M.R.O. 14—13,000—27-9-24.

MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No. 2249 Press ~~Mis.~~

170-171

Dated 10-12-~~19~~-1863

Not to be folded or roughly handled

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

No. 170. Read the following Proceedings of the Board of Revenue, dated 24th November 1863, No. 7,426:—

Read again the following letters from the Collector of Nellore, reporting on the results of the Pennair Anicut:—

(Here enter 27th July, 12th and 29th August 1863, Nos. 238, 251 and 281.)

Read also the following letter from Lieutenant-Colonel J. C. ANDERSON, R. E., Superintending Engineer, 2nd Division, on the same subject.

(Here enter 8th October 1863, No. 796.)

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 Anicut works, the revenue derived in the ten years prior to 1855 and in each subsequent year, with remarks as to the state of the Anicut 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 Anicut 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 Anicut 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 Anicut 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 Anicut 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 Anicut 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 Anicut has produced any effect, and, as the Board understand, the revenue shown is exclusive of that hereafter

derivable from Inám 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 Anicut commenced.
1856..... do. completed.
1857..... do. breached.
1858..... repaired.
and again breached.
1859..... Present Anicut commenced.
1862..... do. completed.

8. The above figures show a rise in the revenue of Rupees 26,510, in the year in which the Anicut 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 Anicut 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 Anicut channels.

9. They find it equally impossible to ascertain from Mr. Dykes' figures, the expenditure in the eight years from 1854 to 1862 on the Anicut 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 Inámdars pay for the increased advantages derived from the construction of the Anicut, 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' 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.

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.

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

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.

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

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.

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 necesaary 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.

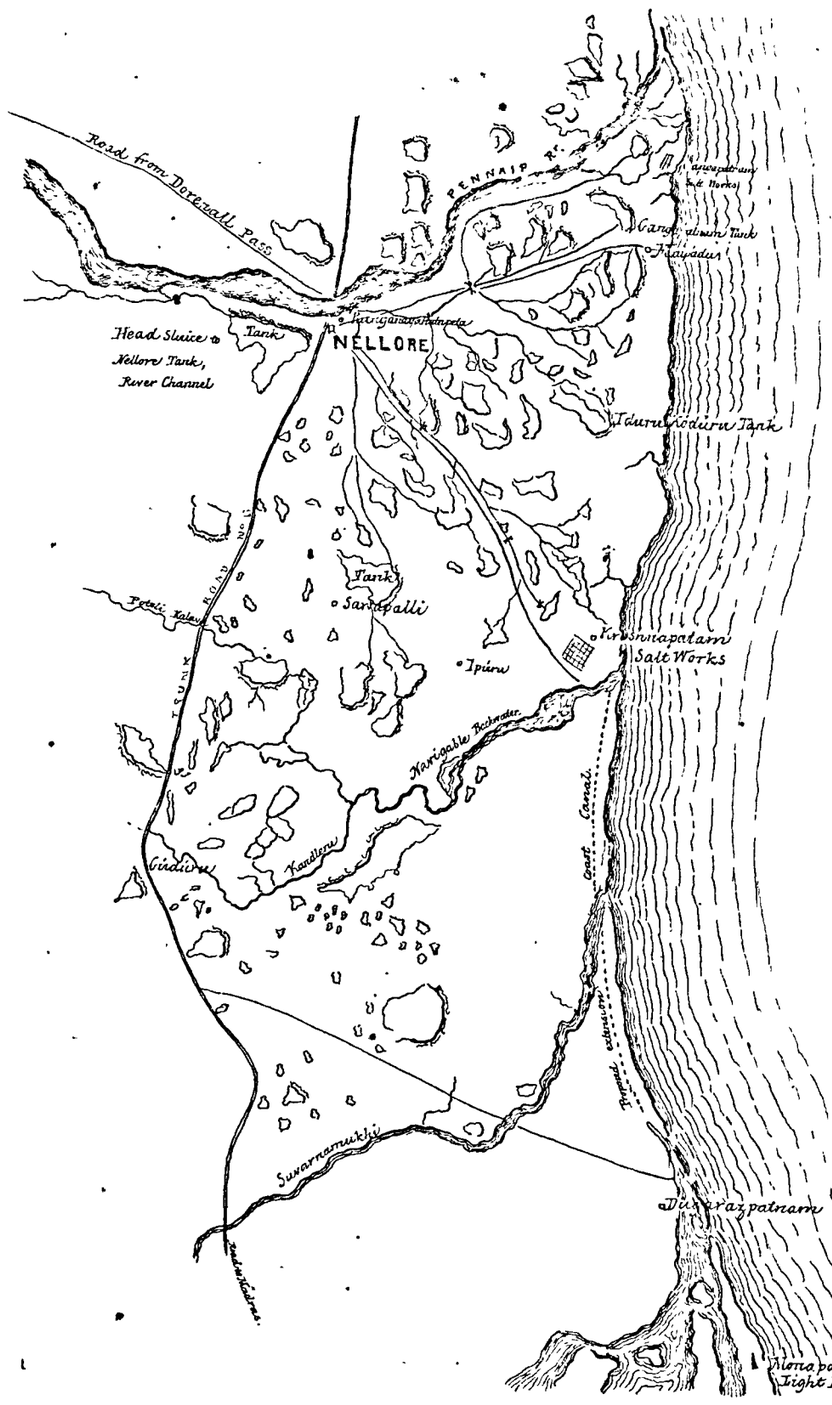
3*rdly.*—That the present orders in respect to the settlement of the Land revenue should be modified.

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:—


Road from Doravalli Pass
PENNAIR R.
Head Sluice to Nellore Tank, River Channel
NELLORE
Tank
Sarvapalli
Ipuru
Kanigalle Retender
Kandleru
Gudiduru
Swarnamukhi
Tadipatri Taluk
Tank
Tank
Tank

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.

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. „ 2,943 dated 8th December 1862.
Improving Labur branch of Jaffer Saib's Channel.	† 30,600	29th Sept. 1861.	† 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.

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.)

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.

No. 2249. 22

Proceedings of the Madras Government
Under, date the 10th December 1863.

Read the following
Proc^s of the B^d of Rev^e

Submitting with re-
marks letter from the Coll^r
of Nellore reporting on the pe-
culiarities of the Pennair Anicut

Here enter 24th Nov 63
No 7426

Note. This will save a re-transfer of the papers. J. D.

Cr. 1 24 Nov 63
R. 2118.

The Board will
in the course
submit the report re-
quired from the Collector
in paras 13 and 15 of
their Proc^s. —

The Government
have already passed orders
on the system pursued
by the Settlement De-
partment in arriving at
the grain value of
lands. —

The other subjects
discussed

16th Letter 1/2 Pb 228-229.
31 July — 406-408
29 May — 163-4 5 m 347
Mr 19 Rec^d 1/2 Mr 665
— 12 Dec^r — 2982
— 3 February 63 — 285
2 [illegible]

Dated 24th November 1863.

Rec^d 2 Jan^y
Rep^d 3 Jan^y
S.S. 22. Pd

No. 7,426.

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

S.C. No 2249 in Con

No 170

discussed in these papers will be disposed of in the Department Public Works. —

S D S

11 Copies Letter 18 Sept. Recd with 8 Enclosures Accepted 11 Cert.
21 — 1882

2641-91

Revenue 1863 Dept.
Pro: of Govt for Decr.

No 2249 -

Pro: of the Madras Govt
Dt 10th Decr 1863.

Forwd 3d Jany 64
Ex 35.
Do — do 14 May 64
Encl 306 ii

Report of the
Collector of Nellore
on the results of the
Pennair Anicut with
orders thereon -

No 170 & 171.