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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 818

Press
Mis.

465-68

Dated 18 — 3 — 1871.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
18th March 1871.*

Read the following papers :—

No. 465. Proceedings of the Madras Government in the Revenue Department, dated 14th November 1870, No. 1,786.

Read the following Proceedings of the Board of Revenue, dated 1st November 1870, No. 6,421.

Read the following papers :—

Proceedings of the Madras Government, dated 6th August 1870, No. 33, Revenue Department.

ABSTRACT.—Forwarding, for early report on certain points, Proceedings of Government, Public Works Department, passing orders on the note by the Acting Chief Engineer for Irrigation on the Sungum Project in the Nellore District.

From the Acting Director of Revenue Settlement, to the Acting Secretary to the Board of Revenue, dated Madras, 23rd September 1870, No. 1,558-46.

In reply to your official memorandum, dated 12th August 1870, No. 824, regarding the rates of assessment mentioned in paragraph 12 of the Chief Engineer's note upon the Sungum Project, I have the honour to state that these rates were framed after consultation with Mr. Rundall, the Deputy Director, who is now drawing up the Settlement Report for the talooks concerned.

2. The accompanying statement shows the average rates proposed by Mr. Rundall for the villages irrigated by the Nellore anicut in the Nellore and Gudur Talooks.

Talooks.	OCCUPIED.			UNOCCUPIED.			TOTAL.		
	Area.	Assessment.	Average.	Area.	Assessment.	Average.	Area.	Assessment.	Average.
	2	3	4	5	6	7	8	9	10
		RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.
1. Nellore.	31,857 72	1,90,508 15 0	6 0 0	3,203 17	17,262 3 0	5 6 0	35,063 89	2,07,771 2 0	5 15 0
2. Gudur.	12,876 63	70,151 4 0	5 11 0	7,103 11	31,245 12 0	4 13 0	19,979 74	1,04,397 0 0	5 5 0
Total...	44,734 35	2,60,660 3 0	5 11 0	10,309 28	51,507 15 0	5 0 0	54,043 63	3,12,168 2 0	5 11 0

The Board will see that this gives an average of Rupees 5-11-0 on the two talooks. Mr. Rundall explains, in his letter upon this subject, that the tracts of land in the Nellore Talook, which will come under the influence of the new project, contain areas more or less indifferent, and that the extension of irrigation by bringing to account these inferior soils will necessarily lower the average rate below that of the superior tract under the present Nellore anicut. Thus Mr. Rundall has fixed the average at Rupees 5-8-0; thereby allowing for the amalgamation of this deteriorating item; but he deems that the lands *now* under cultivation within the limits of the project may safely be assumed as likely to verge eventually closer on Rupees 5 than Rupees 5-8-0.

3. It must, however, be remembered that the proposals of Mr. Rundall have not as yet been submitted to this office, and have therefore yet to be scrutinized by the Board and Government. I think, however, I may safely say that there is

no probability of Mr. Rundall's rates, and consequently his present estimates being reduced.

4. The assessment of the dry lands now in occupation, and likely to come under the anicut irrigation, should not be credited to the work, but merely the difference between the present dry and estimated wet rate. The dry occupied area in the tract in question may be set down at 22,000 acres, to half of which irrigation may be extended.

5. There are two points, one adverse to, and the other in favour of, the results of the undertaking, and these should not escape notice when calculating the probable returns:—

1st.—The increase in revenue to be realized by the introduction of the proposed settlement assessment applied to the correct survey measurements.

2nd.—The great diminution in the amount of remissions for lands left unavoidably waste, which will be effected by the permanency of the water-supply about to be furnished.

6. As regards the first question, Mr. Rundall points out that the gain that will accrue to the State on the proposed new assessment coming into force should be credited to the Survey and Settlement, and not to the project.

7. As regards the second point, it is estimated that, taking into calculation the last eleven years, the actual realizations of revenue have been only 78 per cent. owing to remissions; thus allowing 25 per cent. as the deductions to be made in the average rate to be hereafter charged, namely, Rupees 5, we should have only to calculate our revenue at an average of Rupees 3-12-0.

8. I must here explain that the rate of Rupees 5 per acre is taken as the average settlement assessment hereafter to be fixed upon the land now in occupation, because, under existing irrigation, the group into which these villages fall would give this average of Rupees 5; but now, that the more permanent supply is to be furnished, these villages will be raised one group, and thus yield an average of Rupees 5-8-0 instead of 5, the surplus being credited, of course, to the project. The estimated result then stands as follows:—

Probable assessment on 88,000 acres, at Rupees 5-8-0 per acre	RS.
4,84,000	
Deduct—	
Present occupied wet area, 57,000 acres, on which the proposed new assessment will average Rupees 5	2,85,000
Dry assessment of present occupied dry area likely to be converted into wet =	2,96,000
Add 25 per cent. for cessation of remission as above shown, or, in other words, the difference by taking only an average of Rupees 3-12-0 per acre as the proposed assessment for the 57,000 acres	11,000
	1,88,000
	71,250

9. The occupied area as taken above is greater than that taken by Mr. Smith, as the form relates to the Settlement demand of Fusly 1276 (1866-67), our year of comparison for the Nellore Talook in all settlement matters, whereas the latter is apparently taken for an average of years.

10. I doubt whether the whole of the former remission should thus be credited to the project, as we cannot foretell, with certainty, that there will be no alleviations hereafter, more especially in outlying villages during unfavourable seasons; but still a fair proportion of the saving in this hitherto sacrificed item of revenue should be credited to the Sungum undertaking.

11. Finally, I note it is proposed to credit to the project the assessment of lands which have not been cultivated with dry grains, but hereafter to be brought under wet tillage by means of the anicut. But I conclude that much of this dry land is held on puttah, and pays assessment year by year, although not always actually under cultivation; this must be particularly the case with regard to the grazing lands which are in permanent occupation; so that only the difference of the wet assessment of lands newly occupied should be credited to the undertaking.

SUBMITTED to Government, with reference to Government Order, 28th July 1870, No. 1,818, (Irrigation,) paragraph 5.

2. The Consulting Engineer estimated the increase of revenue to be gained by the Sungum Project at Rupees 3,07,956. The Director gives it as Rupees 2,59,250, but to be on the safe side, the item "cessation of remission" must be reduced from Rupees 71,250 to Rupees 50,000. This will make the total amount Rupees 2,38,000, and the Board expect that this estimate, which is far from being a sanguine one, will be fully realized.

Irrigation, No. 6.

COMMUNICATED to the Public Works Department, with reference to the Proceedings in that department, under date 28th July 1870, No. 1,818.

2. The Board of Revenue have not reported on the proposal regarding the sale of land forming the beds of abandoned tanks. They will be requested to supply the omission.

(True Extract.)

(Signed) R. A. DALYELL,
Acting Secretary to Government.

No. 466. Proceedings of the Madras Government in the Revenue Department, dated 2nd February, 1871, No. 219.

Read the following Proceedings of the Board of Revenue, dated 20th January 1871, No. 277.

Read the following letter from the Acting Director of Revenue Settlement, to the Acting Secretary to the Board of Revenue, dated Madras, 10th December 1870, No. 2,112-74.

In forwarding the accompanying copy of a letter and memorandum from Mr. Rundall, regarding certain modifications which were subsequently found

Dated 1st December 1870, No. 504.

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necessary to be made in the Sungum Project details, I have the honour to submit the figures as amended by Mr. Randall in communication with Mr. Smith. A comparison between the details as now amended and those given in my letter to the Board, dated 23rd September 1870,* shows a decrease in the anticipated returns of Rupees 7,734; but as the Board allowed a margin of Rupees 21,250 in calculating the remissions as an asset, the final financial aspect of the project appears to be left unchanged.

<i>As originally furnished.</i>		<i>As amended.</i>	
Probable assessment on 88,000 acres, at Rs. 5-8-0 per acre.	RS. 4,84,000	Probable assessment on 83,146 acres, at Rs. 5-8-0 per acre.	RS. 4,68,303
<i>Deduct—</i>		<i>Deduct—</i>	
Present occupied wet area, 57,000 acres, on which the proposed new assessment will average Rupees 5.	2,85,000	Present occupied wet area, 54,172 acres, on which the proposed new assessment will average Rs. 5-1-0.	2,75,716
By assessment of present occupied dry area likely to be converted into wet ...	11,000	By assessment of present occupied dry area likely to be converted into wet ...	10,000
	2,96,000		2,85,716
Add cessation of remissions...	1,88,000	Add cessation of remissions...	1,82,587
	71,250		68,929
Total...	2,59,250	Total...	2,51,516
Difference, Rupees 7,734.			

From the Deputy Director, to the Acting Director of Revenue Settlement, dated Nellore, 1st December 1870, No. 504-198.

I HAVE the honour to inform you, with reference to my memorandum, dated 7th September, that I find the Sungum scheme as modified to include only 52 and not 58 villages as therein contemplated. I had not, as mentioned in the memorandum, the paper relating to the Sungum project before me when I drew it up, and I now find additional explanation to be necessary in respect to the area and assessment of the tract of wet land as taken by Mr. Smith. The amendment of the details I formerly gave modifies slightly the results as calculated in your letter of the 23rd September, No. 1,558-46, recorded with the Board's Proceedings of the 1st November, No. 6,421. A further memorandum is therefore now submitted, and I regret that I did not notice the omissions in some respects in the first instance.

MEMORANDUM.

In the original Sungum scheme (paragraph 108) the details as to area and assessment are taken from the statements furnished by the Collector under date 28th May 1869, and refer to the season of 1868-69. The occupation is 55,620 acres, assessed at Rupees 2,29,620, of which 39,662 acres, assessed at Rupees 1,63,116, are shown to have been cultivated. The Inam area is rendered as 8,028 acres, of which 6,056 only were cultivated.

2. In the modified scheme (paragraphs 62 to 66) the details in the above respects are taken from a statement furnished by the Collector under date 15th August 1868, as regards 68 separate

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Government villages. As surveyed and now arranged, these 63 villages comprise only 54 villages.

1. Panchedu.
2. Nagamambapuram.
3. Bhaturu Kagolla.

1. Kottapally Kanirugunta.
2. Graddagunta.
3. Amulur (North).
4. Dagudarti Tadakalur.
5. Tirumerala.
6. Peddaputtadu.

Three villages are, however, inadvertently omitted from the Collector's list, and as detailed in the margin, the first two fall within the revised scheme, but the third does not. Of the 54 villages as surveyed, only 48 are retained under the modified scheme, the six villages excluded being those marginally enumerated. There are as well two other villages to be added under the Duvoni reservoir—Vangallu and Kaligiri-

kondar. The actual number will be thus $54 - 6 = 48 + 2 + 2 = 52$ villages. One village, Amulur, which has been excluded, and another, Mopur, which has been included, are only in part irrigable under the project, and for the purpose of calculation one village has therefore been retained and one omitted.

3. The cultivation of the 51 surveyed villages (68 by the Collector's list) is taken by Mr. Smith at 55,366 acres, and the average assessment thereon Rupees 1,90,406. The deduction on account of the villages excluded Mr. Smith puts down at 4,179 acres and assessment Rupees 14,670, and thus reduces the first-mentioned area and assessment to 51,187 acres and Rupees 1,75,736.

The result should apparently be as follows:—

	Area.	Assessment.
	ACRES.	RS.
Total 54 villages ...	55,366	1,90,406
Deduct for six villages excluded ...	4,179	12,427
Remainder...	51,187	1,77,979

4. It must be remarked that the above amount represents the average total assessment, and is not applicable as the assessment of the acreage specified. The heading of the column explains the item to be "the amount of revenue raised by cultivation on dry and wet lands, on pasturage and jungle; on the average for the last five years." The average wet assessment realized on the wet area required to be taken as a basis; not the total assessment of the villages concerned. Moreover, the 51,187 acres appertain to 48 villages, whilst the project comprises, as amended, 52 villages.

5. The Settlement accounts show the occupied wet area of the 52 villages to comprise 53,346 acres, assessed at Rupees 2,18,356 according to the details for the revenue year 1866-67. The

52 VILLAGES.					
Years.					Realized wet assessment.
					RS.
1865-66	...	...	...	...	1,55,198
1866-67	...	...	...	...	1,92,488
1867-68	...	...	...	...	1,41,163
1868-69	...	...	...	...	1,52,172
1869-70	...	...	...	...	1,93,505
Average...					1,66,893

Average of 48 villages... Rs. 1,57,454
Do. of 4 do. 9,439

to be Rupees 2,18,356, which, reduced to the extent of one-fourth, becomes $2,18,356 - 54,589 = 1,63,767$ Rupees. This amount conforms closely with the average realized assessment of five years, Rupees 1,66,893.

6. Of the wet assessed area, 53,346 acres, 330 have on inquiry been found to be unirrigable, and have been adjusted to dry; and 1,163 acres, being irrigable and mostly under wet crops and

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paying water-rate, have been added to the wet assessed area, which has been thus adjusted at 54,172 acres.

7. As already explained, Mr. Smith specifies the Inam land classed as wet at 8,028 acres by Mr. Dyke's statement; but instead of deducting the item at that amount, has taken only the cultivated portion of the same, or 6,056 acres. The Inam land classed as wet in the 52 villages has now been separately calculated, and amounts to 8,854 acres.

8. The estimated results as regards the project needs therefore to be amended as follows. The area to be irrigated under the project is set down as 94,000 acres, from which, if the Inam area, 8,854 acres, be deducted, 85,146 acres will remain:—

Probable assessment on 85,146 acres, at Rupees 5-8-0 per acre ... 4,68,303

Deduct—

Present occupied area, 54,172 acres, assessed at the proposed rates, at an average of Rupees 5-1-0 per acre ...	2,75,716	} 2,85,716
Dry assessment of present occupied area likely to be converted into wet ...	10,000	

1,82,587

Add 25 per cent., the acreage yearly remission now being made on the total wet assessment which will be saved under the improved irrigation, namely, the difference between the total demand on the occupied wet area and the assessment realized ... 68,929

Total... 2,51,516

9. The area assumed to be converted from dry to wet has been taken at 10,000 acres instead of 11,000 acres, as the total dry occupied area of the 52 villages is only 19,646 acres, or less than the area formerly estimated, owing to a greater number of villages being then considered.

10. The proposed new assessment according to the existing sources of irrigation is as below specified, and shows how the above average of Rupees 5-1-0 has been arrived at. It applies only to the area in occupation:—

Class of irrigation.	Area.	Assessment.	Average rate per acre.
	ACRES.	RS.	RS. A. P.
II. Class ...	25,050	1,37,710	5 11 0
III. „ ...	25,378	1,22,807	4 13 0
IV. „ ...	3,744	15,199	4 1 0
Total...	54,172	2,75,716	5 1 0

11. The following statement shows the result of applying the rates proposed for the Nellore Anicut villages to the 52 villages under the project:—

ASSESSMENT AT PROPOSED FIRST-CLASS RATES.

OCCUPIED AREA.			UNOCCUPIED AREA.			TOTAL.		
Area.	Assessment.	Average rate.	Area.	Assessment.	Average rate.	Area.	Assessment.	Average rate.
ACRES.	RS.	RS. A. P.	ACRES.	RS.	RS. A. P.	ACRES.	RS.	RS. A. P.
54,172	3,15,518	5 13 0	10,279	47,878	4 11 0	64,451	3,63,396	5 10 0

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12. The wet assessed area under the amended project is 64,451 acres, and the area of the tanks to be abandoned and given up for cultivation 6,913* acres, total 71,364 acres; and deduct this area from the 85,146 acres, there

* Memorandum, 22nd April 1870, paragraph 74.

remains therefore to be converted from dry to wet only 13,782 acres. Assuming as before half the present dry area in occupation to be converted to wet, provision is made for extending irrigation to merely about 3,782 acres of immemorial waste. The above appears a very moderate estimate of the capabilities of the very extensive irrigation works it is proposed to construct. It has to be borne in mind that a considerable proportion of the cultivation is Valiguda, for which the light loamy soils are favourable and the supply of water needed is rather moderate. Under Valiguda cultivation the land is ploughed dry, and the seed is sown broadcast or drilled, and much water is not used for the first two months. It is probable therefore that the contemplated supply will suffice for a greater area than has been estimated.

NELLORE,
1st December 1870.

(Signed) C. RUNDALL,
Deputy Director of Revenue Settlement.

SUBMITTED for the information of Government, with reference to Board's Proceedings, 1st November 1870, No. 6,421, (Government Order, 14th November 1870, No. 1,786).

2. The figures given by the Director need modification, but the estimate of increase of revenue adopted by the Board still seems to be safe.

Irrigation, No. 1.

COMMUNICATED to the Public Works Department, in continuation of the Order, dated 14th November 1870, No. 1,786.

(True Extract.)
(Signed) CHARLES MACLEAN,
Acting Under-Secretary to Government.

No. 466-A Proceedings of the Board of Revenue, dated 21st December 1870.

Read the following letter from the Collector of Nellore, to the Acting Secretary to the Board of Revenue, dated Nellore, 14th December 1870, No. 3,300.

ADVERTING to the Board's endorsement, dated 5th instant, on Proceedings of Government, dated 14th ultimo, No. 1,786, Revenue Department, I have the honour to state that I am not in a position to give any more information regarding the estimated assets on account of land forming the beds of the tanks to be abandoned under the Sungum Project than is conveyed in the Deputy Director, Mr. Rundall's letter, printed as Appendix E. to the Executive Engineer, Mr. Smith's "Memorandum on the revised scheme for the irrigation and drainage of the Northern "Delta of the Pennair," embodied in the Proceedings of Government, Public Works Department, dated 28th July last, No. 1,818. I have no map illustrative of the scheme, and no means of knowing the names and details of the areas of the tanks, which, under the revised scheme, it is proposed to abandon. Nor, had I such information, could I possibly do more than hazard a guess, of no particular value, at the prospective result of a locally unprecedented experiment.

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2. I have been two months in the district, and Mr. Randall has been for ten years in the position best calculated to enable him to judge of what the value of any particular class of land may be for cultivation; and, when the most that he can say is that the beds of these tanks, which he is personally acquainted with "should realize on the average Rupees 25 per acre," the Board will see that it is impossible for me, or any one else, to frame any more definite estimate of the assets in question.

3. In paragraph 74 of Mr. Smith's memorandum on the revised scheme, he gives the total area of the land in question as 6,913 acres, representing, at Rupees 25 per acre, Rupees 1,72,825; while it is to be observed that in paragraph 15 of his note thereon the Chief Engineer for Irrigation takes from Mr. Smith's *original* report the total area as being 7,483 acres. As neither Major Mullins nor the Government, however, have proportionately altered the assets estimated as Rupees 1,72,825 on 6,913 acres, the oversight has not affected their calculations.

SUBMITTED to Government, with reference to Government Order, 14th November 1870, No. 1,786.

2. The Board anticipate no difficulty in selling the beds of tanks abandoned in consequence of the prosecution of the Sungum Irrigation Project.

No. 467.

ORDER THEREON, 13th March 1871, No. 818.

IRRIGATION, No. 39.

THESE orders and Proceedings contain information regarding the assessment of lands which will be affected by the Sungum Project in the Nellore District, and this information has been obtained with reference to the Order in this department, No. 1,818, of the 28th July last.

2. The papers reviewed by the Chief Engineer for Irrigation showed that the gross revenue which might be anticipated from the improved and increased supply of the orders recorded above showed that the Director of Revenue Settlement estimated the increase of revenue at Rupees 2,59,250, which the Board of Revenue, in order to be on the safe side, reduced to Rupees 2,38,000. Certain corrections made in the details upon which these calculations were based reduced the estimated returns to Rupees 2,51,516, but the Board do not consider that it is necessary to alter their estimate of Rupees 2,38,000.

3. The Board of Revenue anticipate no difficulty in selling the beds of the tanks which will be rendered unnecessary if the project be carried out, and the Government consider therefore that the estimated value of these lands which has been taken credit for in the estimates for the project may be allowed to stand, and their amount will therefore be Rupees 25,83,800 as submitted by the Chief Engineer for Irrigation.

4. The cost of maintenance was estimated by the Executive Engineer who prepared the project at Rupees 37,800 and by the Chief Engineer at Rupees 60,956. Neither of the officers however appears to have taken into account the past

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expenditure on this account, and it is evident that only the difference between past and future cost of maintenance should be deducted from the increase of revenue to be derived from the contemplated improvements. The Government consider that the former may be taken at $7\frac{1}{2}$ per cent. on the present wet revenue Rupees 2,75,716, and that if 10 per cent., exclusive of the amount required for the anicut, be taken on the whole anticipated revenue Rupees 4,68,303, the allowance will be as high as is likely to be required. The net revenue will then be as follows:—

	RS.
Gross revenue	2,38,000
Maintenance charges.	
Anicut	8,000
10 per cent. on Rupees 4,68,303	46,830
	54,830
Deduct—	
$7\frac{1}{2}$ per cent. on Rupees 2,75,716	20,679
	34,151
Sundries	49
	34,200
Net revenue...	2,03,800

and this amount is equivalent to 7.88 per cent. on the contemplated outlay. On the other hand, were the gross returns, estimated at Rupees 2,51,516 by the Director of Revenue Settlement, to be taken in lieu of the lower estimate of the Board of Revenue, the net returns would be 2,17,316, or 8.41 per cent. on the outlay required.

5. His Excellency the Governor in Council considers that the project is one which promises to be of benefit to a large tract of country, and sufficiently remunerative to make it advisable to carry it out. The order of the 28th July last, No. 1,818, and these Proceedings will therefore, together with the estimates, be transmitted to the Government of India, and sanction for the execution of the project from Loan Funds will be requested.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the Chief Engineer for Irrigation.

Revenue Department.
Superintending Engineer, 2nd Division
Controller of Public Works Accounts.

Exd. E. C. Shunker.

11A
PUBLIC WORKS DEPARTMENT,
FORT ST. GEORGE, 18th March 1871.

No. 468.

No. 819.

To

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

IRRIGATION, No. 40.

SIR,—I am directed by His Excellency the Governor in Council to submit, for the consideration of the Government of India, the accompanying plans and specifications, with estimates amounting, after correction by the Chief Engineer for Irrigation, to Rupees 25,83,800 for a scheme of irrigation on the northern or left bank of the Pennair in the Nellore District.

2. This scheme, known as the Sungum Project, is so fully described in the notes of the Chief Engineer for Irrigation, as well as in the Executive Engineer's reports, which are recorded in the Proceedings of this Government of the 28th July 1870, No. 1,818, of which a copy is herewith forwarded, as to make it unnecessary for the Madras Government to enter at any great length into explanatory details, and, in referring the Government of India to the papers in question, I am briefly to state that the object for which the project has been prepared, and most carefully revised under the direction of the Chief Engineer for Irrigation, is the utilization, for the irrigation of an extensive tract of land in what is called the northern section of the Pennair Delta, of the large quantity of flood water annually passing down that river in excess of the supply that is required for irrigation on the right bank from the anicut at Nellore, or that can be drawn off during the continuance of the freshes by the channels connected with that anicut.

3. Reserving the whole of the river supply for these channels while the water stands level with or below the crest of the Nellore anicut, the remainder, which at present runs to waste over that work, will be available for the extension of irrigation as proposed on the north bank. From the records of the discharge of the river during the last eight years, it appears that on an average there are thirty-three days in each year during which the Pennair is flowing one foot or upwards in depth over the lip of the anicut at Nellore, and it is calculated that during that period 506.88 millions of cubic yards may be drawn off by means of the contemplated anicut and channels at Sungum, by making the main channel of a sectional area sufficient to enable it to carry 4,800 cubic feet a second with a velocity not exceeding 3 feet a second. This quantity of water at the rate of 6,000 cubic yards per acre will, when supplemented by rain-fall, be more, it is believed, than enough for the irrigation of the whole 94,000 acres which the Chief Engineer for Irrigation takes to be the extent of land that will come under command of the new works.

Of this area, 44,053 acres are already under wet cultivation below various tanks having an aggregate storage capacity of 152.5 millions of cubic yards, and as this has been found to suffice, it is anticipated that ample provision, under the proposed

				new arrangements, will be made for the
Present irrigated area...	...	Acres.	44,053	whole 94,000 acres by the enlargement
Prospective do.	...	...	49,947	of some of the principal tanks to enable
			94,000	them to hold 320.59 millions of cubic
				yards. This will allow of a number of

the less efficient tanks being dispensed with, and will permit their beds being sold for cultivation.

4. The Government of India will observe from the Proceedings of this Government, as per margin, that the revenue merits of this project have been

G. O., No. 819, dated 18th March 1871. carefully inquired into, and that, after allowing the margin for contingencies which the Board of Revenue have made, the net returns are estimated at Rupees 2,03,800 or 7.88 per cent. on the amount, Rupees 25,83,800, of the estimates, while, without that arbitrary reduction, they would be 8.41 per cent. The estimates include, I am to point out, a large allowance for special establishments for superintending the construction of the works, and from paragraph 18 of the

* G. O., dated 28th July 1870, No. 1,819. note* by the Chief Engineer it will be seen that this officer is of opinion that the actual cost of the works will be less than the amount of the estimates. I am to solicit therefore the sanction of the project for execution from Loan Funds.

I have the honour to be,

Sir,

Your most obedient servant,

Colonel, R.E.,

Secretary to Government.

Ed. E. C. Shunker.

Revenue Department

Proceedings of the Board of Revenue
dated 21st December 1870.

Rs. 3,300.

Read the following

From, G. Vausey Esq^r,
Collector of Nellore.

To, J. G. Esq^r,
As Secretary to the,

Sir, Board of Revenue,
Madras.

Adverting to the Board's endorsement dated 5th instant, on Proceedings of Government, dated 14th ultimo, No. 1786, Revenue Department, I have the honor to state that I am not in a position to give any more information regarding the estimated apels on account of land forming the beds of the tanks to be abandoned under the Singum project than is conveyed in the Deputy Director, Mr. Randall's letter, printed as appendix E to the Executive Engineer, Mr. Smith's "Memorandum on the revised scheme for the irrigation and drainage of the Northern Delta of the Pennair", embodied in the Proceedings of Government, Public Works Department, dated 28th July last, No. 1818. I have no map, illustrative of the scheme, and no means of knowing the names and details of the areas of the tanks, which under the revised scheme it is proposed to abandon. Nor, had I such information, could I possibly do

do more than hazard a guess - of no particular value - at the prospective result of a locally unprecedented experiment.

2. I have been two months in the District, and Mr. Randall has been for ten years in the position best calculated to enable him to judge of what the value of any particular class of land may be for cultivation; and, when the most that he can say is that the beds of these tanks, which he is personally acquainted with "should realize on the average Rs. 25 per acre", the Board will see that it is impossible for me, or any one else, to frame any more definite estimate of the assets in question.

3. In para 14 of Mr. Smith's Memorandum on the revised scheme, he gives the total area of the land in question as 6,913 acres representing, at Rupees 25 per acre, Rupees 1,72,825; while it is to be observed that in para 15 of his note thereon the Chief Engineer for irrigation takes from Mr. Smith's original report the total area as being 7,488 acres. Neither Major Mullins nor the Government, however, have proportionately altered the assets estimate as Rupees 1,72,825 on 6,913 acres; the oversight has not affected their calculations.

Vellore Collector's Office.

14th December 1870.

I have &c

/s/ J. J. Vansagun
Collector.

157A
Submitted to Government with reference to Government Order 14th November 1870, No 1786.

The Board anticipate no difficulty in selling the beds of tanks abandoned in consequence of the prosecution of the Tungabhadra irrigation project.

True Copy & Extract

J. J. Vansagun
Acting Secretary

To, The Secretary to Government
Revenue Department

[Signature]

MEMORANDUM

REQUESTED for reference the under-mentioned papers

Plans & estimates & connected
with the San Juan Project. besides
those sent to the Govt of N.M.

Supplied
10-8-92
OFFICE OF THE CHIEF
ENGR. FOR IRRIGATION,
P. W. Department,
S- 187 2

W. H. Hamilton,
Head Clerk.

The Registrar of the *Mr. Scantland*

Recd. 1898. Dec 10
11/11/98

11/18/98

29-5-94/Recd

11/33

11/10/98

11/21/98

11/22/98

11/23/98

11/24/98

11/25/98

11/26/98

11/27/98

11/28/98

11/29/98

11/30/98

12/1/98

12/2/98

11/25/98

Chubb

11/25/98

Papers forwarded to the Govt of India on the 10th June 1871
Plans of the Sumpun Project

- 1 Transverse Section of the Sumpun at the side of the proposed Aicut
- 1 N. D. Sketch of Map of the Alignment of the Channel from the proposed Sumpun Aicut
- 1 N. D. Plan, elevation & section of the fall of the main feeder from the Sumpun Aicut
- 1 N. D. do do do of the wrought iron Girder Bridge over the Karingiri Reservoir channel
- 1 Transverse & Longitudinal sections of the proposed river embankment from Sumpun
- 1 N. D. Survey of the Land to be reclaimed
- 1 N. D. Transverse & Longitudinal sections of the General plan of the Sumpun outfall sluices
- 1 N. D. Longitudinal & Transverse sections of the proposed new drainage channel
- 1 N. D. Survey of the Karingiri & Divoran Reservoir & main channels in the vicinity of the same
- 1 N. D. Feeder from Karingiri Reservoir Longitudinal & Transverse section of the country traversed by the branch
- 1 N. D. Transverse section of the existing & proposed H. R. embankment
- 1 Plan elevation & section of the surplus weir H. R. do
- 1 N. D. Section channel survey of the country traversed by the

- 1 N.D. Southern channel. Plan elevation & section of the Fall
 1 N.D. ———— . Longitudinal & Trans: section & —
 1 N.D. ———— . ———— ———— ———— ————
 1 N.D. ———— . ———— ———— ———— ————
 1 N.D. ———— and Survey of the country & the Fall & —
 1 N.D. ———— Survey of the country & — —
 1 N.D. Central channel. Survey of the country traversed by
 1 N.D. ———— Longitudinal & transverse section & —
 1 N.D. ———— Plan section & elevation of the Regulating
 1 N.D. Longitudinal & transverse section of the Allura channel
 & its subsidiary branches —
 1 N.D. Plan, elevation & section of the Regulating channel —
 1 N.D. Allura branch channel. Plan elev. & sec: of the sluice.
 1 N.D. Longit. & trans: section of the Allura channel —
 1 N.D. Northern Delta of the River — Longit. & trans: section —
 1 N.D. Plan, elevation & section of the self-acting siphon sluice
 1 N.D. Survey of the country & — — — — —
 & by the embankment & the
 1 N.D. Survey of the country traversed by the Allura tank
 & its branches —
 1 N.D. Eastern main channel 2^d section. Plan, elevation &
 section of Regulating sluice —
 1 N.D. Eastern main channel & survey of the country —
 1 N.D. Plan, section & elevation of the inverted siphon
 1 N.D. Eastern Main channel. Plan, elevation & section of the
 1 N.D. ———— Longit. & trans: section of the
 country traversed by this branch —

- 1 N.D. Eastern main channel. Plan elev. & sec: & elev.
 of the Fall proposed for construction
 1 N.D. ———— . Plan, elevation & section of the
 1 N.D. ———— . ———— ———— ———— of the
 Fall in 6-mile ————
 1 N.D. ———— . Longit. & trans: sec: of the country —
 1 N.D. ———— . Survey of the country —
 1 N.D. Northern channel. Survey, Longit. trans: section —
 1 N.D. Eastern main channel & survey of the country —
 1 N.D. of the head sluice to supply the main feeder from
 the Kanigiri Reservoir —
 1 N.D. Main Feeder from Kanigiri Reservoir. Plan elev.
 & section of the bridge —
 1 N.D. Kanigiri Reservoir, Longit. & trans: section —
 1 N.D. ———— , ———— ———— of the
 embankment —
 1 N.D. Longit. & trans: sec: of the existing & Divara Tank
 1 N.D. ———— of the Divara Branch channel —
 1 N.D. Genl. plan of Regulating sluices in the Divara
 branch channel —
 1 N.D. Eastern main channel. Longit. & transverse section
 of the Allura branch duct.
 1 N.D. ———— . Plan, elevation & section of the
 Regulating sluice of the Allura branch duct —
 1 N.D. ———— Allura branch duct. Plan, elevation
 & section of the Falls.

1 N.O. Eastern main channel 2^d section Long & transverse section of the main feeder from the Singum Anicut to the Kanyiri Reservoir -

1 N.O. section & section of the proposed Singum Anicut & its subsidiary works -

39 Estimates -

[Faint, mostly illegible handwritten text follows, appearing to be a list of items or estimates.]

P.H. Dept. No 818.

Proceedings of the Madras Government.

Read the following:-

No. of the Madras Govt. Rev. Dep't. (H.O. order No 1786 dated 14th Nov. 1901)

No. No. No. No. No. 219 2^d Feb 1901

No. of the Board of Revenue (No. dated 21st December 1901 No 3300)

[Handwritten signature/initials]

These orders and Proceedings contain information regarding the assessment of lands which will be affected by the Singum Project in the Kallakurichi District, and this information has been obtained with reference to the order in this Department No 1818 of the 28th July last.

The papers reviewed by the Chief Engineer for Irrigation showed that the

gross Revenue which might
be anticipated from the
improved and increased
supply to be afforded by
the proposed works would
amount to Rs. 3,07,954. The
first of the orders recorded
above shewed that the
Director of Revenue Settle-
ment estimated the in-
crease of Revenue at
Rs. 2,59,250 which the
Board of Revenue ^{in order} to be
on the safe side reduced
to Rs. 2,38,000. Certain cor-
rections made in the de-
tails upon which these
calculations were based
reduced the estimated
return to Rs. 2,51,576, but
the Board do not consider
that it is necessary to

27 9
alter their estimate of Rs. 2,38,000.

3. The Board of Revenue an-
ticipate no difficulty in selling
the beds of the tanks which
will be rendered unnecessary
if the project be carried out,
and the Government consider
therefore that the estimated
value of these lands which
has ^{been} taken credit for in the
estimates ^{for the Project}, may be allowed to
stand and their amount will
therefore be Rs. 25,83,800 as
submitted by the Chief Engi-
neer for Irrigation.

4. The cost of main-
tenance was estimated by
the Executive Engineer who
prepared the project at
Rs. 37,800 and by the Chief
Engineer at Rs. 60,956. Neither
of these Officers however appears

to have taken into account the past expenditure on this account, and it is evident that only the difference between past and future cost of maintenance should be deducted from the increase of Revenue to be derived from the contemplated improvements. The Govt. consider that the former may be taken at $7\frac{1}{2}$ per cent on the present net Revenue Rs. 2,75,716, and that if 10 per cent, exclusive of the amount required for the annuit, be taken on the whole anticipated Revenue Rs. 4,68,303, the allowance will be as high as is likely to be required. The net Revenue will then be as follows:-

Grass Revenue	Rs. 2,38,000
Maintenance charges.	
Annuit —	Rs. 8,200.
10 per cent on Rs. 4,68,303 —	46,830
	<u>54,830</u>
Reduct	
$7\frac{1}{2}$ per cent on Rs. 2,75,716 —	20,679
	<u>34,151</u>
Indries —	49
	<u>34,200</u>
Net Revenue	<u>2,03,800</u>

and this amount is equivalent to 7.88 per cent on the contemplated outlay. On the other hand, were the prop returns, estimated at Rs. 2,51,516 by the Director of Revenue Settlement, to be taken in lieu of the lower estimate of the Board of Revenue, the net Revenue would be 2,17,316 or 8.41 per cent on the outlay required.

No 819

The Secretary to the
Govt of India.

Sir,

I am directed by
His Excellency the Governor
in Council to submit for
the consideration of the
Government of India the
accompanying plans and
specification, with estimates
amounting, after correction
by the Chief Engineer for
Irrigation, to Rs. 25,83,800
for a scheme of irrigation
on the Northern or left
bank of the Pennai in
the Kallakurichi District.

This scheme, known
as the Sengama Project, is

A. A.
J. D. S.

80
5

To the Ch. Eng. for Irrig. ✓
27. Rev. Secy. ✓
28. Secy. 2083 ✓
To the Controller of P. & A. ✓

Resd 24/3/71

W. B.

His Excellency the
Governor in Council con-
siders that the project is
one which promises to be
of benefit to a large tract
of country, and sufficiently
remunerative to make
it advisable to carry it
out. The order of the 28th
July last, 1870, and the
Proceedings will therefore,
together with the estimates,
be transmitted to the
Govt. of India, and sanction
for the execution of the
project from Loan Funds
will be requested.

27th 18
So fully described in the
Notes of the Chief Engineer for
Irrigation, as well as in
the Executive Engineer's re-
ports, which are recorded
in the Proceedings of this
Government of the 28th
July 1870, No 1818, of which
a copy is herewith for-
warded, as to make it
unnecessary for the
Madras Government to
enter at any great length
into explanatory details,
and, in referring the
Copy of India to the papers
in question, I am briefly
to state that the Report for
which the project has been
prepared, and must care-
fully revised under the
direction of the Chief Engineer

for Irrigation, is the utilization
for the irrigation of an exten-
sive tract of land in what
is called the northern section
of the Kurnool Delta, of the
large quantity of flood water
annually passing down that
river in excess of the supply
that is required for irrigation
on the right bank from the
Ancient at Nellore, or that can
be drawn off during the con-
tinuance of the freshes by
the channels connected with
that ancient.

Reserving the whole
of the river supply for these
channels while the water stands
level with or below the crest
of the Nellore Ancient, the
remainder, which at
present seems to waste over
that work, will be avail-
able for the extension of

irrigation as proposed
on the north bank. From
the records of the discharge
of the river during the last
eight years, it appears that
on an average there are
33 days in each year during
which the Kinnair is flowing
one foot or upwards in
depth over the lip of the
ancient at Stellore, and it
is calculated that during
that period 506.88 millions
of cubic yards may be
drawn off by means of
the contemplated ancient
and channels at Senguan,
by making the main chan-
nel of a sectional area suf-
ficient to enable it to carry
4,800 cubic feet a second with
a velocity not exceeding 3 feet

Present irrigated area. 24,553 acres.
Prospective do. $\frac{49,947}{94,000}$

16
a second. This quantity of
water at the rate of 6000 cubic
yards per acre will, when
supplemented by rain-fall,
be more, it is believed, than
enough for the irrigation of
the whole 94,000 acres which
the Chief Engineer for Irriga-
tion takes to be the extent
of land that will come under
command of the new works.
If this area, 44,553 acres are
already under wet cultivation
below various banks having
an aggregate storage capacity
of 152.5 millions of cubic
yards, and as this has been
found to suffice, it is
anticipated that ample
provision, under the pro-
posed new arrangements,
will be made for the whole
94,000 acres by the enlargement

of some of the principal banks
 to enable them to hold 325.59
 millions of cubic yards. This
 will allow of a number of
 the less efficient banks
 being dispensed with, and
 will permit their beds being
 sold for cultivation.

The Government of
 India will derive from the
 Proceedings of this work as
 per margin that the Revenue
 merits of this project have
 been carefully enquired
 into, and that, after al-
 lowing the margin for
 contingencies which the
 Board of Revenue have
 made, the net returns are
 estimated at Rs. 2,03,800 or
 7.88 per cent on the amount.

G. O. No 1

G. O. No 28 July 70, No 1818.

Desp. 24/3/71 with 26
 copies of G.O. No 818 of 1871 & copy
 of G.O. No 1818 of 1870.
 56 plans & 39 estimates.
 desp. 10/5/71

Rs. 25,83,800. Of the estimates,
 while, without that arbitrary
 reduction, they would be
 8.41 per cent. The estimates
 include, I am to point out,
 a large allowance for special
 establishments for superin-
 tending the construction of
 the works, and from para
 18 of the Note by the Chief
 Engineer, it will be seen
 that this Officer is of opinion
 that the actual cost of the
 works will be less than
 the amount of the estimates.
 I am to solicit therefore
 the sanction of the project
 for execution from Loan
 funds.

W. H. B.

(1)