on the Anikat and its subsidiary works or how far the increase of Revenue affords a fair return for that expenditure, apparently blaming me in this second paragraph for not having been sufficiently explicit on a point they do not find I was required to touch upon. In Statement No. 1 however in the column of Remarks, I have given the required figures and stated the total cost on the Anikat to be Rs 318,860 as shown by the accounts of this Office. Including the Subsidiary works and Reservoirs, I have

Similarly

similarly shown the total cost to be Rs 8,69220. Letter to Board
And as the results of this Expenditure, I have 27th July 1863.
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a sudden rise of 18 per cent and a return
on the Expenditure of 6¼ per Cent and in my letter * Paragraph 13
of the 29th August, similarly I have shown, that * Paragraph 3.
for so much of the Delta as our works were
sufficiently advanced in to allow of the compa-
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the gross returns might be considered 10 per Cent,
which I observed could be further taken as
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fairly into play, results which I trust the
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"fair return" on the capital expended.

8 The Board then proceed to observe,
that as my calculations are directly opposed
to the District Engineers, "it is evident one
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of course for me to answer. But whether as
regards the Public Works or myself, I beg
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spondence before them, the Board are justified
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System

system of irrigation. Any accounts that can
be drawn up so as to give the required information
clearer than those now furnished, I shall
be glad to adopt. And in drawing up "the
"elaborate statements which the Board presume × Paragraph 8
"are to be accepted as the periodical return
"the Secretary of State desired to receive, I beg
to state, I was actuated by no "persistent"
intention to maintain a wrong course", but
draw up statements that going fully into
details might enable me to realize on a large
expenditure of public Capital, and form at
the same time a sound basis for the report
submitted and the collection and record of
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9 In paragraph 18, the Board observe,

I

I have not stated what I propose to make
the Inamdars pay for the increased advantages
derived by the Ambat. And on this point
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the basis and the Inamdars as a rule made
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that I proposed to make as far as possible
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after the Board's orders had been passed on
the question of area. But for this purpose, either
the Godavery rate or the Kurnool rate could
be

be adopted as our standard, and if thought fit, without further reference to private arrangements. The Kurnool rate, I must add, being in my opinion more than too much.

11 In prescribing for myself a minimum assessment of Rs 4-8 per acre for the ordinary assessed lands as observed by the Board, I have been guided by what I found the marketable value of water. No special minimum was fixed. But I found Rs 6 an acre, consolidated assessment, was eagerly taken up; and, keeping to the prescribed rates in each village, I have endeavoured to give over the land applied for as much as possible at this rate of Rs 6 an acre, the water rate in each case being the difference between this consolidated rate and what the land would be assessed at, if assessed for "dry" cultivation.

12 Under Section 40, Regulation 29, 1803 referred to by the Board, a Collector is prohibited from increasing the rate of waram without the permission of the Board. But this is, I presume where the "waram" has been fixed already fixed on the land. And to a "waram" or in this case an assessment after an Anikat has been built, with reference to what had been fixed on adjacent land before, would be to build a palace by a hovel and charge the same rent for both.

13 And having now submitted in detail such information as is in my power, in respect to the points commented on by the Board, I beg

beg to refer briefly to Col Anderson's letter of the 8th October to which I referred replying, as I informed the Board in my letter of the 26th October till he should have seen my report

26th October to the Board.
28th Idem No 290 to Col Anderson.
Copies sent.

14 Col Anderson, it will be observed, in reality agrees with me as to where the effects of the present Anikat must be looked for, and the points at issue are, 1st, should the expenditure on the tanks or Subsidiary Reservoirs be considered a normal charge against revenue, and, 2nd, can the effects of the two first Anikats be nearly ascertained. As regards the first point I am of opinion that it is not a question of whether the expenditure would have been the same or nearly the same whether the Anikat had been constructed

or

or not, but whether the revenue under those reservoirs can be taken credit for, and the Anikat and the expenditure ignored. And looking to the magnitude of the expenditure and the results that have followed similar expenditure elsewhere, I am of opinion, it can not. Whilst, as regards the second of these two points and the possibility of distinguishing Anikats here again, as I have already said with reference to the total expenditure, all I can say is, if a distinction can be drawn between the results of the money spent on the Anikats and the money spent on the reservoirs, I am at fault as to the mode to be pursued, but shall be ready to follow it, if pointed out.

15 So far as I am aware, the instructions

forwarded

forwarded by the Government of India through the Accountant General refer to new works; they do not take into their scope, the case of new works blended with old, and depending on the old works for their development.

16 The Nellore Tank, a further point raised by Col. Anderson, I have already explained, has been incorporated with reference to its use as a reservoir to supplement Anikat irrigation, as one of the works on which Anikat irrigation from the Pennair must depend. And, as regards the question asked by Col. Anderson in the 4th paragraph of his letter, "how is it "possible the first Anikat commenced in 1854-"55, could have had any influence on irriga-"tion works for the 3 previous years"; it is only necessary here to observe, that this question was asked before Col. Anderson had seen my report, and from these reports, he will have learnt that the accounts were dated from 1851-52, as regards revenue, to afford the means of comparison, as regards Expenditure to show so far as the accounts were available what had been of late years spent on our Subsidiary reservoirs. Whether this latter object was material, and whether we can properly ignore an Expenditure of Rs 209,155, or not, it is for the Government to decide.

I have the honor to be
Sir
Your Most obedient Servant
J. B. Day Rd
Collector

Compd. T.B.

No. 7,426.

PROCEEDINGS OF THE BOARD OF REVENUE, dated 24th November 1863.

Read again the following letters.:—

From J. W. DYKES, Esq., Collector of Nellore, dated 27th July 1863, No. 238.

1. In accordance to the Orders of Government under date the 5th May, No. 1,141, I do myself the honor to report on the results of the Pennair Anikut, and submit, first, Abstract Statement of Expenditure, which will enable me to show more clearly present results; second, Abstract Statement of Revenue, or results financially speaking of the Anikut; third, detailed comparison of Revenue and Expenditure, which will place those results in a clearer light than if given solely as a gross sum.

2. In my letters to Government of the 17th November and 22nd December last, Nos. 37 and 49 respectively, copies of which I enclose for the information of the Board, I brought to notice that it would be incorrect to consider the Pennair Anikut at Nellore as an isolated work, that it must be taken in connexion with the existing tanks, &c., which thus become subsidiary reservoirs, and that the original cost of these reservoirs, if obtainable, should be added to the cost of the Anikut and its more immediately subsidiary works to obtain strictly accurate results. This course, however, it is scarce necessary to add it is not now possible to pursue, and in the accompanying Statements, so far as expenditure is concerned, all I can show is the cost of such improvements and repairs, &c., on the works in question as have been executed during the period selected for a comparison of the revenue, and subsequently; and this will show what has been the results of the expenditure exhibited, under the circumstances existing at the time in Nellore, and what might be expected to be the results of similar expenditure under similar circumstances elsewhere.

3. The Anikut itself has been unfortunate. Commenced in 1854-55, finished the next year,* swept away in the following, re-built† and swept away as soon as re-built, it is only the present structure, the third attempt, that has allowed of an inquiry into results; and this inquiry is instituted, the first year that results could be expected to show themselves. For the Anikut was not completed in 1861-62; there was a small expenditure in the year under report; whilst the total expenditure, including the Head Sluice has been 3,18,860 Rupees, and the results of this large expenditure cannot be fairly tested till more of the country to be irrigated has been brought within its scope.

* Cost Rupees 1,09,511.

† Cost Rupees 70,731.

4. In the Orders of Government I am directed to show the irrigation assessment on the land within reach of the Anikut before that work was begun, and on the land now irrigated from the Anicut; and the present Anicut having been begun in 1858-59, I have selected for comparison, the average revenue from the lands in question for five years from 1851-52 to 1855-56, and in the accompanying Statements I have compared this revenue first with a similar period of five years from 1856-57 to 1860-61, and then with the revenue from the same lands in 1861-62, and 1862-63 the year under report, and for the sake of the comparison have shown the expenditure similarly, and for the two first periods in a gross sum, for the two last years; first, as regards the Anikut and Channels; second, as regards the subsidiary reservoirs; third, as regards total expenditure, and in every case exclusive of cost of general superintendence.

A

5. The original Anikut having been commenced in 1854-55 it might be objected that the five years selected do not comply with the requisitions of Government. But as the original Anikut came to an untimely end, and as the next Anikut shared the same fate, I do not think that the results of the comparison are likely to be so much affected by the impetus given to agriculture by such local expenditure as to render it necessary to go further back, whilst the accounts of the years selected present advantages I should fail in obtaining for an earlier period. They have been carefully revised for the new settlement; and even taking this comparatively recent period, in one respect, I must state my information is defective. It was not the custom of this District formerly to credit irrigation works with the water rate on temporary irrigation or Inams. Now this credit has been given; and if it were desired at this distance of time to make the comparison complete in this respect, it would, I fear, be difficult. Not doing so, of course, is in favor of the works.

6. Turning to the Abstract Statement of expenditure, it will be observed that in the first five years the average expenditure on the Pennair Anikut, subsidiary works, and reservoirs, was Rupees 30,699, which gives a total expenditure of Rupees 1,53,495 for the five years from 1851-52 to 1855-56, and comprises Rupees 47,440 ordinary expenditure on the subsidiary works and reservoirs, Rupees 1,06,055 on the first Anikut.

7. On the second period of five years it will be observed our expenditure averaged Rupees 34,920 on the Anikut, Rupees 76,288 on the Anikut, subsidiary works, and reservoirs, thus raising our total expenditure in the ten years as shown in the margin to 5,34,935 Rupees.

Rupees 30,699 × 5 =	1,53,495
„ 76,288 × 5 =	3,81,440
Total...	5,34,935

8. At present we have no irrigation from the Anikut on the north bank of the river. It is the Southern Delta that is irrigated; and this irrigation divides itself into two portions, one, the Northern, nearest the river, and irrigated by the Gangapatnam and Iduru Koduru channels; the other, the Southern, to be supplied by the Krishnapatnam and Sarvapalli channels, the Krishnapatnam having just been dug and brought into use for the first time during the year under report, and the Sarvapalli, though an old channel like the two first, having till now derived but little benefit from the Anikut in consequence of various difficulties that have attended its connexion with the upper scheme of irrigation by what is called the new Sarvapalli cut.

9. As stated already I have shown the expenditure for the two last years as divided on the Anikut channels and regulating works, and on the subsidiary reservoirs, these latter, the old tanks, being classed with the channels, which they supplement; and thus divided, division of expenditure and revenue is carried down to sections of channels, where the accounts admitted of it. But this detailed information is more for the benefit of local officers, that we may compare expenditure with receipts, supply, with area irrigated, &c., than for the Board or Government; and in reporting on the results of the Anikut, it will be sufficient for me to call attention to the general features of the expenditure during the last two years which it will be observed vary considerably, the returns for both portions of the Delta showing, that whilst in the total expenditure we have a decrease from Rupees 73,155 to Rupees 61,130, and this decrease correctly indicates an approach towards completion in respect to the Anikut on which the expenditure in 1861-62 was Rupees 34,794, and in last year Rupees 3,411, in other respects we have had an increased and rising expenditure from six to fifteen thousand Rupees on the channels and regulating works in the Northern portion of the Delta, and in the Southern from sixteen to thirty-seven thousand Rupees, the major portion of which is due to the digging of the Krishnapatnam channel, Rupees 23,839, and Rupees 13,383 to the new Sarvapalli cut, the returns for which must be looked for in the coming year, not in the year under report.

10. The total expenditure on the Pennair Anikut, its subsidiary works and reservoirs during the first ten years selected for report, I have shown to be Rupees 5,31,935. In 1861-62, it was Rupees 73,155; in 1862-63, it was Rupees 61,130; and at the end of the twelve years thus expended, I have now to show the results as regards an irrigation assessment of a total expenditure of 6,69,220 Rupees.

Expenditure.	RS.
From 1851-52 to 1860-61....	5,34,935
In 1861-62.....	73,155
In 1862-63.....	61,130
Grand Total..	6,69,220

11. Last year my report on the Anikut included 25 villages and their subsidary reservoirs that is to say the tanks, &c., which our predecessors, Mussulmen or Hindus and the Ryots between them had, from time to time, constructed for the purpose of securing a supply of water for the cultivation of the land. In the year under report 44 villages including those held on favorable tenure are shown as within reach of Anikut irrigation; and these returns will be found to differ from the previous returns in respect to revenue and the expenditure on subsidiary reservoirs inasmuch as the irrigation assessment of every village now brought under the influence of the Anikut this year, has to be added to the gross revenue shown for the preceding years to secure a fair comparison. Whilst, on the other hand, it will be further observed, that in some of these new villages no subsidiary reservoirs are shown either as regards expenditure or revenue, because, entered in order to show expenditure on new channels, in such villages the water has not yet been let on, and it is, as regards them, unnecessary at present therefore, to further disturb the accounts either way.

12. Where the water has been let on much of the increased supply afforded by the Anikut has, I regret to state, been taken possession of for lands held on favorable tenures, where the returns have been abundant as far as the crops go, and the material prosperity of the country is concerned, but not so perceptible financially speaking; and when it is the leading Ryots and Headmen of the ordinarily assessed villages in the neighbourhood that usually cultivate these Inam villages, it will be seen it is difficult to check this abuse. The men to whom we have to look to to take care of the water, are the men we have to take care of themselves. However Statements have now been completed showing accurately the average irrigation in these favorable tenures previous to the Anikut coming into play, which will secure a fair return hereafter for the public capital expended; and meanwhile with all these drawbacks in respect to immediate results, the Statement I now do myself the honor to submit showing the increase in revenue will, I think, be considered satisfactory.

13. *Abstract Statement No.* 2.—On so many of the 44 villages exhibited as are now irrigated from the Anikut, the average revenue from 1851-52 to 1855-56 under the head of irrigation was Rupees 82,480. In these same villages in the next five years the average revenue under the same head was Rupees 1,02,752. In 1861-62, the revenue rose to Rupees 1,05,085; and in 1862-63 the Anikut came into play, and the revenue rose to 1,24,086 or, in other words, on the country now within reach of the Anikut, the revenue is half as much again as it was seven years ago, and of this large rise, nineteen thousand Rupees, or 18 per cent, is due to one year of fair play for the Anikut.

14. Neither would it be fair to this great irrigation work, did I not bring to notice, the nature of the last season in this District. In the North and South of the District it has been an average year. In the centre it has been a bad year. We have been badly off for rain; and the annexed Statement shows more clearly than the preceding figures, what has been the real effect, the real results of the Anikut during the year under report, not only financially, but in other respects, equally important. From this Statement, drawn up at the Jamabandi, it will be seen that under the Anikut, including the Nellore Tank, which makes a suitable apex to this fine area of irrigation, with a rise of 20 per cent in the year on the total revenue, on Rupees

1,05,983, in the Nellore Taluk, I had to remit for short supply Rupees 256. Under the river channels north of the river, I had to remit six per cent, or Rupees 9,899. Under the two Alluru tanks, which are remarkably fine reservoirs, my remissions were 16 per cent, or Rupees 4,718; and under the remainder of the works of irrigation in this Nellore Taluk I had to remit, it will be seen, no less than 68 per cent, or a sum of 28,961 Rupees, which could not have been fairly charged; and in estimating the true results of the Anikut it would, if necessary, be requisite to show, instead of a gross increase, the difference of 6 per cent in excess in those villages that had previously a river supply including the Nellore tank, and 68 per cent, in the rest of the villages, for the whole of this has been saved by the Anikut; and instead of an increase simply of so many Rupees, however calculated, to show the true results of the Anikut, it would be further necessary to record, that, in a season of scarcity and high prices, thanks to the Anikut our crops have been assured on an area of 32,000 acres against an area of 30,000 acres last year, and an average in the first five years it may be assumed of 20,000 acres. But such comparison it seems to me is unnecessary. So far as the increased area of production is concerned, even what I have shown is far short of the truth as I have not been able yet to bring the Inam lands under control; whilst as regards either area of production or rise of revenue, so far as irrigation has yet gone, the rise shown is, I presume, sufficient to show that the Pennair Anikut at Nellore is not likely to be an exception to the rule, that money laid out on irrigation, is pretty sure to do good to the country, and prove remunerative:—

Irrigation in the Taluk of Nellore.

No.	Sources of Irrigation.	Area in occupation and assessment.		Remission.	Adjusted assessment.	Per centage of Columns 3 & 2.	Remarks.
		Extent.	Assessment.				
	1	2		3	4	5	6
		Acres.	Rupees.				
1	Nellore tank, Anikut, subsidiary tanks and channels...	24,846	1,05,983	256	1,05,727	...	
2	All channels and tanks north of the Pennair, south of the Payideru, and east of Sangam...	35,403	1,66,909	9,899	1,57,010	6	
3	Alluru large tank and Ramana tank... ...	7,454	30,052	4,718	25,334	16	
4	Other tanks, &c., not included in the above sources of Irrigation villages 27..... ...	8,354	42,308	28,961	13,347	68	
		76,057	3,45,252	43,834	3,01,418	13	

15. *No.* 3.—In the Comparative Statement the expenditure is compared in detail with the revenue, and shows how the rise in the revenue corresponds with expenditure. Whilst adopting these precautions, watching year by year our results in detail, in short, taking the same precautions in laying out public capital as in respect to private capital, we shall, I believe, as our area of irrigation extends, show results as favorable as those obtained on the limited area now effected. But like the other Statements these details are more for the information of the local officers than the Board or Government. They are submitted that they may be available if required; and as respects the general proportion of expenditure to revenue and general return on capital expended which it is right I should show as well as the results of the Anikut, it will be sufficient to state here, that in the first five years our expenditure was in the *ratio* of 37 per cent to our revenue; in the second five years it rose to 74 per cent; in 1861-62 it was 70 per cent; in 1862-63 it fell to 50 per cent; and without taking into consideration the exceptional nature of last season, on a total expenditure of Rupees 6,69,220, we may consider there has been an increase in the revenue, as before shown, of Rupees 41,606, or a gross return of nearly 6¼ per cent on the capital expended.

16. As the Board are aware the Anikut is a cause-way across the Pennair, which where the Anikut crosses it is upwards of a quarter of a mile broad; and the assistance this is to traffic, may be estimated by the fact that the light toll authorized to be established for maintenance of way, &c. has this year let for close on three-thousand* Rupees, less deductions for days closed.

* Rupees 2,950.

17. And, in conclusion, in submitting what will, I trust, be considered a satisfactory report, of the benefits conferred on the District by the Anikut, I would beg to suggest that to secure a continuance of the satisfactory progress now reported in respect to increase of revenue, increase of area irrigated, and return on capital expended, it is in my opinion desirable,

1*st*.—That for the present an effective superintendence should be specially provided for the Anikut and its subsidiary works in which I would further include roads.

2*ndly*.—That the Coast Canal should be continued to Krishnapatnam.

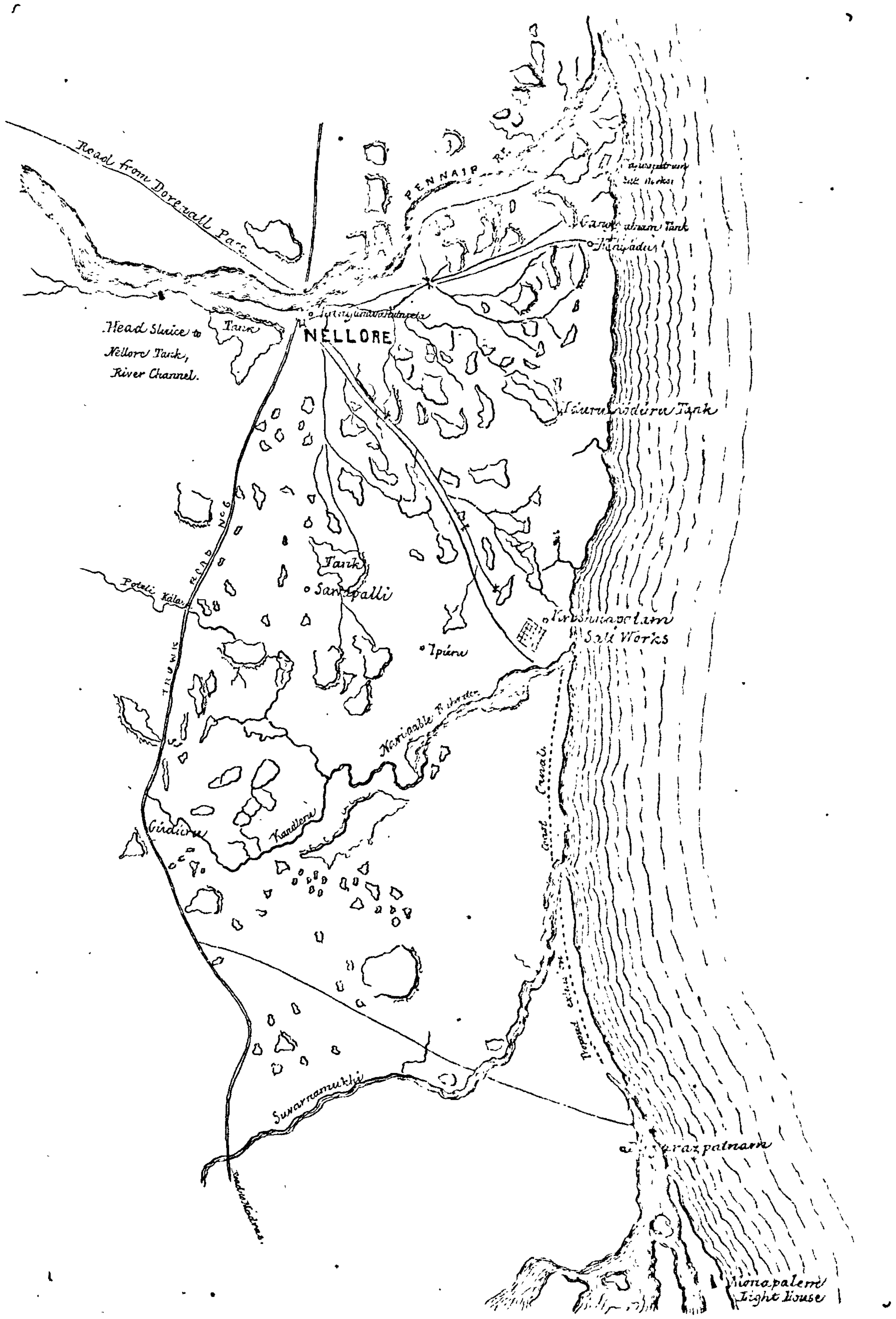
3*rdly*.—That the present orders in respect to the settlement of the Land revenue should be modified.

18. The first point to which I call attention is one on which I give my opinion with due deference to those who from professional knowledge are better able to come to a correct opinion on such a subject. But, with a mixed scheme like the Pennair Anikut irrigation, there are features not observable save under similar circumstances that many may not be aware of, even professional men, and that require to be closely watched; and I therefore think it right to bring forward the question; the second point is more obviously connected with this Department; and the third, though I have already brought it before the Board, so materially affects Anikut irrigation that it would not be fitting in me to close this report without specially alluding to it.

19. Irrigating with the aid of reservoirs it is desirable that the supply should be given direct so long as there is water in the river. If the opposite course is pursued, if the supply is given through the tanks or reservoirs, a single year damages a tank considerably by deposit of silt; and this being the case, and the lay of the land admitting of most of the channels of supply being so adjusted that they shall discharge into the tank till the tank is full and then supply the land direct, it is scarcely necessary for me to dwell further on the importance of having the requisite superintendence available, and on the watch to arrange regulating works that shall adjust the supply accordingly. Not only is injury thus avoided that may be said to be irreparable, but the process of putting the irrigation on a correct footing is easier now, than it will be hereafter when rights have grown up that would require to be taken into consideration as well.

20. The second question of extending the Canal to Krishnapatnam affects not only rice but cotton. I have seen within the last few weeks hundreds of carts coming in with cotton from Cuddapah. All break bulk here; and the carts that brought the cotton go down empty to Krishnapatnam for a return load of salt. If we had the Coast Canal to Krishnapatnam, instead of the cotton being put down here to be forwarded by other carts to Madras at upwards of a Rupee a bale and then being ten days on the road, this cotton would be taken down to Krishnapatnam and forwarded by water in three or four days at perhaps a fraction of an Anna per bale, say a twentieth of the present cost. Whilst as regards rice, with which I have more especially to deal in this report, I beg to bring to notice that by extending the Coast Canal to Krishnapatnam, some 18 miles, in land navigation to twice that extent will be obtained. There is a navigable back-water at Krishnapatnam running inland, with which I am well acquainted, that would make a wharf for the whole southern

shore of the Delta, as shown in the accompanying sketch, which will show further the general outlines of the Pennair Anikut irrigation; and the value of such an outlet for our increasing rice crop could scarce be over-estimated:—



21. The orders in regard to the settlement of the Land Revenue, their bearing on Anikut irrigation, and the modification I would recommend, I will now refer to as briefly as I can.

22. When we took possession of the country we found the Land Revenue collected by sharing the produce, and we continued the system substituting payment in specie for payment in kind. In the Orders received from home for the Revenue Survey and Settlement the same system was continued, it is sharing the produce; and the Orders suppose every field to be annually cropped with the standard grain of the District; only the terms to be granted are more liberal than this Presidency has hitherto enjoyed; and the result is this. In Nellore, a breeding District, as irrigation extends in the Delta we displace large herds that have hitherto been grazed there, and, under the present rules, either land must be taken up for them elsewhere at a grain assessment, with a corresponding share of common pasturage, or the cattle must be dependant on what can be got for them in the way of pasturage, one year in this village, one year in the next, &c.; and, on the other hand, continuing this system of sharing, that we inherited from Mussulmen, and having expended six lacs and sixty-nine thousand Rupees, I am to collect for the water supplied, not what it is worth but what it may happen to produce on the land it may happen to be applied to.

23. The changes and modifications, I respectfully recommend, are, that we adopt the system pursued at home in respect to dry lands, and assert the rights claimed whether at home or elsewhere in respect to capital and irrigation so obtained. At home if I were to let a field, I would let it so that the land should have fair play. The agreement would be drawn out that there should be an year with corn, an year with green crops, an year fallow, &c. Generally there would be more than one field, and in addition to the preceding stipulations one of the fields or more would be pasture. The same system here, or in other words, an assessment fixed as if a portion only of each field were annually under the standard crop, and the rest occupied according to sound agricultural principles, would dispose of the first difficulty, would not be more liberal than is requisite when it is a question of taxation, not rent, and would give agricultural stock and capital fair play; and thus giving capital in private hands the protection it fairly requires, public capital sunk in irrigation works, I would similarly protect by modifying the present system, and refusing to let water be taken by every one willing to give the prescribed share of the crop. I have no wish to be hard on the Ryots. Where they have sunk their private capital in preparing land for irrigation, I should be anxious, if possible, to respect existing rights, even though the share of the crop were below the ordinary rates of assessment for dry land. But where it is a question of fresh supply the case it seems to me is different. When the Mussulman and the Ryot jointly built the tank, the Ryot had a fair right to select where the fresh supply should be applied. He had indeed probably borne the larger portion of the expense. When on the other hand, irrigation is provided by a large expenditure of public capital the case is reversed; and in making provision for private capital whether as regards dry or wet land, I beg to recommend as regards public capital expended on works of irrigation, that in the coming settlement the supply from such works shall not be given simply for the prescribed share of the produce, but only for such lands as shall be able to pay a share equal to the generality of land then available for that supply; and in making this recommendation, I beg further to state, that I have for some time past acted on this principle in respect to irrigation in this District.

ENCLOSURE No. 1.

ABSTRACT.—Copies of letters Nos. 37 and 49 of the 17th November and December 1862, from the Collector of Nellore to the Secretary to Government, Revenue Department, Fort Saint George.

From the same Officer, dated 12th August 1863, No. 251.

1. I have the honor to acknowledge the receipt of the Board's Memorandum, No. 562 of the 5th, requesting me to explain how the principle advocated in regard to irrigation from Government works has been applied, and under what rule and authority.

2. Where land is newly brought under irrigation, in including it in the irrigable area, it becomes requisite to fix an irrigation assessment, and the guide in this operation is the assessment prevailing on adjacent lands of a like quality. Where that would give an assessment below 4½ or 4¾ Rupees per acre, I have refused to allow the water to be taken; and, whilst I believe in no case has my refusal led to the supply being refused on those terms, on the other hand I had personal knowledge that the water was worth that money, and the authority of Sections 8 and 39, Regulation 11 of 1803 to go on. Under Section 8, it is my general duty to consider the advantage of the State, the prosperity of the country, &c. Under Section 39, where the land tax has not been permanently settled, it is my special duty to regulate the demand with a just regard to the "rights of Government," "the rights of the people," and "the prosperity of the country;" and the course I have pursued is, I believe, in strict accordance with the instructions of either Section.

3. The Board ask for detailed explanations it would be difficult to give of two or three Jamabandis. But a case occurred the other day near here that will serve to illustrate what I have been doing perhaps better than details, and with the Board's permission shall be submitted instead.

4. The Nellore tank is a fine work. With a river channel, a head sluice, and cut stone revetment; there are few reservoirs, when all being done is completed, that will compete with it. But head sluices and miles of cut stone revetment are expensive; and during the last twelve years Rupees 79,568 have been expended upon it.

5. Last month, I think it was, I was looking at the Sarvapalli cut when the Kanupartipad Ryots told me there had been a quantity of land irrigated in their village from the Nellore tank for the first time this year, the assessment for which I had not fixed at the Jamabandi, and they pointed to me where the grain was being thrashed. I for some time requested in vain the attendance of the man they had named as, concerned, but finally, attaching the grain arrived at what had been going on; and the following are the results.

6. In the village in question, the year before I came to the District, 154 acres dry land had been taken up consisting of five separate numbers; in three, a portion had been irrigated that year, and assessed at Rupees 3-12-0 per acre; and the individual, I had been in search of, a man formerly hanging about the Courts as a Vakil, I found was only the man put forward, he represents a select party who had obtained this land and numbered among them the Court Serishtadar's son-in-law.

7. The land had been got the very year I came; and in the numbers in which rates had been already fixed, I found I had subsequently allowed more land to be irrigated at the same rates, viz., Rupees 3-12-0 an acre, which gives from 1 to 1½ Rupee water rate, whilst where a rate had not been thus already fixed, I had imposed Rupees 5-8-0. This year they had not thought it necessary to apply for further instructions, but had brought 13 more acres under irrigation at the lower rate, eight at the higher; and holding the views I now do, I considered it my duty to refuse to allow more land to be taken up at this lower rate of Rupees 3-12-0 which, after deducting the dry assessment, gives on 26 acres a water rate of Rupees 1-8 0, and on 17 acres Rupee 1 per acre, and I have required for all the land irrigated this year for the first time, that the parties pay at the higher rate, and informed them, if they do not like it, all they have to do for the future is to decline the supply for the land in question.

8. In the Regulations the advantage of Government and the prosperity of the people, perhaps with legal precision, are specified separately, but in reality they are one, so long as rights are mutually respected. If a fair return is obtained on a large outlay of public capital the advantage of Government is secured, but it is equally to the prosperity of the people, for there will be more money to lay out on similar projects. But if there is not a fair return, if 79,000 Rupees are laid out to secure Rupee 1 per acre water rate, it is neither to the interests of Government, or for the prosperity of the country. It is simply fraud; and I trust therefore my proceedings in refusing to continue what I consider fraudulent will have the approval of the Board.

9. I take this opportunity to forward the Abstract Statements of expenditure and revenue for the Anikut. They show very clearly the true state of the case, as briefly referred to in the 7th paragraph of my report, and give good grounds for believing that the results of the past year, satisfactory though they are, will be cast into the shade by the coming year. In the expenditure on the Northern Division of the Southern Delta, the expenditure had been 60,000 Rupees, on the Gangapatnam and its subsidiary reservoirs, and on the Iduru Koduru similarly Rupees 47,000, the total expenditure for that Division including main branch being Rupees 1,15,475, and rise in revenue, under the Gangapatnam from Rupees 23,000 to Rupees 39,000, under the Iduru Koduru from Rupees 28,000 to Rupees 40,000; whilst against this total expenditure of Rupees 1,15,000 in the Northern Division, in the Southern Division the expenditure is considerably higher, viz., Rupees 1,40,000, and all the revenue exhibited is Rupees 19,000. The 19,000 is satisfactory. It was 13,000 seven years ago. But it is only a fraction of the irrigated area to be affected this year; and it is scarce necessary to add all general proportions should be affected accordingly.

10. I regret the Comparative Statement won't be ready yet for a few days, but it shall be sent as soon as ready, and I enclose a Memorandum showing how the above details have been prepared from the Abstract Statement of expenditure and giving certain other particulars, not to be found there, distributing the expenditure for the whole twelve years as regards Channels and Reservoirs.

ENCLOSURE No. 1.

ABSTRACT.—Pennair Anikut and its subsidiary works.

ENCLOSURE No. 2.

ABSTRACT.—Memorandum giving certain details of expenditure on the Pennair Anikut and subsidiary works not to be found in the printed Statements.

From the same Officer, dated 29th August 1863, No. 281.

No. 138, dated 27th July 1863.
No. 251, dated 12th August 1863.

1. In continuation of my letters noted marginally, I have the honor to submit the detailed comparison of Revenue and Expenditure.

2. The Board will observe that, in the first page the comparison is given on the average results obtained before the Anikut was begun and subsequently up to 1860-61, that in the second page the year 1861-62 is compared with 1862-63, the comparison distinguishing between channels and subsidiary reservoirs, and in the third page the results are given without such distinction, but the Statement distinguishes between expenditure on repairs and new works, whilst the fourth page, under the head of Remarks, shows the gross return on the total expenditure to date for each Division, main Channel, and Section.

3. The Gangapatnam and Iduru Koduru Channels, with their subsidiary reservoirs, are sufficiently advanced to be referred to to the Board with advantage; and from the Statement now submitted it will be seen that on these channels our expenditure has been, prior and subsequent to the commencement of the Anikut (which period also represents the Public Works taking charge), 10 and 21, and 7 and 20 per cent respectively; whilst for the division of irrigation thus composed the same proportions pretty nearly are obtained, viz., 7 and 20 per cent; and on this increased expenditure two years later it will be further observed the gross returns have been on the Gangapatnam 25, and on the Iduru Koduru 26 per cent. In some of the Sections the returns have run up much higher; on the Division it is 24 per cent; and if we take these two channels* and the division as a rough half of the Delta, then, adding half the gross expenditure for the Anikut and the

* Total channels, &c.	Rupees	1,15,475	
½ Gross expenditure on the Anikut..	„	1,59,430	
½ Gross expenditure on the main Channel from the Head Sluice to the Ranganayakulapeta regulator..	„	7,514	
Total	Rupees...	2,82,419	
Increase in revenue	Rupees	28,213	
Gross return	10 per cent.		

main Channel from the Head Sluice to Ranganayakulapeta we have a total expenditure to date of Rupees 2,82,419, and gross returns of 10 per cent, which may be taken as a rough indication of the results to be expected next year when the other two channels come fairly into play.

4. The comparison of expenditure on repairs is also satisfactory in respect to the two channels under reference. In 1861-62 it was 6 per cent on the Gangapatnam, 4 per cent on the Iduru Koduru. In 1862-63 the per centage under the same head is 1 per cent in either instance; and for the division it is pretty much the same thing, viz., a decreased cost of from 5 to 1 per cent.

Read also again the following letter from Lieutenant-Colonel J. C. ANDERSON, R. E., Superintending Engineer, 2nd Division, to W. HUDLESTON, Esq., Secretary to the Board of Revenue, dated Masulipatam, 8th October 1863, No. 796.

1. I have the honor to solicit the attention of the Board of Revenue to a printed Statement prepared by the Collector of Nellore, and published as a Supplement to the District Gazette,* purporting to show the remunerative effect of the Pennair Delta works for the past year.

* 1st August 1863.

2. The Statement in itself is a very valuable one, and the Collector must have devoted much time and labour to render it complete. It is with regret, that I have to remark, what appears to me the incorrect principle on which it is compiled; and the more so, as all the information on which any objections are founded has been placed in my hands by the Collector himself.

3. The principle in which the remunerative effect has been computed, may be briefly stated thus:—The expenditure on new works and repairs on the Anikut, and all the works in the Delta, which it is supposed will eventually be brought within its influence, and that also on some others, or at least on one very important one, which can only at the best be very partially influenced by the Anikut, is added up from the years 1851-52 to 1862-63 inclusive; the average revenue derived from the same works for the five years 1851-52 to 1855-56 is deducted from the revenue of 1862-63; and the difference is regarded as the profit derived by Government on the above expenditure for the past year.

4. Having only lately become acquainted with the works in the Nellore District, I am not competent to discuss the Collector's Statement in detail, but a very superficial examination of it, is sufficient to oblige me to take exception to it. It appears that the original Anikut across the Pennair, was commenced in 1854-55. How then is it possible that it can have had any influence on the Irrigation works in the Delta for the three previous years. This Anikut failed the year after its completion, was re-constructed in 1857 and 1858, and again carried away at the end of 1858: the total sum thus lost amounting to Rupees 1,80,000 in round numbers.

5. The present Anikut was commenced in 1858-59 and completed last year, and four other projects for the Channels and other works, required to give it effect, have also been in progress within that period. These are

	Estimate.	Commenced.	
Main Channel.....	* 92,630	9th July 1859.	* G. O. No. 360, 17th Feb. 1860. No. 1,071, dated 29th June.
Improving Labur branch of Jaffer Saib's Channel.	† 30,600	29th Sept. 1861.	" 2,943 dated 8th December 1862. † No. 943, dated 15th May 1861, and " 498, 20th March 1862.
Do. Idur do. do.	‡ 27,100	1st Aug. "	‡ No. 943, dated 15th May 1861.
Kristnapatnam Channel...	§ 59,600	17th Sept. "	§ No. 1,631, dated 28th August 1861.

A consideration of the dates on which the above works were commenced, will suffice, I think to show, that they can have had no possible influence in the Delta generally until many years later, than would be inferred from the Collector's Statement. The expenditure on the various irrigation works in the Delta from 1851-52 up to the date of the commencement of the improvements above enumerated, was, in fact, quite unconnected with the Anikut scheme. It would have been just the same, or nearly the same, whether the Anikut had been constructed or not; and like that on other irrigation works in the District, should be regarded as a normal charge against the revenue.

6. I am not aware what effect on the revenue was produced by the two first Anikuts, but there could be no difficulty in ascertaining this, and in making due allowance for it in subsequent calculations. But looking at the final project, it appears to me, that the only correct mode of calculating its remunerative effect is that already prescribed by the Government, namely, to class the expenditure on new works, as so much capital lent to them, to be recovered by the net increase of revenue, and the net increase of revenue will be determined by deducting the average revenue less cost of maintenance before the works come into operation, from the amount similarly obtained for each year subsequent to their coming into operation.

7. A form of Statement arranged on the above principle was forwarded through the Accountant General to the Chief Engineer by the Government of India,* and circulated† by the Chief Engineer to all Collectors and Officers of the Department Public Works. The remunerative Statements for the Pennair works have been compiled on this principle, though I am unable to say, with what degree of accuracy, for 1861-62 and previous years, and one for 1862-63 in continuation has been prepared, but the calculations of the Collector are so completely at variance with those of the District Engineer that it would be useless to attempt to engraft the latter on last year's Statement (for 1861-62).

* No. 4,818, dated August 1858.

† Chief Engineer's Circular No. CXVIII, dated 7th October 1858.

8. There is one item in the Collector's Statement, which, in my opinion, should not have appeared at all. I allude to the Nellore tank, the expenditure on which from 1851-52 to 1862-63 inclusive has been included along with that of the Anikut and subsidiary works. It is possible and indeed certain that some of the land under the Nellore tank will be brought within the influence of the Anikut Channels, but the great mass of the Tank Ayacut is above the level of the channel water, and can never derive any benefit from it. It is therefore difficult to conceive on what ground the Collector should have charged the large expenditure on that work against the Anikut project. It is true that he credits it with the increase of revenue, and that increase may be considered a good return on the expenditure; but however anxious I myself or the Officers who have been engaged on the works may be, to show their effect in a favorable light, we do not wish to take credit for any increase of revenue which cannot be clearly shown to be due to them, and in the case in question, I do not see how this can possibly be done.

9. Notwithstanding the losses occasioned by the failure of the Anikut on two occasions, its eventual success, as re-constructed may be regarded as certain. The Collector has lent his aid by every means in his power to bring it into full effect, and has evinced the greatest interest in the advancement of the various works connected with it. In the preparation of the Statement in question he has doubtless been actuated by a desire to show the works in the most favorable light possible, and I must again beg to express the great regret I feel at having to dissent from his conclusion.

Govt. Procs. dated 19th March 1862, No. 485, P. W. D., Public.
Do. 5th May 1863, No. 1,141, do. do.
Do. 16th June 1862, No. 1,321, Rev. Dept.,
comg. G. O. dated 12th idem, No. 1,335, P. W. D., Public.

1. Ordered that the above correspondence be submitted to Government, with reference to the Government Proceedings noted in the margin.

2. In the last of these Orders Government directed the preparation of a Return showing for the area affected by the Anikut works, the revenue derived in the ten years prior to 1855 and in each subsequent year, with remarks as to the state of the Anikut in each year; and of a separate Statement, showing how far reductions in assessment might be assumed to have affected the area of land occupied.

Dated 17th November and 22nd December 1862.

3. This Order was communicated by Government direct to the Collector, and from the correspondence held by the

Collector with Government, of which Mr. Dykes has forwarded copy to the Board, it appears that the return desired was submitted to Government as also a supplementary return, showing the results in what Mr. Dykes considers a more unobjectionable form. The Board therefore presume that the elaborate Statements which have now reached them are to be accepted as the periodical return which the Secretary of State desired to receive, showing the effects of the Anikut works; but it appears to them that some far simpler form might be adopted with advantage.

4. The Board gather from the papers before them that Mr. Dykes desires to eliminate from the total results exhibited by the area of land occupied, that portion which may be ascribed to the effect of Tanks and Channels, which, although now blended with the system of works dependant on the Anikut and more or less improved in connection with those works, were existing long before the Anicut, and are now in part at least maintained in order by customary labor; and in estimating the return on the outlay, to include the expenditure on repairs of Tanks and Channels, on the ground that such expenditure although not appearing as part of the cost of the Anikut works has yet materially aided to produce the present results.

5. It is doubtless very desirable to record such information so far as it is possible to obtain it in a reliable form, but the Board consider that for the purpose immediately in view an Abstract Statement of a much simpler kind than those now submitted would be preferable. It might distinguish in gross the area occupied before and since the construction of the Anikut under Tanks and Channels now connected with it, and the area, if any, directly irrigated from new channels, and the Government could draw their own conclusions. The elaborate details are no doubt valuable, and, as Mr. Dykes says, useful to the local officers; but they only serve to confuse those who are not intimately acquainted with the localities and with the whole system of the works, especially when with them are blended disquisitions on controversial subjects.

6. It will be observed that the Superintending Engineer disputes the correctness of the system adopted by the Collector for comparing results with cost, and the subject has been referred to the Collector for his remarks; but the Board do not find that Mr. Dykes was ever called on to submit any Statements of expenditure or any such comparison as he has instituted. The chief information desired of him by Government is comprised in the last line of Statement No. 2, but this includes the revenue derived from the Nellore Tank; regarding which Colonel Anderson observes that the great mass of the Tank Ayacut is above the level of the channel water and can never derive any benefit from it. The Board have therefore excluded this from the following abstract :—

		Rs.
Average annual revenue derived from the area now affected by the Anikut works from 1851-52 to 1855-56... ...	...	65,889
Do. from 1856-57 to 1860-61	...	83,448
Do. in 1861-62	...	74,182
Do. in 1862-63	...	1,00,692

7. It is in the last year only that according to Mr. Dykes the existing Anikut has produced any effect, and, as the Board understand, the Revenue shown is exclusive of that hereafter derivable from Inam lands which have hitherto enjoyed the additional supply from the new works without paying for it. But it will aid in coming to a decision on the true deductions from the above figures, to show below the state of the works during the period to which they refer, as follows :—

1854-55. Original Anikut commenced.
1856..... do. completed.
1857..... do. breached.
1858..... repaired.
and again breached.
1859..... Present Anikut commenced.
1862..... do. completed.

8. The above figures show a rise in the Revenue of Rupees 26,510, in the year in which the Anikut came into operation, and the Board gather from the correspondence that a further considerable extension of irrigation is to be expected in the current and future years. How far the increase apparent in the two previous periods over the average from 1851 to 1855 is due to the Anikut works, the Board find no information to show. They however observe that Mr. Dykes takes credit for it in his comparison with the total expenditure in the same interval on the works from which the present revenue is derived, including what he designates "subsidiary reservoirs" or Tanks now supplied from Anikut channels.

9. They find it equally impossible to ascertain from Mr. Dykes's figures, the expenditure in the eight years from 1854 to 1862 on the Anikut and its subsidiary works, or how far the increase of revenue affords a fair return for that expenditure; and Colonel Anderson states that the Collector's calculations are so completely at variance with those of the District Engineer that it is impossible to reconcile them.

10. The Board presume that the latter are before Government or will shortly be submitted. The Government will then be in a position to decide which set of figures most accurately represent the cost of the works and the consequent results.

11. The Board can only note the palpable advantage realized, and the satisfaction expressed by the local Officers with the results actual and prospective.

12. They deem it however most desirable that Government should authoritatively decide how the return which they desire to receive should hereafter be prepared, for it is evident that at present one Department or the other must be persistently maintaining a wrong course.

13. Mr. Dykes has not stated how or at what rate he proposes to make the Inamdars pay for the increased advantages derived from the construction of the Anikut, and he will be desired to report fully on this point; but in regard to Government land proposed to be newly brought under irrigation, he appears to have prescribed to himself a minimum assessment of Rupees 4-8-0 per acre.

14. Without further information as to the character of the soil, or the Dry rate originally assessed on it, the Board are not in a position to judge whether this minimum is reasonable or otherwise, but they observe that there is irrigated land in the Godavery delta which pays only Rupees 3-4-0 per acre, and that if Mr. Dykes has in fact assessed land converted from dry to wet, at a higher rate than that prescribed by the local custom for the particular class of land, he has exceeded his powers in acting without the Board's sanction.

15. His attention will be called to Section 40, Regulation II of 1803, and he will be desired to state in detail the rules by which he proposes to be guided for the consideration of the Board. The arrangements can in any case be but temporary pending the general revision of the assessment.

16. The Board request special consideration for Mr. Dykes's remarks on the pressing necessity of extending the Coast Canal to Kistnapatam. It is undoubtedly highly desirable that with extension of irrigation, and consequently of cultivation, there should be provided increased facilities for conveying the surplus produce to the best market, which in the case of Nellore is undoubtedly Madras. But the facts stated by Mr. Dykes in connection with the carriage of Cotton in the District, and the great hindrance to cheap traffic, or rather the material enhancement of the cost of carriage which the present state of things entails, are deserving of serious attention.

(True Copies and Extract.)

(Signed) W. HUDLESTON,
Secretary.

To J. D. Sim, Esq., Secretary to Government, R. D., with enclosures.
Copy to J. W. B. Dykes, Esq., Collector of Nellore.
„ to Lieut.-Colonel J. C. Anderson, R. E., Superintending Engineer, 2nd Division.

Exd. J. Wright.

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1863. Department.

No.

PROCEEDINGS OF THE BOARD OF REVENUE,

Dated 24th November 1863.

No. 7,426.

Submitting with remarks letter from the Collector of Nellore reporting on the results of the Pennair Anikut.

No. 7,426.

PROCEEDINGS OF THE BOARD OF REVENUE, dated 21th November 1863.

Read again the following letters.:—

From J. W. DYKES, Esq., Collector of Nellore, dated 27th July 1863, No. 238.

1. In accordance to the Orders of Government under date the 5th May, No. 1,141, I do myself the honor to report on the results of the Pennair Anikut, and submit, first, Abstract Statement of Expenditure, which will enable me to show more clearly present results; second, Abstract Statement of Revenue, or results financially speaking of the Anikut; third, detailed comparison of Revenue and Expenditure, which will place those results in a clearer light than if given solely as a gross sum.

2. In my letters to Government of the 17th November and 22nd December last, Nos. 37 and 49 respectively, copies of which I enclose for the information of the Board, I brought to notice that it would be incorrect to consider the Pennair Anikut at Nellore as an isolated work, that it must be taken in connexion with the existing tanks, &c., which thus become subsidiary reservoirs, and that the original cost of these reservoirs, if obtainable, should be added to the cost of the Anikut and its more immediately subsidiary works to obtain strictly accurate results. This course, however, it is scarce necessary to add it is not now possible to pursue, and in the accompanying Statements, so far as expenditure is concerned, all I can show is the cost of such improvements and repairs, &c., on the works in question as have been executed during the period selected for a comparison of the revenue, and subsequently; and this will show what has been the results of the expenditure exhibited, under the circumstances existing at the time in Nellore, and what might be expected to be the results of similar expenditure under similar circumstances elsewhere.

3. The Anikut itself has been unfortunate. Commenced in 1854-55, finished the next year,* swept away in the following, re-built† and swept away as soon as re-built, it is only the present structure, the third attempt, that has allowed of an inquiry into results; and this inquiry is instituted, the first year that results could be expected to show themselves. For the Anikut was not completed in 1861-62; there was a small expenditure in the year under report; whilst the total expenditure, including the Head Sluice has been 3,18,860 Rupees, and the results of this large expenditure cannot be fairly tested till more of the country to be irrigated has been brought within its scope.

* Cost Rupees 1,09,511.

† Cost Rupees 70,731.

4. In the Orders of Government I am directed to show the irrigation assessment on the land within reach of the Anikut before that work was begun, and on the land now irrigated from the Anicut; and the present Anicut having been begun in 1858-59, I have selected for comparison, the average revenue from the lands in question for five years from 1851-52 to 1855-56, and in the accompanying Statements I have compared this revenue first with a similar period of five years from 1856-57 to 1860-61, and then with the revenue from the same lands in 1861-62, and 1862-63 the year under report, and for the sake of the comparison have shown the expenditure similarly, and for the two first periods in a gross sum, for the two last years; first, as regards the Anikut and Channels; second, as regards the subsidiary reservoirs; third, as regards total expenditure, and in every case exclusive of cost of general superintendence.

5. The original Anikut having been commenced in 1854-55 it might be objected that the five years selected do not comply with the requisitions of Government. But as the original Anikut came to an untimely end, and as the next Anikut shared the same fate, I do not think that the results of the comparison are likely to be so much affected by the impetus given to agriculture by such local expenditure as to render it necessary to go further back, whilst the accounts of the years selected present advantages I should fail in obtaining for an earlier period. They have been carefully revised for the new settlement; and even taking this comparatively recent period, in one respect, I must state my information is defective. It was not the custom of this District formerly to credit irrigation works with the water rate on temporary irrigation or Inams. Now this credit has been given; and if it were desired at this distance of time to make the comparison complete in this respect, it would, I fear, be difficult. Not doing so, of course, is in favor of the works.

6. Turning to the Abstract Statement of expenditure, it will be observed that in the first five years the average expenditure on the Pennair Anikut, subsidiary works, and reservoirs, was Rupees 30,699, which gives a total expenditure of Rupees 1,53,495 for the five years from 1851-52 to 1855-56, and comprises Rupees 47,440 ordinary expenditure on the subsidiary works and reservoirs, Rupees 1,06,055 on the first Anikut.

7. On the second period of five years it will be observed our expenditure averaged Rupees 34,920 on the Anikut, Rupees 76,288 on the Anikut, subsidiary works, and reservoirs, thus raising our total expenditure in the ten years as shown in the margin to 5,34,935 Rupees.

Rupees 30,699 × 5 =	1,53,495
„ 76,288 × 5 =	3,81,440
Total...	5,34,935

8. At present we have no irrigation from the Anikut on the north bank of the river. It is the Southern Delta that is irrigated; and this irrigation divides itself into two portions, one, the Northern, nearest the river, and irrigated by the Gangapatnam and Iduru Koduru channels; the other, the Southern, to be supplied by the Krishnapatnam and Sarvapalli channels, the Krishnapatnam having just been dug and brought into use for the first time during the year under report, and the Sarvapalli, though an old channel like the two first, having till now derived but little benefit from the Anikut in consequence of various difficulties that have attended its connexion with the upper scheme of irrigation by what is called the new Sarvapalli cut.

9. As stated already I have shown the expenditure for the two last years as divided on the Anikut channels and regulating works, and on the subsidiary reservoirs; these latter, the old tanks, being classed with the channels, which they supplement; and thus divided, division of expenditure and revenue is carried down to sections of channels, where the accounts admitted of it. But this detailed information is more for the benefit of local officers, that we may compare expenditure with receipts, supply, with area irrigated, &c., than for the Board or Government; and in reporting on the results of the Anikut, it will be sufficient for me to call attention to the general features of the expenditure during the last two years which it will be observed vary considerably, the returns for both portions of the Delta showing, that whilst in the total expenditure we have a decrease from Rupees 73,155 to Rupees 61,130, and this decrease correctly indicates an approach towards completion in respect to the Anikut on which the expenditure in 1861-62 was Rupees 34,794, and in last year Rupees 3,411, in other respects we have had an increased and rising expenditure from six to fifteen thousand Rupees on the channels and regulating works in the Northern portion of the Delta, and in the Southern from sixteen to thirty-seven thousand Rupees, the major portion of which is due to the digging of the Krishnapatnam channel, Rupees 23,839, and Rupees 13,383 to the new Sarvapalli cut, the returns for which must be looked for in the coming year, not in the year under report.

10. The total expenditure on the Pennair Anikut, its subsidiary works and reservoirs during the first ten years selected for report, I have shown to be Rupees 5,31,935. In 1861-62, it was Rupees 73,155; in 1862-63, it was Rupees 61,130; and at the end of the twelve years thus expended, I have now to show the results as regards an irrigation assessment of a total expenditure of 6,69,220 Rupees.

Expenditure.	Rs.
From 1851-52 to 1860-61....	5,34,935
In 1861-62.....	73,155
In 1862-63.....	61,130
Grand Total..	6,69,220

11. Last year my report on the Anikut included 25 villages and their subsidary reservoirs that is to say the tanks, &c., which our predecessors, Mussulmen or Hindus and the Ryots between them had, from time to time, constructed for the purpose of securing a supply of water for the cultivation of the land. In the year under report 44 villages including those held on favorable tenure are shown as within reach of Anikut irrigation; and these returns will be found to differ from the previous returns in respect to revenue and the expenditure on subsidiary reservoirs inasmuch as the irrigation assessment of every village now brought under the influence of the Anikut this year, has to be added to the gross revenue shown for the preceding years to secure a fair comparison. Whilst, on the other hand, it will be further observed, that in some of these new villages no subsidiary reservoirs are shown either as regards expenditure or revenue, because, entered in order to show expenditure on new channels, in such villages the water has not yet been let on, and it is, as regards them, unnecessary at present therefore, to further disturb the accounts either way.

12. Where the water has been let on much of the increased supply afforded by the Anikut has, I regret to state, been taken possession of for lands held on favorable tenures, where the returns have been abundant as far as the crops go, and the material prosperity of the country is concerned, but not so perceptible financially speaking; and when it is the leading Ryots and Headmen of the ordinarily assessed villages in the neighbourhood that usually cultivate these Inam villages, it will be seen it is difficult to check this abuse. The men to whom we have to look to to take care of the water, are the men we have to take care of themselves. However Statements have now been completed showing accurately the average irrigation in these favorable tenures previous to the Anikut coming into play, which will secure a fair return hereafter for the public capital expended; and meanwhile with all these drawbacks in respect to immediate results, the Statement I now do myself the honor to submit showing the increase in revenue will, I think, be considered satisfactory.

13. *Abstract Statement No.* 2.—On so many of the 44 villages exhibited as are now irrigated from the Anikut, the average revenue from 1851-52 to 1855-56 under the head of irrigation was Rupees 82,480. In these same villages in the next five years the average revenue under the same head was Rupees 1,02,752. In 1861-62, the revenue rose to Rupees 1,05,085; and in 1862-63 the Anikut came into play, and the revenue rose to 1,24,086 or, in other words, on the country now within reach of the Anikut, the revenue is half as much again as it was seven years ago, and of this large rise, nineteen thousand Rupees, or 18 per cent, is due to one year of fair play for the Anikut.

14. Neither would it be fair to this great irrigation work, did I not bring to notice, the nature of the last season in this District. In the North and South of the District it has been an average year. In the centre it has been a bad year. We have been badly off for rain; and the annexed Statement shows more clearly than the preceding figures, what has been the real effect, the real results of the Anikut during the year under report, not only financially, but in other respects, equally important. From this Statement, drawn up at the Jamabandi, it will be seen that under the Anikut, including the Nellore Tank, which makes a suitable apex to this fine area of irrigation, with a rise of 20 per cent in the year on the total revenue, on Rupees

1,05,983, in the Nellore Taluk, I had to remit for short supply Rupees 256. Under the river channels north of the river, I had to remit six per cent, or Rupees 9,899. Under the two Alluru tanks, which are remarkably fine reservoirs, my remissions were 16 per cent, or Rupees 4,718; and under the remainder of the works of irrigation in this Nellore Taluk I had to remit, it will be seen, no less than 68 per cent, or a sum of 28,961 Rupees, which could not have been fairly charged; and in estimating the true results of the Anikut it would, if necessary, be requisite to show, instead of a gross increase, the difference of 6 per cent in excess in those villages that had previously a river supply including the Nellore tank, and 68 per cent, in the rest of the villages, for the whole of this has been saved by the Anikut; and instead of an increase simply of so many Rupees, however calculated, to show the true results of the Anikut, it would be further necessary to record, that, in a season of scarcity and high prices, thanks to the Anikut our crops have been assured on an area of 32,000 acres against an area of 30,000 acres last year, and an average in the first five years it may be assumed of 20,000 acres. But such comparison it seems to me is unnecessary. So far as the increased area of production is concerned, even what I have shown is far short of the truth as I have not been able yet to bring the Inam lands under control; whilst as regards either area of production or rise of revenue, so far as irrigation has yet gone, the rise shown is, I presume, sufficient to show that the Pennair Anikut at Nellore is not likely to be an exception to the rule, that money laid out on irrigation, is pretty sure to do good to the country, and prove remunerative:—

Irrigation in the Taluk of Nellore.

No.	Sources of Irrigation.	Area in occupation and assessment.		Remission.	Adjusted assessment.	Per centage of Columns 3 & 2.	Remarks.
		Extent.	Assessment.				
	1	2		3	4	5	6
		Acres.	Rupees.				
1	Nellore tank, Anikut, subsidiary tanks and channels...	24,846	1,05,983	256	1,05,727	....	
2	All channels and tanks north of the Pennair, south of the Payideru, and east of Sangam...	35,403	1,66,909	9,899	1,57,010	6	
3	Alluru large tank and Ramana tank... ...	7,454	30,052	4,718	25,334	16	
4	Other tanks, &c., not included in the above sources of Irrigation villages 27..... ...	8,354	42,308	28,961	13,347	68	
		76,057	3,45,252	43,834	3,01,418	13	

15. *No.* 3.—In the Comparative Statement the expenditure is compared in detail with the revenue, and shows how the rise in the revenue corresponds with expenditure. Whilst adopting these precautions, watching year by year our results in detail, in short, taking the same precautions in laying out public capital as in respect to private capital, we shall, I believe, as our area of irrigation extends, show results as favorable as those obtained on the limited area now effected. But like the other Statements these details are more for the information of the local officers than the Board or Government. They are submitted that they may be available if required; and as respects the general proportion of expenditure to revenue and general return on capital expended which it is right I should show as well as the results of the Anikut, it will be sufficient to state here, that in the first five years our expenditure was in the *ratio* of 37 per cent to our revenue; in the second five years it rose to 71 per cent; in 1861-62 it was 70 per cent; in 1862-63 it fell to 50 per cent; and without taking into consideration the exceptional nature of last season, on a total expenditure of Rupees 6,69,220, we may consider there has been an increase in the revenue, as before shown, of Rupees 41,606, or a gross return of nearly 6¼ per cent on the capital expended.

16. As the Board are aware the Anikut is a cause-way across the Pennair, which where the Anikut crosses it is upwards of a quarter of a mile broad; and the assistance this is to traffic, may be estimated by the fact that the light toll authorized to be established for maintenance of way, &c. has this year let for close on three-thousand* Rupees, less deductions for days closed.

* Rupees 2,950.

17. And, in conclusion, in submitting what will, I trust, be considered a satisfactory report, of the benefits conferred on the District by the Anikut, I would beg to suggest that to secure a continuance of the satisfactory progress now reported in respect to increase of revenue, increase of area irrigated, and return on capital expended, it is in my opinion desirable,

1*st*.—That for the present an effective superintendence should be specially provided for the Anikut and its subsidiary works in which I would further include roads.

2*ndly*.—That the Coast Canal should be continued to Krishnapatnam.

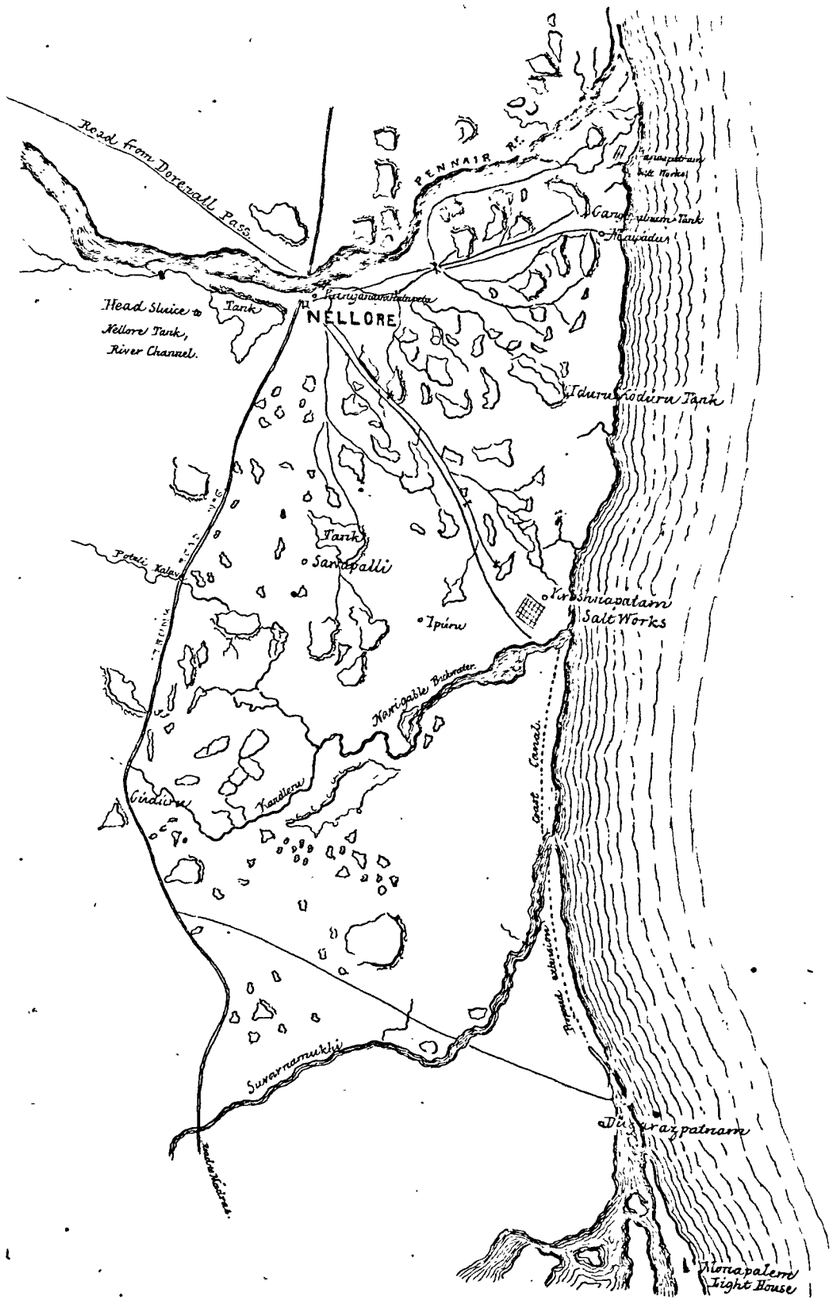
3*rdly*.—That the present orders in respect to the settlement of the Land revenue should be modified.

18. The first point to which I call attention is one on which I give my opinion with due deference to those who from professional knowledge are better able to come to a correct opinion on such a subject. But, with a mixed scheme like the Pennair Anikut irrigation, there are features not observable save under similar circumstances that many may not be aware of, even professional men, and that require to be closely watched; and I therefore think it right to bring forward the question; the second point is more obviously connected with this Department; and the third, though I have already brought it before the Board, so materially affects Anikut irrigation that it would not be fitting in me to close this report without specially alluding to it.

19. Irrigating with the aid of reservoirs it is desirable that the supply should be given direct so long as there is water in the river. If the opposite course is pursued, if the supply is given through the tanks or reservoirs, a single year damages a tank considerably by deposit of silt; and this being the case, and the lay of the land admitting of most of the channels of supply being so adjusted that they shall discharge into the tank till the tank is full and then supply the land direct, it is scarcely necessary for me to dwell further on the importance of having the requisite superintendence available, and on the watch to arrange regulating works that shall adjust the supply accordingly. Not only is injury thus avoided that may be said to be irreparable, but the process of putting the irrigation on a correct footing is easier now, than it will be hereafter when rights have grown up that would require to be taken into consideration as well.

20. The second question of extending the Canal to Krishnapatnam affects not only rice but cotton. I have seen within the last few weeks hundreds of carts coming in with cotton from Cuddapah. All break bulk here; and the carts that brought the cotton go down empty to Krishnapatnam for a return load of salt. If we had the Coast Canal to Krishnapatnam, instead of the cotton being put down here to be forwarded by other carts to Madras at upwards of a Rupee a bale and then being ten days on the road, this cotton would be taken down to Krishnapatnam and forwarded by water in three or four days at perhaps a fraction of an Anna per bale, say a twentieth of the present cost. Whilst as regards rice, with which I have more especially to deal in this report, I beg to bring to notice that by extending the Coast Canal to Krishnapatnam, some 18 miles, in land navigation to twice that extent will be obtained. There is a navigable back-water at Krishnapatnam running inland, with which I am well acquainted, that would make a wharf for the whole southern

shore of the Delta, as shown in the accompanying sketch, which will show further the general outlines of the Pennair Anikut irrigation; and the value of such an outlet for our increasing rice crop could scarce be over-estimated:—



21. The orders in regard to the settlement of the Land Revenue, their bearing on Anikut irrigation, and the modification I would recommend, I will now refer to as briefly as I can.

22. When we took possession of the country we found the Land Revenue collected by sharing the produce, and we continued the system substituting payment in specie for payment in kind. In the Orders received from home for the Revenue Survey and Settlement the same system was continued, it is sharing the produce; and the Orders suppose every field to be annually cropped with the standard grain of the District; only the terms to be granted are more liberal than this Presidency has hitherto enjoyed; and the result is this. In Nellore, a breeding District, as irrigation extends in the Delta we displace large herds that have hitherto been grazed there, and, under the present rules, either land must be taken up for them elsewhere at a grain assessment, with a corresponding share of common pasturage, or the cattle must be dependant on what can be got for them in the way of pasturage, one year in this village, one year in the next, &c.; and, on the other hand, continuing this system of sharing, that we inherited from Mussulmen, and having expended six lacs and sixty-nine thousand Rupees, I am to collect for the water supplied, not what it is worth but what it may happen to produce on the land it may happen to be applied to.

23. The changes and modifications, I respectfully recommend, are, that we adopt the system pursued at home in respect to dry lands, and assert the rights claimed whether at home or elsewhere in respect to capital and irrigation so obtained. At home if I were to let a field, I would let it so that the land should have fair play. The agreement would be drawn out that there should be an year with corn, an year with green crops, an year fallow, &c. Generally there would be more than one field, and in addition to the preceding stipulations one of the fields or more would be pasture. The same system here, or in other words, an assessment occupied according to sound agricultural principles, would dispose of the first difficulty, would not be more liberal than is requisite when it is a question of taxation, not rent, and would give agricultural stock and capital fair play; and thus giving capital in private hands the protection it fairly requires, public capital sunk in irrigation works, I would similarly protect by modifying the present system, and refusing to let water be taken by every one willing to give the prescribed share of the crop. I have no wish to be hard on the Ryots. Where they have sunk their private capital in preparing land for irrigation, I should be anxious, if possible, to respect existing rights, even though the share of the crop were below the ordinary rates of assessment for dry land. But where it is a question of fresh supply the case it seems to me is different. When the Mussulman and the Ryot jointly built the tank, the Ryot had a fair right to select where the fresh supply should be applied. He had indeed probably borne the larger portion of the expense. When on the other hand, irrigation is provided by a large expenditure of public capital the case is reversed; and in making provision for private capital whether as regards dry or wet land, I beg to recommend as regards public capital expended on works of irrigation, that in the coming settlement the supply from such works shall not be given simply for the prescribed share of the produce, but only for such lands as shall be able to pay a share equal to the generality of land then available for that supply; and in making this recommendation, I beg further to state, that I have for some time past acted on this principle in respect to irrigation in this District.

ENCLOSURE No. 1.

ABSTRACT.—Copies of letters Nos. 37 and 49 of the 17th November and December 1862, from the Collector of Nellore to the Secretary to Government, Revenue Department, Fort Saint George.

From the same Officer, dated 12th August 1863, No. 251.

1. I have the honor to acknowledge the receipt of the Board's Memorandum, No. 562 of the 5th, requesting me to explain how the principle advocated in regard to irrigation from Government works has been applied, and under what rule and authority.

2. Where land is newly brought under irrigation, in including it in the irrigable area, it becomes requisite to fix an irrigation assessment, and the guide in this operation is the assessment prevailing on adjacent lands of a like quality. Where that would give an assessment below 4½ or 4¾ Rupees per acre, I have refused to allow the water to be taken; and, whilst I believe in no case has my refusal led to the supply being refused on those terms, on the other hand I had personal knowledge that the water was worth that money, and the authority of Sections 8 and 39, Regulation 11 of 1803 to go on. Under Section 8, it is my general duty to consider the advantage of the State, the prosperity of the country, &c. Under Section 39, where the land tax has not been permanently settled, it is my special duty to regulate the demand with a just regard to the "rights of Government," "the rights of the people," and "the prosperity of the country;" and the course I have pursued is, I believe, in strict accordance with the instructions of either Section.

3. The Board ask for detailed explanations it would be difficult to give of two or three Jamabandis. But a case occurred the other day near here that will serve to illustrate what I have been doing perhaps better than details, and with the Board's permission shall be submitted instead.

4. The Nellore tank is a fine work. With a river channel, a head sluice, and cut stone revetment; there are few reservoirs, when all being done is completed, that will compete with it. But head sluices and miles of cut stone revetment are expensive; and during the last twelve years Rupees 79,568 have been expended upon it.

5. Last month, I think it was, I was looking at the Sarvapalli cut when the Kanupartipad Ryots told me there had been a quantity of land irrigated in their village from the Nellore tank for the first time this year, the assessment for which I had not fixed at the Jamabandi, and they pointed to me where the grain was being thrashed. I for some time requested in vain the attendance of the man they had named as, concerned, but finally, attaching the grain arrived at what had been going on; and the following are the results.

6. In the village in question, the year before I came to the District, 154 acres dry land had been taken up consisting of five separate numbers; in three, a portion had been irrigated that year, and assessed at Rupees 3-12-0 per acre; and the individual, I had been in search of, a man formerly hanging about the Courts as a Vakil, I found was only the man put forward, he represents a select party who had obtained this land and numbered among them the Court Serishtadar's son-in-law.

7. The land had been got the very year I came; and in the numbers in which rates had been already fixed, I found I had subsequently allowed more land to be irrigated at the same rates, viz., Rupees 3-12-0 an acre, which gives from 1 to 1¼ Rupee water rate, whilst where a rate had not been thus already fixed, I had imposed Rupees 5-8-0. This year they had not thought it necessary to apply for further instructions, but had brought 13 more acres under irrigation at the lower rate, eight at the higher; and holding the views I now do, I considered it my duty to refuse to allow more land to be taken up at this lower rate of Rupees 3-12-0 which, after deducting the dry assessment, gives on 26 acres a water rate of Rupees 1-8 0, and on 17 acres Rupee 1 per acre, and I have required for all the land irrigated this year for the first time, that the parties pay at the higher rate, and informed them, if they do not like it, all they have to do for the future is to decline the supply for the land in question.

8. In the Regulations the advantage of Government and the prosperity of the people, perhaps with legal precision, are specified separately, but in reality they are one, so long as rights are mutually respected. If a fair return is obtained on a large outlay of public capital the advantage of Government is secured, but it is equally to the prosperity of the people, for there will be more money to lay out on similar projects. But if there is not a fair return, if 79,000 Rupees are laid out to secure Rupee 1 per acre water rate, it is neither to the interests of Government, or for the prosperity of the country. It is simply fraud; and I trust therefore my proceedings in refusing to continue what I consider fraudulent will have the approval of the Board.

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9. I take this opportunity to forward the Abstract Statements of expenditure and revenue for the Anikut. They show very clearly the true state of the case, as briefly referred to in the 7th paragraph of my report, and give good grounds for believing that the results of the past year, satisfactory though they are, will be cast into the shade by the coming year. In the expenditure on the Northern Division of the Southern Delta, the expenditure had been 60,000 Rupees, on the Gangapatnam and its subsidiary reservoirs, and on the Iduru Koduru similarly Rupees 47,000, the total expenditure for that Division including main branch being Rupees 1,15,475, and rise in revenue, under the Gangapatnam from Rupees 23,000 to Rupees 39,000, under the Iduru Koduru from Rupees 28,000 to Rupees 40,000; whilst against this total expenditure of Rupees 1,15,000 in the Northern Division, in the Southern Division the expenditure is considerably higher, viz., Rupees 1,40,000, and all the revenue exhibited is Rupees 19,000. The 19,000 is satisfactory. It was 13,000 seven years ago. But it is only a fraction of the irrigated area to be affected this year; and it is scarce necessary to add all general proportions should be affected accordingly.

10. I regret the Comparative Statement won't be ready yet for a few days, but it shall be sent as soon as ready, and I enclose a Memorandum showing how the above details have been prepared from the Abstract Statement of expenditure and giving certain other particulars, not to be found there, distributing the expenditure for the whole twelve years as regards Channels and Reservoirs.

ENCLOSURE No. 1.

ABSTRACT.—Pennair Anikut and its subsidiary works.

ENCLOSURE No. 2.

ABSTRACT.—Memorandum giving certain details of expenditure on the Pennair Anikut and subsidiary works not to be found in the printed Statements.

From the same Officer, dated 29th August 1863, No. 281.

No. 138, dated 27th July 1863.
No. 251, dated 12th August 1863.

1. In continuation of my letters noted marginally, I have the honor to submit the detailed comparison of Revenue and Expenditure.

2. The Board will observe that, in the first page the comparison is given on the average results obtained before the Anikut was begun and subsequently up to 1860-61, that in the second page the year 1861-62 is compared with 1862-63, the comparison distinguishing between channels and subsidiary reservoirs, and in the third page the results are given without such distinction, but the Statement distinguishes between expenditure on repairs and new works, whilst the fourth page, under the head of Remarks, shows the gross return on the total expenditure to date for each Division, main Channel, and Section.

3. The Gangapatnam and Iduru Koduru Channels, with their subsidiary reservoirs, are sufficiently advanced to be referred to to the Board with advantage; and from the Statement now submitted it will be seen that on these channels our expenditure has been, prior and subsequent to the commencement of the Anikut (which period also represents the Public Works taking charge), the same proportions pretty nearly are obtained, viz., 7 and 20 per cent; and on this increased expenditure two years later it will be further observed the gross returns have been on the Gangapatnam 25, and on the Iduru Koduru 26 per cent. In some of the Sections the returns have run up much higher; on the Division it is 24 per cent; and if we take these two channels* and the division as a rough half of the Delta, then, adding half the gross expenditure for the Anikut and the

* Total channels, &c.	Rupees	1,15,475
½ Gross expenditure on the Anikut..	"	1,59,430
½ Gross expenditure on the main Channel from the Head Sluice to the Ranganayakulapeta regulator..	"	7,514
Total	Rupees...	2,82,419
Increase in revenue	Rupees	28,213
Gross return	10 per cent.	

main Channel from the Head Sluice to Ranganayakulapeta we have a total expenditure to date of Rupees 2,82,419, and gross returns of 10 per cent, which may be taken as a rough indication of the results to be expected next year when the other two channels come fairly into play.

4. The comparison of expenditure on repairs is also satisfactory in respect to the two channels under reference. In 1861-62 it was 6 per cent on the Gangapatnam, 4 per cent on the Iduru Koduru. In 1862-63 the per centage under the same head is 1 per cent in either instance; and for the division it is pretty much the same thing, viz., a decreased cost of from 5 to 1 per cent.

Read also again the following letter from Lieutenant-Colonel J. C. ANDERSON, R. E., Superintending Engineer, 2nd Division, to W. HUDLESTON, Esq., Secretary to the Board of Revenue, dated Masulipatam, 8th October 1863, No. 796.

1. I have the honor to solicit the attention of the Board of Revenue to a printed Statement prepared by the Collector of Nellore, and published as a Supplement to the District Gazette,* purporting to show the remunerative effect of the Pennair Delta works for the past year.

* 1st August 1863.

2. The Statement in itself is a very valuable one, and the Collector must have devoted much time and labour to render it complete. It is with regret, that I have to remark, what appears to me the incorrect principle on which it is compiled; and the more so, as all the information on which any objections are founded has been placed in my hands by the Collector himself.

3. The principle in which the remunerative effect has been computed, may be briefly stated thus:—The expenditure on new works and repairs on the Anikut, and all the works in the Delta, which it is supposed will eventually be brought within its influence, and that also on some others, or at least on one very important one, which can only at the best be very partially influenced by the Anikut, is added up from the years 1851-52 to 1862-63 inclusive; the average revenue derived from the same works for the five years 1851-52 to 1855-56 is deducted from the revenue of 1862-63; and the difference is regarded as the profit derived by Government on the above expenditure for the past year.

4. Having only lately become acquainted with the works in the Nellore District, I am not competent to discuss the Collector's Statement in detail, but a very superficial examination of it, is sufficient to oblige me to take exception to it. It appears that the original Anikut across the Pennair, was commenced in 1854-55. How then is it possible that it can have had any influence on the Irrigation works in the Delta for the three previous years. This Anikut failed the year after its completion, was re-constructed in 1857 and 1858, and again carried away at the end of 1858: the total sum thus lost amounting to Rupees 1,80,000 in round numbers.

5. The present Anikut was commenced in 1858-59 and completed last year, and four other projects for the Channels and other works, required to give it effect, have also been in progress within that period. These are

	Estimate.	Commenced.	
Main Channel.....	* 92,630	9th July 1859.	* G. O. No. 360, 17th Feb. 1860. No. 1,071, dated 29th June.
Improving Labur branch of Jaffer Saib's Channel.	† 30,600	29th Sept. 1861.	„ 2,943 dated 8th December 1862. † No. 943, dated 15th May 1861, and „ 498, 20th March 1862.
Do. Idur do do.	‡ 27,100	1st Aug. „	‡ No. 943, dated 15th May 1861.
Kristnapatnam Channel...	§ 59,600	17th Sept. „	§ No. 1,631, dated 28th August 1861.

A consideration of the dates on which the above works were commenced, will suffice, I think to show, that they can have had no possible influence in the Delta generally until many years later, than would be inferred from the Collector's Statement. The expenditure on the various irrigation works in the Delta from 1851-52 up to the date of the commencement of the improvements above enumerated, was, in fact, quite unconnected with the Anikut scheme. It would have been just the same, or nearly the same, whether the Anikut had been constructed or not; and like that on other irrigation works in the District, should be regarded as a normal charge against the revenue.

6. I am not aware what effect on the revenue was produced by the two first Anikuts, but there could be no difficulty in ascertaining this, and in making due allowance for it in subsequent calculations. But looking at the final project, it appears to me, that the only correct mode of calculating its remunerative effect is that already prescribed by the Government, namely, to class the expenditure on new works, as so much capital lent to them, to be recovered by the net increase of revenue, and the net increase of revenue will be determined by deducting the average revenue less cost of maintenance before the works come into operation, from the amount similarly obtained for each year subsequent to their coming into operation.

7. A form of Statement arranged on the above principle was forwarded through the Accountant General to the Chief Engineer by the Government of India,* and circulated† by the Chief Engineer to all Collectors and Officers of the Department Public Works. The remunerative Statements for the Pennair works have been compiled on this principle, though I am unable to say, with what degree of accuracy, for 1861-62 and previous years, and one for 1862-63 in continuation has been prepared, but the calculations of the Collector are so completely at variance with those of the District Engineer that it would be useless to attempt to engraft the latter on last year's Statement (for 1861-62).

* No. 4,818, dated August 1858.

† Chief Engineer's Circular No. CXVIII, dated 7th October 1858.

8. There is one item in the Collector's Statement, which, in my opinion, should not have appeared at all. I allude to the Nellore tank, the expenditure on which from 1851-52 to 1862-63 inclusive has been included along with that of the Anikut and subsidiary works. It is possible and indeed certain that some of the land under the Nellore tank will be brought within the influence of the Anikut Channels, but the great mass of the Tank Ayacut is above the level of the channel water, and can never derive any benefit from it. It is therefore difficult to conceive on what ground the Collector should have charged the large expenditure on that work against the Anikut project. It is true that he credits it with the increase of revenue, and that increase may be considered a good return on the expenditure; but however anxious I myself or the Officers who have been engaged on the works may be, to show their effect in a favorable light, we do not wish to take credit for any increase of revenue which cannot be clearly shown to be due to them, and in the case in question, I do not see how this can possibly be done.

9. Notwithstanding the losses occasioned by the failure of the Anikut on two occasions, its eventual success, as re-constructed may be regarded as certain. The Collector has lent his aid by every means in his power to bring it into full effect, and has evinced the greatest interest in the advancement of the various works connected with it. In the preparation of the Statement in question he has doubtless been actuated by a desire to show the works in the most favorable light possible, and I must again beg to express the great regret I feel at having to dissent from his conclusion.

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1. Ordered that the above correspondence be submitted to Government, with reference to the Government Proceedings noted in the margin.

Govt. Procs. dated 19th March 1862, No. 485, P. W. D., Public.
Do. 5th May 1863, No. 1,141, do. do.
Do. 16th June 1862, No. 1,321, Rev. Dept.,
comg. G. O. dated 12th idem, No. 1,335, P. W. D., Public.

2. In the last of these Orders Government directed the preparation of a Return showing for the area affected by the Anikut works, the revenue derived in the ten years prior to 1855 and in each subsequent year, with remarks as to the state of the Anikut in each year; and of a separate Statement, showing how far reductions in assessment might be assumed to have affected the area of land occupied.

3. This Order was communicated by Government direct to the Collector, and from the correspondence held by the

Dated 17th November and 22nd December 1862.

Collector with Government, of which Mr. Dykes has forwarded copy to the Board, it appears that the return desired was submitted to Government as also a supplementary return, showing the results in what Mr. Dykes considers a more unobjectionable form. The Board therefore presume that the elaborate Statements which have now reached them are to be accepted as the periodical return which the Secretary of State desired to receive, showing the effects of the Anikut works; but it appears to them that some far simpler form might be adopted with advantage.

4. The Board gather from the papers before them that Mr. Dykes desires to eliminate from the total results exhibited by the area of land occupied, that portion which may be ascribed to the effect of Tanks and Channels, which, although now blended with the system of works dependant on the Anikut and more or less improved in connection with those works, were existing long before the Anicut, and are now in part at least maintained in order by customary labor; and in estimating the return on the outlay, to include the expenditure on repairs of Tanks and Channels, on the ground that such expenditure although not appearing as part of the cost of the Anikut works has yet materially aided to produce the present results.

5. It is doubtless very desirable to record such information so far as it is possible to obtain it in a reliable form, but the Board consider that for the purpose immediately in view an Abstract Statement of a much simpler kind than those now submitted would be preferable. It might distinguish in gross the area occupied before and since the construction of the Anikut under Tanks and Channels now connected with it, and the area, if any, directly irrigated from new channels, and the Government could draw their own conclusions. The elaborate details are no doubt valuable, and, as Mr. Dykes says, useful to the local officers; but they only serve to confuse those who are not intimately acquainted with the localities and with the whole system of the works, especially when with them are blended disquisitions on controversial subjects.

6. It will be observed that the Superintending Engineer disputes the correctness of the system adopted by the Collector for comparing results with cost, and the subject has been referred to the Collector for his remarks; but the Board do not find that Mr. Dykes was ever called on to submit any Statements of expenditure or any such comparison as he has instituted. The chief information desired of him by Government is comprised in the last line of Statement No. 2, but this includes the revenue derived from the Nellore Tank; regarding which Colonel Anderson observes that the great mass of the Tank Ayacut is above the level of the channel water and can never derive any benefit from it. The Board have therefore excluded this from the following abstract :—

		Rs.
Average annual revenue derived from the area now affected by the Anikut works from 1851-52 to 1855-56...		65,889
Do.	from 1856-57 to 1860-61	83,448
Do.	in 1861-62	74,182
Do.	in 1862-63	1,00,692

7. It is in the last year only that according to Mr. Dykes the existing Anikut has produced any effect, and, as the Board understand, the Revenue shown is exclusive of that hereafter derivable from Inam lands which have hitherto enjoyed the additional supply from the new works without paying for it. But it will aid in coming to a decision on the true deductions from the above figures, to show below the state of the works during the period to which they refer, as follows :—

1854-55. Original Anikut commenced.
1856..... do. completed.
1857..... do. breached.
1858..... repaired.
and again breached.
1859..... Present Anikut commenced.
1862. ..... do. completed.

8. The above figures show a rise in the Revenue of Rupees 26,510, in the year in which the Anikut came into operation, and the Board gather from the correspondence that a further considerable extension of irrigation is to be expected in the current and future years. How far the increase apparent in the two previous periods over the average from 1851 to 1855 is due to the Anikut works, the Board find no information to show. They however observe that Mr. Dykes takes credit for it in his comparison with the total expenditure in the same interval on the works from which the present revenue is derived, including what he designates "subsidiary reservoirs" or Tanks now supplied from Anikut channels.

9. They find it equally impossible to ascertain from Mr. Dykes's figures, the expenditure in the eight years from 1854 to 1862 on the Anikut and its subsidiary works, or how far the increase of revenue affords a fair return for that expenditure; and Colonel Anderson states that the Collector's calculations are so completely at variance with those of the District Engineer that it is impossible to reconcile them.

10. The Board presume that the latter are before Government or will shortly be submitted. The Government will then be in a position to decide which set of figures most accurately represent the cost of the works and the consequent results.

11. The Board can only note the palpable advantage realized, and the satisfaction expressed by the local Officers with the results actual and prospective.

12. They deem it however most desirable that Government should authoritatively decide how the return which they desire to receive should hereafter be prepared, for it is evident that at present one Department or the other must be persistently maintaining a wrong course.

13. Mr. Dykes has not stated how or at what rate he proposes to make the Inamdars pay for the increased advantages derived from the construction of the Anikut, and he will be desired to report fully on this point; but in regard to Government land proposed to be newly brought under irrigation, he appears to have prescribed to himself a minimum assessment of Rupees 4-8-0 per acre.

14. Without further information as to the character of the soil, or the Dry rate originally assessed on it, the Board are not in a position to judge whether this minimum is reasonable or otherwise, but they observe that there is irrigated land in the Godavery delta which pays only Rupees 3-4-0 per acre, and that if Mr. Dykes has in fact assessed land converted from dry to wet, at a higher rate than that prescribed by the local custom for the particular class of land, he has exceeded his powers in acting without the Board's sanction.

15. His attention will be called to Section 40, Regulation II of 1803, and he will be desired to state in detail the rules by which he proposes to be guided for the consideration of the Board. The arrangements can in any case be but temporary pending the general revision of the assessment.

16. The Board request special consideration for Mr. Dykes's remarks on the pressing necessity of extending the Coast Canal to Kistnapatam. It is undoubtedly highly desirable that with extension of irrigation, and consequently of cultivation, there should be provided increased facilities for conveying the surplus produce to the best market, which in the case of Nellore is undoubtedly Madras. But the facts stated by Mr. Dykes in connection with the carriage of Cotton in the District, and the great hindrance to cheap traffic, or rather the material enhancement of the cost of carriage which the present state of things entails, are deserving of serious attention.

(True Copies and Extract.)

(Signed) W. HUDLESTON,
Secretary.

To J. D. Sim, Esq., Secretary to Government, R. D., with enclosures.

Copy to J. W. B. Dykes, Esq., Collector of Nellore.
„ to Lieut.-Colonel J. C. Anderson, R. E., Superintending Engineer, 2nd Division.

Exd. J. Wright.

D

Copy in a letter to England
d/20: February 1864. No. 4.

1863. Department.

No.

PROCEEDINGS OF THE BOARD OF REVENUE,

Dated 24th November 1863.

No. 7,426.

Submitting with remarks letter from the Collector of Nellore reporting on the results of the Pennair Anikut.

Proceedings of the Madras Government, Revenue Department, 10th December 1863.

No. 170. Read the following Proceedings of the Board of Revenue:—

Submitting with remarks letter from the Collector of Nellore, reporting on the results of the Pennair Anicut. } (Here enter 24th November 1863, No. 7,426.)

No. 171. ORDER THEREON, 10th December 1863, No. 2,249.

1. The Board will submit in due course the report required from the Collector in paragraphs 13 and 15 of their Proceedings.

G. O. 24th November 1863, No. 2,118.

2. The Government have already passed orders on the system pursued by the Settlement Department in arriving at the grain value of lands.

3. The other subjects discussed in these papers will be disposed of in the Department Public Works.

(True Extract.)

[signature]

Secretary to Government.

To the Board of Revenue.
" Department Public Works. with a copy of the Bd's Pro. No. 7426.

Exd. T. O'Connor.

Copy sent to Letter to England
Dt 26 February 1864 No 4

P W 1863 Depart
Cr of Govt for January
No 5789
Proc of Govt in the
Revenue Depart
Dated 10
Received 12 } Dec
No 2249

Passing orders on the Report of the Board of Revenue submitting with their remarks, Letter from the Collector of Nellore reporting on the results of the Pennair Anicut.

No 170

No 82 9th January 1864

Proceedings of the Madras Government, Public Works Department, 9th January 1864.

No. 170. Read the following papers :—

Proceedings of the Madras Government in the Revenue Department.

Passing orders on the Proceedings of the Board of Revenue, submitting with their remarks, letter from the Collector of Nellore reporting on the results of the Pennair Anicut. } (Here enter 10th December 1863, No. 2,249.)

No. 171. Proceedings of the Madras Government in the Revenue Department, dated 15th December 1863, No. 2,294.

Read the following letter from J. W. B. DYKES, Esq., Collector of Nellore, to J. D. SIM, Esq., Secretary to Government, Revenue Department, Fort Saint George, dated Nellore, 7th December 1863, No. 415 :—

SIR,

1. I do myself the honor to submit direct the information called for in the Proceedings of the Board of Revenue of the 24th ultimo, received on the 5th instant, so that the information required on the results of the Pennair Anicut at Nellore for 1862-63 may be laid before Government at one and the same time ; whilst a duplicate will be submitted in due course for the consideration and orders of the Board.

2. In paragraph 5, the Board require an Abstract Statement that should distinguish, in the gross, the area occupied before and since the construction of the Anicut, under tanks and channels connected with it, and the area, if any, directly irrigated from new channels. And this abstract if required I will hereafter endeavour to prepare, but now do myself the honor to submit approximately.

Gross approximate area occupied and irrigated before the Anicut was built.	Gross area occupied and irrigated since the Anicut was built.			Increase.
	Under Tanks and channels connected with it.	Under new Channels.	Total.	
Acres.	Acres.	Acres.	Acres.	Acres.
21,928.	32,874.	.....	32,874.	10,946.

3. Taking the area occupied and irrigated last year, as the required area, since the construction of the Anicut, I have calculated the area occupied and irrigated before its construction with reference to the average rate per acre, as shown by last year's accounts, which we have in detail. And thus stated approximately, it will be observed an increase is shown in the general gross area of 11,000 Acres or 50 per cent., and the area irrigated from "new channels" is left blank.

4. The channels have been so much improved that all might be entered as new. But strictly speaking, we are dealing with an old system of irrigation, and as regards the classification required there is no area I could properly enter as "directly irrigated from new channels."

5. As regards the Nellore tank, I have the honor to state that this reservoir has been included not with reference to its present "Ayacut" or area of irrigation, but with reference to the part it is required to play in the Anicut scheme. As brought to the notice of Government in the letters noted marginally,* our area of direct irrigation is very limited. In 1862-63 it was only 3,000 Acres out of 32,000. With a precarious river like the Pennair, not an acre of this limited area would be safe were there not adjacent tanks to fall back upon. And what the lower reservoirs do for direct irrigation further off, the Nellore tank must do for the direct irrigation in the upper portion of the Delta. I am now allowing land to be taken up for direct irrigation on the strength of having the Nellore tank to fall back upon when the river fails us. And situated as it is, we could not well have a more valuable reservoir either for the purposes indicated or the general strengthening of the Anicut scheme. The whole of the waste water is either received by the Sarvapalli channel, or passed to other Anicut works. The whole of the used water is received either by the Iduru, Koduru, Krishnapatnam, or Sarvapalli channels. And thus closely connected, if we had not direct irrigation from both sources mixed up in many villages, I do not think any general results could be given for the Anicut with propriety, that excluded from the calculations the Nellore tank and its expenditure.

* Nos. 37 and 49, dated respectively the 17th November and 22nd December 1862.

6. In paragraph 8, the Board observe that they find no information to show how far the increase apparent in the average revenue from 1856-57 to 1860-61 and in 1861-62, is due to the Anicut. And on this point I beg to state that there had been none given. As shown in the last page of Statement No. 3, whilst the revenue from direct irrigation from the channels in 1861-62 was Rupees 11,616, under the tanks it was Rupees 93,469. And of this amount, if any, how much was due to the obstructions caused in the river in the course of constructing the Anicut, and how much to the repairs executed on the reservoirs to the extent of Rupees 2,09,155, I am unable to distinguish or submit for the information of the Board. I believe that the Anicut had an effect, but that it is not possible or worth our while to distinguish it.

	Rs.
Anicut	3,18,860
Subsidiary works	1,41,205
Subsidiary Reservoirs	2,09,155
Total...	6,69,220

7. In paragraph 6, the Board observe that they nowhere find I was ever called on to submit any statements of expenditure or any such comparison as I have instituted. And in paragraph 9, the Board observe it is impossible to ascertain from my figures, the expenditure on the Anicut and its subsidiary works, or how far the increase of revenue affords a fair return for that expenditure, apparently blaming me in this second paragraph for not having been sufficiently explicit on a point they do not find I was required to touch upon. In Statement No. 1, however, in the column of remarks, I have given the required figures, and stated the total cost on the Anicut to be Rupees, 3,18,860 as shown by the accounts of this Office. Including the subsidiary works and reservoirs, I have similarly shown the total cost to be Rupees 8,69,220. And as the results of this expenditure, I have shown in my letter of the 27th July last, that the first year, the Anicut came fairly into play, on a revenue, for some time rising, there had been a sudden rise of 18 per cent. and a return on the expenditure of 6¼ per cent.,* and in my letter of the 29th August, similarly I have shown† that for so much of the Delta as our works were sufficiently advanced in to allow of the comparison being fairly made on the expenditure the gross returns might be considered 10 per cent.; which I observed could be further taken as a rough indication of the results to be expected in the current year when the Krishnapatnam and Sarvapalli channels shall have come fairly into play, results which I trust the Government will consider satisfactory and a "fair return" on the capital expended.

Letter to Board 27th July 1863, No. 238, paragraph 10.

* Paragraph 13.

† Paragraph 3.

8. The Board then proceed to observe that as my calculations are directly opposed to the District Engineer's, "it is evident one Department or the other must be persistently maintaining "a wrong course." What the Department Public Works may be doing, it is not of course for me to answer. But whether as regards the Public Works or myself, I beg the Government to decide, whether on the correspondence before them, the Board are justified in making such an accusation against either the Public Works Department or myself. It is no easy matter to show the returns on an Anicut that supplements a long established system of irrigation. Any accounts that can be drawn up so as to give the required information clearer than those now furnished, I shall be glad to adopt. And in drawing up "the elaborate statements which the Board presume* are to be accepted as the periodical return the Secretary of State desired to receive," I beg to state, I was actuated by no "*persistent*" intention to maintain a wrong course, but draw up statements that going fully into details might enable me to realize on a large expenditure of public capital, and form at the same time a sound basis for the report submitted and the collection and record of data for future reports.

* Paragraph 3.

9. In paragraph 13, the Board observe, I have not stated what I propose to make the Inámdars pay for the increased advantages derived by the Anicut. And on this point I beg to refer to my report to the Board of the 21st October, No. 362, showing 20,000 Acres as the area involved, and recommending that 4,000 Acres, the average area irrigated during the ten years from 1850 to 1860, should be taken as the basis, and the Inámdars as a rule made to pay for all they irrigated in excess.

10. What the Inámdars should be charged, that I proposed to make as far as possible a matter of agreement, with reference to any proposals I might receive from the Inámdars, after the Board's orders had been passed on the question of area. But for this purpose, either the Godavery rate or the Kurnool rate could be adopted as our standard, and if thought fit without further reference to private arrangements. The Kurnool rate, I must add, being in my opinion none too much.

11. In prescribing for myself a minimum assessment of Rupees 4 Annas 8 per Acre for the ordinary assessed lands as observed by the Board, I have been guided by what I found the marketable value of water. No special minimum was fixed. But I found Rupees 6 an Acre,

consolidated assessment, was eagerly taken up; and, keeping to the preseribed rates in each village, I have endeavoured to give over the land applied for as much as possible at this rate of Rupees 6 an Acre, the water rate in each case being the difference between this consolidated rate and what the land would be assessed at, if assessed for "dry" cultivation.

12. Under Section 40, Regulation 2 of 1803 referred to by the Board, a Collector is prohibited from increasing the rate of "waram" without the permission of the Board. But this is I presume where the "waram" has been already fixed on the land. And to fix a "waram" or in this case an assessment after an Anicut has been built, with reference to what had been fixed on adjacent land before, would be to build a palace by a hovel and charge the same rent for both.

13. And having now submitted in detail such information as is in my power in respect to the points commented on by the Board, I beg to refer briefly to Colonel Anderson's letter of the 8th October to which I deferred replying, as I informed the Board* in my letter of the 26th October till he should have seen my report.

* 26th October, No. 346, to the Board.
28th idem, No. 290, to Colonel Anderson.
Copies sent.

14. Colonel Anderson, it will be observed, in reality agrees with me as to when the effects of the present Anicut must be looked for, and the points at issue are, 1st, should the expenditure on the tanks or subsidiary reservoirs be considered a normal charge against revenue; and 2ndly, can the effects of the two first Anicuts be readily ascertained. As regards the first point, I am of opinion that it is not a question of whether the expenditure would have been the same or nearly the same, whether the Anicut had been constructed or not, but whether the revenue under those reservoirs can be taken credit for for the Anicut and the expenditure ignored. And looking to the magnitude of the expenditure and the results that have followed similar expenditure elsewhere, I am of opinion, it cannot. Whilst, as regards the second of these two points and the possibility of distinguishing *Anicuts* here again, as I have already said, with reference to the total expenditure, all I can say is, if a distinction can be drawn between the results of the money spent on the Anicuts and the money spent on the reservoirs, I am at fault as to the mode to be pursued, but shall be ready to follow it if pointed out.

15. So far as I am aware, the instructions forwarded by the Government of India through the Accountant General refer to *new works;* they do not take into their scope the case of new works blended with old, and *depending* on the old works for their development.

16. The Nellore Tank, a further point raised by Colonel Anderson, I have already explained, has been incorporated with reference to its use as a reservoir to supplement Anicut irrigation; as one of the works on which Anicut irrigation from the Pennair must depend. And as regards the question asked by Colonel Anderson in the 4th paragraph of his letter, "how is it "possible the first Anicut commenced in 1854-55 could have had any influence on irrigation "works for the three previous years;" it is only necessary here to observe, that this question was asked before Colonel Anderson had seen my report, and from these reports he will have learnt that the accounts were dated from 1851-52, as regards revenue, to afford the means of comparison, as regards expenditure to show so far as the accounts were available what had been of late years spent on our subsidiary reservoirs. Whether this latter object was material, and whether we can properly ignore an expenditure of Rupees 2,09,155, or not, it is for the Government to decide.

From J. W. B. DYKES, Esq., Collector of Nellore, to W. HUDLESTON, Esq., Secretary to the Board of Revenue, Madras, dated Nellore, 26th October 1863, No. 346.

SIR,

1. I have the honor to acknowledge the receipt of the Board's Proceedings of the 20th, No. 6,681, and state that I propose replying to any objection Colonel Anderson may have to make as to the mode in which the Anicut Returns have been drawn up, after furnishing him with a copy of my reports on the subject under dates the 27th July, No. 238, 12th August, No. 251, and 29th August No. 281, respectively.

2. Copies of these reports would have been sent to Colonel Anderson in the first instance, had I anticipated their being two and three months under consultation; I thought on the contrary they would be passed on and printed at once, as the Secretary of State had called for the information at an early date; and I applied for spare printed copies for Colonel Anderson and the other Officers interested, as preferable to the manuscript copies now being prepared with reference to the Board's Official Memorandum No. 849, dated 17th October 1863, informing me that the reports are still under consultation and not likely to leave the Board's Office for some time longer.

From J. W. B. DYKES, Esq., Collector of Nellore, to Lieutenant-Colonel J. C. ANDERSON, R. E., Superintending Engineer, 2nd Division, dated Nellore, 23th October 1863, No. 290.

SIR,

1. With reference to the Proceedings of the Board of the 20th October 1863, No. 6,681, and the accompanying letter from yourself of the 8th idem, No. 796, I have the honor to forward for your information copy of my reply* and of my report on the Anicut of the 27th July No., 238.

* No. 346, dated 26th October 1863.

2. The other two† reports shall be sent as copied.

† Nos. 251 and 281 of 12th and 29th August 1863.

3. And in conclusion, I beg to call your attention to the correspondence noted marginally, copies of which have been furnished to your Office.

1. Procs. of the Madras Govt. P. W. D., 12th June 1862, No. 1,335.
2. Collector's letter to Acting District Engineer, Nellore, No. 311, dated 23rd October 1862, with its enclosures.
3. Do. do. No. 394, dated 24th Dec. 1862, with its enclosure.
4. Do. do. No. 1, dated 8th January 1863.
5. Procs. of the Madras Govt. P. W. D., dated 5th May 1863, No. 1,141.

(True Copies.)

(Signed) J. W. B. DYKES, *Collector.*

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1. The subject of paragraphs 9 to 13 will be considered when the Board's remarks are received.

2. The rest of Mr. Dykes' letter will be disposed of in the Department Public Works.

(True Extract.)

(Signed) J. D. SIM,
Secretary to Government.

No. 172. ORDER THEREON, 9th January 1864, No. 82.

1. The points discussed in these papers, and remaining for disposal in this Department, are as follows:—

(1.) The principle on which the revenue derived from the Pennair Anicut is to be computed, and the form in which the periodical Returns called for by Government are to be prepared.

(2.) The expediency of extending the Coast Canal to Kistnapatam.

2. On the first of these points the Collector and the Superintending Engineer are at issue. The former is of opinion that from the aggregate of the revenue derived from the land brought under the influence of the Anicut, such portion as is due to the tanks and channels now forming part of the integral scheme, but which existed before the construction of the Anicut, should be eliminated; and that in calculating the return on outlay, the expenditure on the maintenance of those tanks and channels since the year 1851-52, or three years before the commencement of the first Anicut, should be taken into account. The Superintending Engineer objects to this mode of calculation, on the ground that the expenditure on the various irrigation works up to the year 1854-55 was quite unconnected with the Anicut scheme, and should not be charged against it. The Collector, in reply, states that during the three years in question a sum of Rupees 2,09,155 was spent in improvements to the old tanks and channels, and that in calculating the return from the Anicut, so large an outlay upon works which now form an integral part of the scheme cannot properly be ignored.

3. The Superintending Engineer also remarks that the Collector has allowed nothing for the effect produced on the revenue by the first two Anicuts, which were carried away in the years 1857 and 1858 respectively.

4. Mr. Dykes acknowledges that the revenue was influenced by these incomplete works, but considers it impossible to calculate it satisfactorily.

5. Colonel Anderson further objects to the expenditure on the Nellore tank being included with that on the Anicut and its subsidiary works, stating that the great mass of the tank Ayacut is above the level of the channel water, and can never derive any benefit from it. Mr. Dykes, however, considers it impossible to separate the Nellore tank from the Anicut scheme, and says that in so uncertain a stream as the Pennair, the Anicut irrigation would be comparatively valueless, were there not some such reservoirs as the Nellore tank to fall back on.

6. The Governor in Council does not consider it necessary to go into each of these points at issue. He quite concurs with the Board of Revenue in the sentiments expressed in paragraph 5 of its Proceedings. A statement in abstract prepared on reliable data and exhibiting, in the gross, the results of the Pennair system of irrigation is all that is requisite. This Statement should exhibit the area irrigated under old tanks and channels now brought under the influence of the Anicut, and the average revenue derived therefrom during the ten years preceding that in which the Anicut was constructed, as also the area since irrigated, including that directly watered by new channels; care being taken to exclude the Ayacut which may be above the level of the channels. In juxtaposition to this should be shown the expenditure on new works and repairs severally for each year during the same period. With these statistics the Government will draw its own conclusions. It is satisfactory to note the results of the Anicut works in the year 1862-63 and the prospective advantages so confidently looked for.

7. The other point in the papers demanding notice is the extension of the Coast Canal. The Governor in Council has, however, forestalled the wishes of the local authorities and of the Board on this subject, and a report from Mr. Kennedy, accompanied by Plans and Estimates for the proposed extension, is now under consideration.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

To the Superintending Engineer, 2nd Division.
" Revenue Department.
" Board of Revenue.
" Cont^r & Acct^s of P. W. D.

Exd. S. T. Augustin.

Pub Works Deptt

Proceedings of the Madras Government

Under date the 9th Decr/63 Jany 1864

Read the following paper

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Pro: of Govt in the Revenue Deptt

Passing orders on the Pro: of the Board of Rev: submitting with their remarks, letter from the Collr of Nellore reporting on the results of the Pennar Anicut — H.E. 10th Decr/63 No. 2249

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Referring for disposal, letter from the Collr of Nellore submitting the further information called for, in connection with the results of the Pennar Anicut — H.E. 15 Decr/63 No. 2294

The points discussed in these papers, and remaining for disposal in this Department are as follows—

1. The principle on which the Revenue derived from the P. Anicut is to be computed,

Expenditure

JP. But it seems to me that the questions as to effect of the Anicut upon the Revenue of the District and the principles on which it is to be calculated, fall rather within the prescription of the Revenue Board

and the form in which the periodical Returns called for by Government are to be prepared.

2. The expediency of extending the Coo Canal to Wistnoy.

On the first of these points the Collector and the Superintending Engineer are at issue. The former is of opinion that from the aggregate of the Revenue derived from the land brought under the influence of the Anicut, such portion as is due to the Tanks and Channels

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now forming part of the integral scheme, but which existed before the Construction of the Anicut, should be eliminated; and that calculating the return on outlay, the expenditure on the maintenance of those Tanks and Channels since the year 1851-52, or 3 years before the commencement of the first Anicut, should be taken into account. The Superintending Engineer objects to this mode of Calculation, on the ground that the

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expenditure on the various irrigation work up to the year 1854-55 was quite unconnected with the Anicut scheme, and should not be charged against it.

The Collector, in reply, states that during the 3 years in question a sum of Rs. 2,09,155 was spent in improvements to the old tanks and Channels, and that in calculating the return from the Anicut, so large an outlay upon works which now form

an integral part of the scheme cannot properly be ignored.

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The Superintending Engineer also remarks that the Collector has allowed nothing for the effect produced on the Revenue by the first 2 Anicuts, which were carried away in the years 1857 and 1858 respectively.

Mr. Dykes acknowledges that the Revenue was influenced by these incomplete works, but considers it impossible to calculate it

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To
The Supt Engr 2nd Dn
" Revenue Department
" Board of Revenue
" Controller & Audtr of P.W.A.

Dec 1st 11th Jan

Copy in a Letter to [illegible]
D/20th February 1864 No. 4.

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No. 82
Pro. of the M. Govt.
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From the Collr. of
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