

Read the following papers:—

No. 392. From Colonel F. J. MOBERLY, R.E., Superintending Engineer, 4th Division, to Colonel G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Madras, 23rd November 1872, No. 3,759.

I HAVE the honor to bring to the notice of Government a claim for compensation for land taken up under the following circumstances.

2. In 1863 I, then District Engineer of Chingleput, forwarded an estimate for carrying a branch from the Kambakal to the southward, and known as the Neenjal Madugu; it was prepared by Sub-Engineer Maitland, and amounted to Rupees 9,000.

3. On further investigation, I thought that the supply of water was likely to be very uncertain. I did not think the estimate was right, or the return stated correct, and I stopped any further proceeding.

4. In 1866 the subject was re-opened; the Superintending Engineer and Revenue Officers were more sanguine, and in G. O., No. 3,811, dated 30th November, the execution of the work was sanctioned, and was in progress till 1870, up to which time Rupees 18,457 had been expended. A report and revised estimate were forwarded by Mr. Ottmann on 21st February 1868; the latter amounts to Rupees 38,200, and the compensation now claimed is an item in it amounting to Rupees 1,800.

5. For some reason the estimate was retained in this office, and the work abandoned as unlikely to answer. G. O., No. 878, dated 29th March 1870, is the latest document that I can find on the subject.

6. Mr. Ottmann states that the claim for compensation is valid. I trust, therefore, that Government will be pleased to place me in funds to meet it.

No. 392A. From Colonel F. J. MOBERLY, R.E., District Engineer, Chingleput, to Lieutenant-Colonel J. MULLINS, R.E., Chief Engineer for Irrigation, dated Guindy, 19th March 1874, No. 3,436.

I HAVE the honor to enclose a statement showing the particulars of the land taken up for the Neenjal Madugu project as called for in your Memorandum, No. 305, dated 4th December 1872. I also enclose copy of a letter from the Sub-Collector replying to my request to be informed as to the amount that would be required if we gave up the land. I shall be obliged by your instructions on the subject.

1 Copy of Mr. Ottmann's letter, No. 477, dated 14th November 1873.
1 do. Sub-Collector, No. 662, dated 24th December 1873.
2 Statements.

2. As regards paragraph 2 of your letter, the only paper that I can find is contained in G. O., No. 1,080, dated 6th April 1868. Expenditure appears to have been incurred on the strength of Budget grants made to meet the estimate which was never sent in.

3. I found the mass of plans, &c., in my office when I took charge as Superintending Engineer. I have not examined them, as I conclude that experience led my predecessors in the office to condemn a project which I put aside as impracticable in 1863.

4. I enclose copy of letter from Mr. Ottmann who was most concerned in the matter.

*Proceedings of the Madras Government, Public Works Department,
15th April 1875.*

From S. OTTMANN, Esq., Sub-Engineer, in charge Northern Range, to R. SMITH, Esq., District Engineer of Nellore, dated Beeramgoonta, 14th November 1873, No. 477.

With reference to your Memorandum, No. 1,125, dated 31st ultimo, forwarding copy of a letter, No. 1,968, of the District Engineer, Chingleput, for the information requested by that officer, I have the honor to state that the transaction referred is of so old a date, I am unable without records to give any specific information respecting it.

2. The records of the Chingleput Range Office (late Poonamallee Range) cannot but afford all the requisite information, and, if the late Head Accountant of the late Poonamallee Range, B. Mooniappa Moodelliar (who was in office at the time the work was executed), be directed to trace the papers, he is likely to do so without difficulty.

3. I would submit that the fact of the outlay having been admitted from time to time by the authorities concerned, and accepted by the Controller, shows it to have been fully authorized, if I remember aright, there were Budget allotments for the same. The work was inspected by Colonels Boileau and Bean.

4. The reason for the revised estimate not having been forwarded to Government, I am unable to say, but it was prepared under the orders of the Superintending Engineer under instructions from the Secretary to Government, Public Works Department, and the Chief Engineer for Irrigation (Colonels Orr and Anderson). I was sent to the Secretariat Office to explain the whole scheme, and had my instructions there for its revision. The Superintending Engineer, Colonel Bean, subsequently visited the work and added other instructions. The estimate was prepared accordingly and forwarded. I have no idea who proposed the work for submission to Government after it had been previously rejected as observed by the District Engineer. There was much correspondence respecting the work, as at the very start it was observed that the scheme was prepared hap-hazard without even levels for the channels.

5. I have endeavoured a search among my papers to get at any information respecting the matter under notice, but without avail; consequently lose no further time in replying.

No. 344.

FORWARDED to the District Engineer, Chingleput, with reference to his letter, No. 1,968, of 28th October 1873.

NELLORE,
24th November 1873.

(Signed) R. SMITH,
District Engineer.

From C. S. CROLE, Esq., Acting Sub-Collector, to Lieutenant-Colonel F. J. MOBERLY, R.E., District Engineer, Chingleput, dated Chingleput, 24th December 1873, No. 662.

In reply to your letter, dated 29th October last, No. 1,980, I have the honor to forward the

From Chingleput Tahsildar, 7th Dec. 1873, No. 529.
" Conjeveram do. 18th " " " 463.

two reports, with their enclosures, as per margin, from which it will be seen that all the ryots of the Chingleput Taluq are willing to receive back

the land without any compensation, with the exception of the owners of three huts in Athoor who demand full compensation.

2. The Tahsildar of Conjeveram thinks that a reduction of two-thirds of the total amount can be made. If, however, the exact amount of reduction is required by you, I shall direct the Tahsildar to obtain the same, but it will take some time before ascertaining it, as all the owners cannot be got at once for the reasons stated by the Tahsildar.

No. 392-B. From Colonel F. J. MOBERLY, R.E., District Engineer, Chingleput, to Lieutenant-Colonel J. MULLINS, R.E., Chief Engineer for Irrigation, dated Guindy, 30th October 1874, No. 2,646.

In reply to your No. 403, of 11th June, I have the honor to enclose report, in

original, by Mr. Ottmann, who, so far as I can discover, suggested the resumption of the work at the Neenjal Madugu, and executed all that has been done.

1 Original report of Mr. Ottmann.
1 Copy of the Collector's letter.

*Proceedings of the Madras Government, Public Works Department,
15th April 1875.*

2. I have delayed forwarding this till I could ascertain how the reported return had been obtained. You will see by the Collector's last letter (copy enclosed) that the entries are, as I supposed, erroneous, and that there is no revenue derived from the work.

3. The Tennair tank bank is thrown across a valley between well-marked high ground, on the north side quite hilly. Its surplus from the drainage of 128 square miles is discharged by calingulahs in the clear 632 feet long; some at the north, some at the south end—see Mr. Ottmann's Report. The water passes principally over the wide sheet of cultivation that fills nearly the whole valley below, but lower down and nearer the site of the dam there are two slightly hollowed channels.

4. In this distance the valley has received the drainage of 30 square miles, more nearly all on the north side, where two smaller streams throw into it any surplus that may remain after supplying the chains of tanks which are constructed across them.

5. In years of abundance the Tennair and every other tank on the high ground discharge furiously into the wide valley which runs full for some days into the Palar; at such times no increase of water is wanted by any body.

6. In years of moderate rain the Tennair tank does not discharge over its calingulahs. I was told that in only four years of ten up to 1873 had the water risen to their crest—see paragraph 10, Mr. Ottmann's Report; but, of course, the Madugu proper would in the most of these years receive the water running from the paddy fields, the leakage and sub-soil drainage from the high ground above.

7. Mr. Ottmann in paragraph 6 explains how this was utilized by villages below. The site of nearly the lowest "corumboo" was chosen as that of an open dam to afford means to the villagers of quickly establishing an obstruction and procuring a supply into their tanks. These were to be little more than aprons with upright stones put across the hollows, with wing walls connecting them with the ground on each side, but flush with it, so as to afford as little hindrance as possible to the larger floods which submerge every thing.

8. Mr. Ottmann clearly did not appreciate the design, as appears from his Report. He proposed to join the dams by a bank to make the existing tank channels regular supply channels, with aqueducts, &c. The bank was constructed, and other work in the bed of the stream executed before he found out what he was dealing with, and hence the excess expenditure already incurred.

9. His estimate for the large project amounts to Rupees 38,200, and I doubt its sufficiency, but I am quite confident that it would not answer. The catchment area is all around Tennair. If the rain falls in quantity, enough to fill the large tank, it will fill the smaller ones; if the rain is below the average, it cannot do any good to the Madugu and the work under it.

10. The design is clearly wrong in detail, as Mr. Ottmann, when he has filled the space between dams by an embankment, has only 168 feet of opening to discharge the surplus from 632 feet of Tennair calingulah and surplus drainage of 30 square miles.

11. If the Kambakal could be counted on, we might run channels from Tennair tank along each side of the valley to fill the various tanks, but that feeder reaches Streepermatu only in good years, and I do not see any chance of its aiding Tennair.

12. I have been disappointed at every endeavour to inspect these works properly, as the valley has rarely been free from water during the last two years of exceptionally heavy rain; it might answer to revert to the original minor project and get some return for the outlay incurred, and I will take the earliest opportunity of examining it.

REPORT ON THE FINAL REVISION OF THE NEENJAL PROJECT.

I.—GENERAL OBSERVATIONS.

1. *The Project.*—The “Neenjal project” had been designed with a view to the catching up of the surplus waters of the large “Tennair tank” and distributing it at high level to tanks on both banks. The surplus was to be intercepted 7 miles below the tank where the escape waters from both northern and southern calingulahs united and formed the Madugu.

The Tennair tank irrigates twenty-six villages, and has a capacity of fifteen months’ supply. Its bund (2½ miles length) stretches right across the valley of the Tennair. Its catchment basin has an area of 128 square miles, being about 15 miles in extreme length and 8 miles average breadth. On its northern water shed, it is largely influenced by the “Kambakal” in good seasons. The tank discharges by five calingulahs, having a total length of 867 feet.

2. *Features of the Madugu.*—The “Neenjal Madugu” is the name which the surplus of the “Tennair tank” takes from the point of junction of the two branches of the surplus from north and south calingulahs in the limits of Yelachur (where the present anicut is constructed) up to its termination in the Palar river at Chingleput. Its fall is about 3·92 per mile.

3. The “southern branch” of the surplus from the Tennair tank, and which receives the waters of three of its calingulahs (having a total length of 618 feet), has somewhat a defined course, though in the neighbourhood of the anicut it spreads over the lands, the valley being very flat. Its fall is 9·07 feet per mile. The “northern branch” which emanates from the two north calingulahs of the tank (of 280½ feet total length) has no defined course, but spreads over the lands up to its junction with “southern branch.” Its fall is 7·56 feet per mile. Below the junction and up to the Palar the “Madugu” has a deep scoured bed, and near Chingleput the Conjeveram road is carried over it by a bridge of five arches of 33 feet span. In the latter part of its course near the Palar the Madugu is very deep, and in the driest weather there is always from 5 to 8 feet of water in it. The highest flood line of the Madugu, as it appears on the bridge, is 17 feet above floor, the soffit of arches being 26 feet above floor.

4. The Madugu proper, as I would distinguish the stream below the anicut, receives a large local drainage on both sides, especially from left bank. Above the anicut, the local area that drains into the two branches may be estimated as 30 square miles nearly, considered between the anicut and embankment on east side, the Tennair tank (which stretches nearly across the whole valley of the Tennair) on the west, the Palar on the south, and the water-shed between the valleys of the Tennair and Adyar on the north. Just below the anicut, a large surplus or Madugu joins on right bank by way of Oollavur tank, through which it passes. This is the surplus of some tanks beyond the catchment basin and not included in the area above described.

5. The Tennair valley above the anicut is very flat; below the anicut, however, the valley slopes are more conspicuous, and favor high level irrigation. The ground is undulating.

6. The spring waters and local drainage, other than during floods of both the branches forming the Madugu, are at present intercepted by corumboos, and the water drained off for irrigation. On the north branch there are six such corumboos, on the south branch only two. Each village in its limits is authorized to erect a corumboo for utilizing the spring water, &c.

7. Below the anicut, where both branches form one stream, there is but one corumboo across the Madugu for diverting spring water and local drainage into the Reddipolliem tank of the Poloor village; but, owing to the deep section of the Madugu at this point, a corumboo is scarcely maintainable. The idea of the “Neenjal project” first originated from the Reddipolliem villagers having asked for a permanent masonry dam in lieu of the corumboo, when it was considered that such an anicut, placed somewhat more advantageously, might serve other villages also. The first estimate of the project was framed on these considerations.

8. *Tennair floods’ duration, &c.*—The Tennair tank discharges by five calingulahs, which waters together with the local drainage of 30 square miles above the anicut required to be considered in the Neenjal scheme. This accumulated supply is what will be intercepted by the

Neenjal anicut and embankment, and must be provided for. The length of Tennair calingulahs, relative heights, &c., are as below:—

Calingulahs.	RELATIVE HEIGHTS.		Gauge.	Dam Stones.	Actual Waterway.
	Crest.	Dam Stones.			
No. 1. North calingulah	88·85	91·75	Fect. 30½	Fect. 11 of ¼	Fect. 22½
„ 2. do. large do.	90·35	93·59	249½	74 of 1	175½
„ 3. South do. (average)	89·16	93·21	192	65 of 1	127
„ 4. do. large do. (do.)	88·08	92·37	294½	117 of ¼	207
„ 5. do. do. (do.)	90·20	93·91	131½	42 of ¼	99½
			867½		
			Total Waterway ..		632

9. It will be observed that the crests of the calingulahs are variously placed. Moreover, the crests of calingulahs 2, 3, 4 are not of uniform level, separately considered either, for in all three cases, one end is higher than the other. This is especially the case with No. 4, the low end of which is 87·58. This is the lowest level calingulah, and is the standard by which the tank supplies are considered; storage being limited to top of dam stones as full supply for 15 months.

10. The last occasion that these calingulahs discharged *over their crests* was in 1865-66, the last highest flood known was in 1842-43, when No. 4 calingulah discharged *over its dam stones*, and very extensive breaches occurred, which resulted in the sinking of one end of this calingulah. This highest flood passed for between four and five days. From 1842 to 1865, the calingulah above referred to discharged variously from level of dam stones to crest level. But since 1865, the tank water has not reached even the calingulah crest. According to usage in good seasons the calingulahs are allowed to discharge four or five days before they are shut, the period of discharge depending entirely on the season and prospects of duration of floods. The capacity of tank has been stated as containing 15 months’ supply, but the villagers state that, for some 20 years, the supply at the full has not sufficed for 12 months, the tank having silted considerably. Since 1865 the tank has never received more than four months’ supply in any year.

11. From inquiry among the villagers on both banks of the Madugu, it is understood that in proper seasons the duration of the floods is from 6 to 10 days at the site of anicut, when the valley is one sheet of water and quite impassable; that after that period there is a subsidence, and the valley may be got across; but that lower down the Madugu, where it has a deep section, it is not fordable at all for from 20 to 40 days.

12. *Present cultivated area of the Tennair valley below the tank.*—The Tennair valley above the anicut is entirely cultivated over. So long as the floods do not extend beyond a week, no harm is done to the cultivation, but beyond that the plants are destroyed from the too lengthened submersion. This is a point for consideration in the new scheme. Below the anicut on both slopes of the valley, especially the right, there are very large tracts of waste land suited to wet cultivation which might be turned to account if irrigation is provided. The waste may be computed at 2,000 acres, more not less, and certainly 1,500 thereof are available for immediate cultivation.

II.—THE ORIGINAL SCHEME.

13. *Intentions of the scheme.*—The original scheme prepared and submitted in 1862 was intended to provide better supply to the villages of Yelachur, Poondy, Vadakapet, Kurcevambadoo, and Vembakkam on left bank, and Poloor, Reddipolliem, hamlet of Poloor, Villimbakkam, Athoor, and Dimmapuram (hamlet of Athoor), on right bank of Madugu, by damming the stream in Yelachur limits and delivering the supply by high level channels one on each bank to the tanks. The method of distribution was not at all gone into in the report accompanying the scheme.

14. *Provisions of the original scheme as regards regulating works, &c.*—For the carrying out of the above scheme, the following works were provided :—An anicut, 90 feet length, with body wall of 3 feet (depth of stream) and grooved dam stones of 3 feet fitted with horizontal planking shutters. An open sluice (of calingulah style) one on each side at the heads of the channels, the floors of sluices being on level with crest of anicut. The northern sluice was to be an opening of 12 feet, the southern of 18 feet, both fitted with groove stones and planking.

The north channel had no subsidiary works for distribution, crossings of irrigation tank channels, roads, &c. The south channel has a calingulah of 30 feet in its bank, at the point where the Oollavur surplus joins for the purpose of relieving the channel of it. A head (open) sluice of 6 feet for Reddipolliem branch channel (provision for channel not made), two other sluices of similar style for the crossings of the Villiambakkam and Athoor spring channels, a culvert for the crossing of Conjeveram road, and an aqueduct for running the channel over another spring channel of Athoor. No provision either in this case had been made for crossings and subsidiary works of distribution.

The estimate of this scheme amounted to 9,000 Rupees.

15. *Defectiveness and omissions of the scheme.*—The scheme, as referred to in paragraphs 13 and 14, was to afford better supply to ten villages. The channels as designed, it was found would not effect the tanks of five of the ten villages, *viz.*, Yelachur, Poondy, Vadakapet, Poloor, and Dimmapuram; these villages, therefore, could not be benefited by the scheme. No other provision either had been made for their supply.

16. As the channels are run on the slopes of the valley and across the lines of tank irrigation of all the villages named in paragraph 13, it was essential to provide for all the crossings of channels, &c. This had been entirely overlooked. No less than 31 aqueducts and under sluices (the most essential only after omitting minor crossings) are needed for both channels, and for the road crossings, three large culverts had been likewise overlooked.

17. Compensation for land taken up by the scheme was omitted.

18. Embankment on line of anicut and sluices had been quite forgotten; without this the anicut or sluices could not be brought into action.

19. A surplus calingulah in north channel bank to relieve the channel in floods from the large local drainage and surplus of Yelachur tank and adjacent lands, a very necessary work, was also left out.

20. Irrigation sluices (4) in anicut embankment for the most important of the irrigation channel crossings omitted.

21. *Faultiness of design.*—It has been already shown in paragraph 15 that five of the ten villages proposed to be brought under the scheme would not be effected at all by it.

Of these five villages, three appertain to north channel, *viz.*, Yelachur, Poondy, Vadakapet.

22. There then remain two villages only, Gooreevambadoo and Vembakkam, under north channel, which can be benefited. But as ascertained from the Revenue returns, these two villages jointly would yield but 600 Rupees extra revenue, withal the improvement of supply.

The above circumstances rendered the utility of north channel questionable.

23. As regards the south channel, five villages were to be improved by it, two of which, Poloor and Dimmapuram, do not benefit.

In the case of the benefiting villages, Reddipolliem, Villiambakkam, and Athoor, it will be observed on reference to original section of south channel that Villiambakkam was placed beyond reach of supply from its high level. Athoor tank barely benefits; while as regards Reddipolliem tank it has to be stated that the tank has been superseded by the upper tank of Poloor; that its bed, except for about 50 or 60 yards width (the deep bed only along margin of bund) has been taken up by cultivation, and that only a very small quantity of water (3 feet) in a narrow belt as it were, can be put into tank, so that the present cultivation shall in no wise be effected.

From what has above been written it will be observed that in the case of the south channel also as designed the prospects were not great.

24. In the scheme it was designed, moreover, that the "north channel" should have a fall of 1.35 feet per mile in $1\frac{1}{4}$ yard cutting for its length of 3 miles, and "south channel" 0.75 to 1.22 feet per mile in from 1 to $1\frac{1}{4}$ yard cutting, for about 6 miles, the rest of channel, about $1\frac{1}{2}$ mile, with a fall of 5.25 per mile, running purely between embankments. The north channel was to have a bottom width of 4 yards; the south channel was to be 6 yards width in 1st section, 4 yards in 2nd section, and 2 yards in 3rd section, the portion between embankments.

25. On laying out the channels, it was found that neither the cuttings or falls prescribed were obtained. In the north channel the 1.35 feet fall would have given little or no cutting. Consequently the fall was altered to $1\frac{1}{4}$ feet per mile without placing the Gooreevambadoo tank at disadvantage, as will be seen from the section; and withal much embanking had to be provided for, the $1\frac{1}{4}$ yard cutting not having been obtained at all. In the south channel the result was even more unsatisfactory as compared with design, for only 0.50 feet a mile could be obtained for nearly 4 miles; 2.00 feet per mile for a further length of about 2 miles, and beyond this the channel was kept nearly at surface level in embankment principally at 5.84 feet per mile, for the rest of the distance about $1\frac{1}{2}$ mile. As regards the cuttings, these were heavy compared with estimate and ranged from 1 to 4 yards. But the alterations of fall that were made placed the channel at great advantage on the 1st section, and brought the Villiambakkam tank under supply, the effect on the Athoor tank also having materially improved.

26. In all the designs for anicut, calingulahs, and sluices, the wing walls thereof were left at the level of dam stones, an unsafe arrangement, permitting of corrosion of banks about the wings. The raising of these wings was essential.

27. The anicut provided for but 90 feet water-way; taking the waterway of the Tennairi calingulahs into consideration, as also the local drainage, it seemed advisable to extend the anicut so as to increase the flood-way.

28. The open style of sluices was seriously objectionable also.

29. The aqueducts of the Athoor southern channel proved short in height.

30. The arrangement of the masonry regulators at the crossings of the Athoor and Villiambakkam channels for shutting off the floods from those tanks was not advisable, as those channels, being spring channels, are constantly flowing throughout the year, and they could not be obstructed as proposed, not even for a very short period. It is essential in both these cases that the channels should work independently of the anicut channels for many very obvious reasons.

31. On referring to the plans of the "original scheme," it will be observed that the scheme was prepared in a very general manner, and without any data of prospective advantages. No levels were taken for the channels; these were merely assumed by daubs on the plan, and calculated at hazard.

III.—THE FIRST REVISED ESTIMATE.

32. *Necessity of first revision and provision thereof.*—The first revised estimate amounted to 38,200 Rupees, and was sent in February 1868. The work was in progress from June 1867; during its execution it was observed that the rates were very low, that several important omissions in the detail required to be immediately provided for, and certain faults of design remedied to suit circumstances. These omissions and faults are described fully in paragraphs 15 to 30.

The revised estimate was purely intended to provide for all the above discrepancies, as represented in the paragraphs afore referred to.

33. As at this time, the remunerative statements had not come to hand, the pecuniary advantages of the scheme could not be realized, though there was room for some doubt; the project was assumed on its premises. And it was considered that by the re-arrangements (as were entered in the revision) of the channel system, by which two more of the tanks (of Villiambakkam and Athoor) would be placed under supply, and the provision for omissions and faults, the scheme would be placed on as desirable a basis as was practicable, further improvements and alterations being left for subsequent consideration—see paragraph 10 of Report, No. 527, of 21st February 1868, on the subject of the first revised estimate. It was represented in this report "that the project would not be of much pecuniary advantage to Government without further alterations, &c."

IV.—THE REVISION OF THE SCHEME NOW PROPOSED.

34. *Revision now proposed.*—It will be observed that so far as the original scheme was considered, and even as regards the first revised scheme, the premises were assured that the water-supply was available and that the scheme would be productive.

On the submission, however, of the revised estimate, objection was taken by the Chief Engineer for Irrigation to the scheme (under the stringent rules regarding submission of projects) from the absence therefrom of reliable data, both as regard water-supply and revenue, and the matter was ordered to be gone into again.

The further surveys necessary for the purpose were thereupon undertaken, and the revenue returns were prepared. From these returns, obtained from the Revenue Department, from information gathered from the subsequent surveys, and from the inquiries that were made in the villages concerned, it became apparent that the project, as it stood, would barely pay by improving merely the supply of the several tanks, and that, while there existed room for much improvement by which the Government might be benefited to the extent of some thousands of rupees annually, it was necessary to revise the scheme and its system of distribution entirely as hereinafter described, so as to produce the above effect.

In another point of view also, the great obstruction that the anicut and embankment would offer to the floods became a matter for some consideration.

35. *Prospects of the scheme as proposed to be altered.*—From the revenue returns that were obtained for the villages that will be effected by the scheme, it was found that as much as Rupees 7,629 of extra revenue is obtainable from the several villages referred to in the old scheme, provided that the channels supplied the lands *directly*, the augmenting of the tank supplies producing but a small portion of that extra.

The particulars are as below :—

Villages.	Land.	Extra Revenue.
	CAWNIES.	RS.
Poloor (Reddipolliem) ACS. 396	297	1,285
Villimbakkam „ 117	88	661
Kureevambadoo „ 41	31	421
Vembakkam „ 45	34	180
Athoor (and Dimmapuram) „ 834	626	4,276
Yelachur „ 158	119	745
Vadakapet „ 45	34	81
Total ..		7,629

The above outturn of revenue includes second crop to some extent.

36. *Arrangements for distribution necessary to effect the extra revenue.*—It has been already shown that of the villages of (1) Yelachur, (2) Poondy, (3) Vadakapet, (4) Kureevambadoo, (5) Vembakkam, (6) Poloor, (7) Reddipolliem, (8) Villimbakkam, (9) Athoor, (10) Dimmapuram, the channels will only effect the tanks of Nos. 4, 5 (both under one tank), 7, 8, and 9.

It has been likewise shown that the Reddipolliem tank, as it now stands, is but a belt of water about 50 yards wide, at most with but a depth of a yard at the utmost; that this tank cannot be improved, it having been superseded by a higher tank, and its bed, moreover, placed under cultivation. Further, it must be borne in mind that Reddipolliem and Poloor are one village actually, the former being merely a hamlet of the latter so much as regards Reddipolliem tank.

The Kureevambadoo tank which supplies Vembakkam also cannot be improved without damaging the Vadakapet lands, which it already floods. Its supply can only be rendered more certain.

The Villimbakkam and Athoor tanks are *very very* flat, except along the margin where the water for about 60 yards width is somewhat deep. These tanks merely supplement at the present time the irrigation of the river spring channels of both villages, and which are the mainstay thereof; while therefore more certain supplies can be thrown into both tanks, their capacities will not permit of much being received.

All the above tanks, however, will have this advantage, *viz.*, of being enabled to supplement supplies more than once, from the early and latter rains, and thus materially assist irrigation.

As regards Dimmapuram, it must be here stated it is a hamlet of Athoor. It has no separate supply, and the bulk of the land that will be improved appertains to this village.

37. The only arrangement, therefore, of distribution, by which the work can be rendered productive, is by making both channels serve the lands *directly*, and which will thus bring Yelachur, Poondy (Enam) Vadakapet, Poloor, and Dimmapuram, under supply also, besides furnishing supplies to the tanks of the other villages. The ryots of all the villages concerned press this arrangement, which seems to be not only very desirable, but feasible, and the experience of the past two years on the south channel (from which I have allowed the villagers on the first portion of the channel to irrigate by cuts in the bank) establishes the idea.

38. In short, the flood waters will be delivered into the tanks whenever practicable, but the bulk of the irrigation will be carried out by the spring water and local drainage, intercepted at the anicut, as also the local drainage caught up by the channels (which are catch drains) from the slopes on the upper sides of each from channels *directly*.

39. An attempt was made in last year to gauge the floods that should pass through the anicut, and thus obtain specific data, but unfortunately the failure of the monsoons quite upset the arrangement. From the observations, however, that were made at the anicut (in the last and this year) spring water it was found passed over the anicut in all October, November, December, January, and February, averaging from 1 to 5 inches in depth over crest, and that such continues passing all the year round the villagers affirm.

40. *Details of the revised scheme.*—The basis of the scheme now contemplated is on the principal represented in preceding paragraphs, and for effecting it, the following arrangements are proposed utilizing all the work already performed (see Survey Sheet 6):—

(a.) The anicut to be extended each side so as to give 176 feet additional waterway and provided with dam stones and shutters as in present anicut.

(b.) The anicut embankment to be raised and strengthened, and four irrigation sluices with shutters provided therein to permit of the crossings of present irrigation channels of supply.

(c.) The north channel head sluice to be abandoned and a new covered sluice to be built more north. The sluice to be of two vents of 3 by 3 feet each. The channel left as designed, but finished off, it being in an incomplete state. Its embankments strengthened.

(d.) A calingulah of 20 yards to be put in the right bank on plan of calingulah built for Oollavur to relieve Yelachur tank, &c., surplus.

(e.) Four head sluices to be placed in the embankment for *direct irrigation* to Yelachur (1), Poondy (1), and Vadakapet (2) lands. The heads of these sluices will be after the pattern of tank sluices, and have plug holes, so as to regulate the discharge. The channels from these sluices to be excavated by the ryots.

(f.) The channel in the low grounds to be embanked on left side also, so as to prevent swamping of cultivation as already experienced; and the drainage that these banks will intercept will be discharged by sluices in the bank for utilization by the channel, or relieved altogether by under sluices.

(g.) All the important tank irrigation channel crossings (10 in number) to be provided with the necessary under sluices and aqueducts as designed in first revision.

(h.) The present village road crossings to be deferred for consideration to some future time (these were provided for in first revision).

(k.) The south channel head sluice to be abandoned and a new covered sluice to be provided and placed more south. Its embankments in the low ground to be strengthened. The channel as excavated will be allowed to remain for the present, except that it will be finished off. Future alterations being considered as occasion arises.

Proceedings of the Madras Government, Public Works Department,
15th April 1875.

4. It will be seen that Colonel Moberly considers the project altogether unpromising, and a perusal of Mr. Ottmann's Report supports this view. It is recommended, therefore, that the Superintending Engineer should be instructed to arrange for the retransfer of the land, and to submit for sanction a bill for settling what compensation will still need to be paid.

CAMP AT BOOCHIREDDYPOLIEM,
3rd March 1875.

(Signed) JOHN MULLINS, Lieut.-Col., R.E.,
Chief Engineer for Irrigation.

No. 393.

ORDER THEREON, 15th April 1875, No. 1,048.

IRRIGATION, No. 43.

THE Government are of opinion that the foregoing papers show that the Neenjal Madugu Project, for which an estimate of Rupees 9,000 was sanctioned in 1866, and on which up to November 1869 upwards of 18,000 Rupees had been expended without any revised estimate having been sanctioned, or submitted for sanction, was very imperfectly investigated, and that there is but very little probability of any modification of it securing adequate results for the outlay that would be required. The water-supply is unreliable, and there appears to be little or none available except in seasons of heavy rainfall when none is required; the country also is liable to inundation, and is traversed by channels which would involve numerous masonry works for the passage of the water which they carry.

2. Under these circumstances it appears to be advisable to abandon the scheme altogether, to retransfer to their owners the lands taken up for the project, and to pay to them such compensation as may be shown to be reasonable. A bill for the latter should be prepared and submitted as soon as possible.

3. In thus deciding upon the abandonment of this project, His Excellency the Governor in Council cannot but notice with dissatisfaction the want of care exhibited by the officers both of the Revenue and Public Works Departments, on whose recommendations the scheme was in the first instance sanctioned. These officers were Mr. Banbury, the Acting Collector of Madras in 1863, Mr. Cockerell, Collector in 1866, and Colonel Boileau, the Superintending Engineer, 4th Division, since deceased.

(True Extract.)

Colonel, R.E.,

Secretary to Government.

To the Superintending Engineer, Chingleput.
" Chief Engineer for Irrigation.
" Revenue Department.
" Collector of Chingleput.
" Controller of Public Works Accounts.

Exd. A. Grubert.

Spare Copies

No. 407 S Chingleput Dist. Cal. G.
Said aput 16th October 1875

From

H. E. Stokes Esq.

Ag. Collector of the

Chingleput District

To

Colonel J. Moberly R.E.

District Engineer

Chingleput

Sir,

Referring to your No. 1840 dated 27th August last, I have the honor to state that Mr. Barlow not satisfied with the report of the Tahsildar, referred the matter to the Ag. Sub Collector for his opinion, and I am beg to forward his reply, dated 5th instant, from which you will see that, as surmised by you, no revenue whatever has been derived from the Neenjal madugoo project. I regret that in a matter of this kind the Tahsildar should have made such egregious mistakes, but have requested Mr. Croft to reprimand him for his carelessness and stupidity.

I have &c.

(Signed) H. E. Stokes
Ag. Collector

True copy,

J. Moberly Col. R.E.

District Engineer Chingleput

Sept 253B. d
3rd March 75.

From ^{Recd} No. 2043
The District Engineer
Chungleput

To
The Chief Engineer
for Irrigation

Dated 30th October/74
Rec^d. 2nd Nov - "

No. 2646
Enclosures 2

Giving information
in connection with
the Kunjab Madov
goo Project.

Mr. 1702/75.

No. 2646 P District Engineer Office
Chungleput 30th October 1874

From The District Engineer
Chungleput District
To The Chief Engineer
for Irrigation

Enclosures 2
1 Original Report
of Mr. Ottumam
Copy of the
Collector's letter.

Sir
In reply to your No. 403 of 11th
June I have the honor to enclose reports
in original by Mr. Ottumam, who, so far
as I can discover, suggested the resump-
tion of the work at the Kunjab
Madugu, and executed all that has been
done.

I have delayed forwarding this
till I could ascertain how the reported
returns had been obtained. You will see
by the Collector's last letter (copy enclosed)
that the entries are, as I supposed errone-
ous, and that there is no revenue derived
from the work.

The Semaay tank bank is thrown
across a valley between well marked
high ground - on the North side quite
hilly. Its surplus, from the drainage of
128 square miles, is discharged by Can-
als in the clear 632 feet long - some
at the North, some at the South end -
see Mr. Ottumam's report. The water

passes principally over the wide sheet of cultivation that fills nearly the whole valley below. but lower down and nearer the site of the dam there are 2 slightly hollowed channels.

In this distance the valley has received the drainage of 30 square miles more nearly all on the North side, where two smaller streams throw into it any surplus that may remain after supplying the chains of tanks which are constructed across them.

In years of abundance the Secondary and every other tank on the high ground discharge furiously into the wide valley, which runs full for some days into the Palar - at such times no increase of water is wanted by any body.

In years of moderate rain the Secondary Tank does not discharge over its Calingulas. I was told that in only 4 years of 10 up to 1878 had the water risen to their crest. See para 10 Mr. Ottumam's report. but of course the Madugu proper would in the most of these years receive the water running from the paddy fields, the leakage and sub-soil drainage from the high grounds above.

Mr.

10
C
Mr. Ottumam in para 6 explains how this was utilized by villagers below. The site of nearly the lowest "corambu" was chosen as that of an open dam to afford means to the villagers of quickly establishing an obstruction, and procuring a supply into their tanks. These were to be little more than aprons with upright stones put across the hollows, with wing walls connecting them with the ground on each side, but flush with it, so as to afford as little hindrance as possible to the larger floods which submerge every thing.

Mr. Ottumam clearly did not appreciate the design, as appears from his report. He proposed to join the dams by a bank to make the existing tank channels regular supply channels, with aqueducts $\frac{1}{2}$ ft. $\frac{1}{2}$ ft. - The bank was constructed and other work in the bed of the stream executed before he found out what he was dealing with, and hence the excess expenditure already incurred.

His estimate for the large project amounts to Rs. 38,200 and I doubt its sufficiency. but I am quite confident that it would not answer. The catchment area is all around Madugu, if the rain falls in quantity enough to fill the large tank, it will fill the smaller ones if

if the rain is below the average it cannot do any good to the Madugu and the work under it.

The design is clearly wrong in detail, as Mr. Ottomoni when he has filled the space between dams by an embankment, has only 168 feet of opening to discharge the surplus from 632 ft of Semary, Calingulab and surplus drainage of 30 square miles.

If the Kambakal could be counted on, we might run channels from Semary tank along each side of the valley to fill the various tanks. But that feeder reaches Strepermatier only in good years, and it does not see any chance of its aiding Semary.

I have been disappointed at every endeavour to inspect these works properly, as the valley has rarely been free from water during the last 2 years of exceptionally heavy rain - it might answer to revert to the original minor project and get some return for the outlay incurred - and I will take the earliest opportunity of examining it.

I have the honor to be
Sir

Your Most Obedt Servt.

J. M. S. S.

Col. R. E.

District Engineer Chingleput

No. 477

S. P. Northern Range Office
Beeramangala 14: Novemb 1871

From

The Sub. Engineer

in charge Northern Range

To

The District Engineer

Nellore.

Sir

With reference to your Memo No 1125 dated 31st Ultimo forwarding copy of a letter No 1968 of the District Engineer Chingleput for the information requested by that officer, I have the honor to state that the transaction referred is of so old a date I am unable, without records to give any specific information respecting it.

The records of the Chingleput Range office (late Ponnammallee Range) cannot but afford all the requisite information and if the late Asst. Accountant of the late Ponnammallee Range, B. Mornappa Masdyar (who was in office at the time the work was executed) be directed to trace the papers he is likely to do so without difficulty.

I would submit that the fact of the outlay having been admitted from time to time by the authorities concerned and accepted by the Controller shows it to have been fully authorized.

if I remember aright there were Budget
allocations for the same. The work was inspec-
ted by Colonel Boileau and Bean.

The reason for the revised esti-
mate not having been forwarded to Government
I am unable to say, but it was prepared under
the orders of the Superintending Engineer under
instructions from the Secretary to Government
P. W. D. and the Chief Engineer for Irrigation
(Colonels Orr and Anderson) I was sent to
the Secretariat office to explain the whole scheme
and had my instructions there for its revision.

The Superintending Engineer Colonel Bean
subsequently visited the work and added other
instructions. The Estimate was prepared
accordingly and forwarded. I have no idea who
proposed the work for submission to Government
after it had been previously rejected as observed
by the District Engineer. There was much
correspondence respecting the work, as at the very
start it was observed that the scheme was pre-
pared hap- hazard without even levels for the
channels.

I have endeavored a search among
my papers to get at any information respecting

12 f
the matter under notice but without avail
consequently lose no further time in replying.

I have etc

(Signed) J. Ottmann Sub. Eng.
in charge Northern Canal

1 True copy) No. 344

Forwarded to the District Engineer
Chingleput with reference to his letter No. 1968 of
28th October 1873.

(D) B. Smith
District Engineer's office } District Engineer of the canal
Nellore 24th Nov. 1873 }

No. 662

Sub. collectors Office
Chingleput 24th Decemr 1873

From

C. J. Leake Esquire
Jg. Sub. Collector

To

The District Engineer

Sir

Chingleput

In reply to your letter dated 29th October last.

Last No 1980, I have the honor to forward the
 two reports with their enclosures as per margin
 from which it will be seen that all the ryots of
 the Chingleput Taluk are willing to receive
 back the land without any compensation with
 the exception of the owners of 3 kubs in Anthoor
 who demand full compensation.

The Tahsildar of Coimbatore
 thinks that a reduction of $\frac{2}{3}$ of the total amount
 can be made. If however the exact amount of
 reduction is required by Gov I shall direct the
 Tahsildar to obtain the same but it will take
 sometime before ascertaining it, as all the owners
 cannot be got at once for the reasons stated by
 the Tahsildar.

I have &c
 (Sd) L. J. Froh
 Ag. Sub Collector
 24-12-73.

(True Copies)

Hubberly, Col. R. & Co.
 Dist. Engr. Chingleput

From Chingleput Tahsildar 12-12-73
 of Coimbatore 82 18-12-73
 100 1702/75
 463/74
 C.E. 1/623/74

Enclosure to Letter

N^o 139 of 2nd June/70

From

The Sub Engineer
N. 3 Range
Madras Dist.

To

The Supt Engineer
in charge of the

Dated 22nd

Recd 3 June/70

No 2/2043/70

Report on the
final revision
of the Neryal
Project. —

M. 1702/25
5/75

N^o 3436

From

The District Engineer
Chingleput.

To

The Chief Engineer
for Irrigation

Sir,

I have the honor to enclose an
Enclosure statement showing the particulars of the
1 Copy of M^{rs} Ottmann's letter
N^o 477 of 14th Dec^r 1873
1 do - Sub Collector N^o 305 dated 4th Dec^r 1872
N^o 662 of 24th Feb^r 1873
2 Statements -
land taken up for the Neryal Madaga
project, as called for in your Memo
N^o 305 dated 4th Dec^r 1872. I
also enclose copy of a letter from the Sub
Collector replying to my request to be in-
formed as to the amount that would be
required if we gave up the land. I shall
be obliged by your instructions on the subject.

As regards para 2 of your
letter the only paper that I can find is
contained in G. O. N^o 1080 dated 6th
April 1868. expenditure appears to have
been incurred on the strength of Budget
grants made to meet the estimate which
was never sent in.

Chingleput Dist. Engineer's Office
Chingleput 19th March 1874

Received
and
102 27-11 June 74

15 u
I found the maps of plans &c.
in my office when I took charge as
Superintending Engineer. I have not
examined them as I conclude that
experience led my predecessors in
the Office to condemn a project which
I put aside as impracticable in 1863.

I enclose copy of letter
from Mr. Ottmann who was most
concerned in the matter.

I have the honor to be
Sir.

Your most obedt servt.

J. Crosby Col. R. E.
District Eng. Chief.

Read the following papers
 No 1 No 3759
 Supd Engr Office 4th D.
 Madras 23rd November 1872
 From,

Colonel G. J. Moberly R. E.
 Superintending Engineer 4th D.

To,
 Colonel G. W. Walker R. E.
 Secretary to Government P. W. D.

Sir,
 I have the honor to bring to the notice of Government, a claim for compensation for land taken up under the following circumstances.

2 In 1863, I then District Engineer of Chingleput, forwarded, an estimate for carrying a branch from the Kambarhal to the Southward, and known as the Keenjal Madugu; it was prepared by Sub Engineer Maitland, and amounted to Rupees 9000.

3 On further investigation, I thought that the supply of water was likely to be very uncertain. I did not think the estimate was right, or the return stated correct, and I stopped any further proceeding.

4 In 1866, the subject was re-opened, the Superintending Engineer and

Chingleput No 4003
 27th June 1874

From
 The District Engineer
 Chingleput

To
 The Chief Engr
 for Irrigation

27th June 1874
 Recd. 20
 No 3436

Enc 3

Enclosing 2 statements
 showing the particulars
 of the land taken up
 for the Keenjal Madugu
 project 1874
 1st Dec 1872
 1/25

and Revenue Officers were more sanguine,
and in G. O. N^o. 3811, dated 30th November,
the execution of the work was sanctioned
and was in progress till 1870, up to which
time, Rupees 10,457 had been expended.

A report and revised estimate were
forwarded by M^r. Ottmann on 21st
February 1868, the latter amounts to
Rupees 38,200, and the compensation now
claimed is an item in it, amounting
to Rupees 1,000.

5 For some reason, the
estimate was retained in this Office,
and the work abandoned, as unlikely
to answer. G. O. N^o. 878, dated 29th March
1870, is the latest document that I can find
on the subject.

6. M^r. Ottmann states that the
claim for compensation is valid, I trust
therefore that Government will be pleased
to place me in funds to meet it.

I have the honor to be
Sir
Your most obedt servt
H. Jacoby Col R E
Surf Engrⁱⁿ D^r

GP

No. 253 B.

Note by the Chief Engineer for Irrigation.

Enclosures
Eight

In G. O. No. 3811 of the 30th November 1866 an estimate, amounting to Rupees 9000 was sanctioned for the Keenjal Madugu project, the work to be done being the construction of a dam or Aricut across the Madugu, which is the surplus channel from the Tennair tank and falls into Palari near Chingleput, and of left and right bank (North and South) channels for the supply of certain tanks. On proceeding to carry out the works it was found that an entire revision of the scheme was necessary, and a revised scheme was prepared, but never submitted for sanction although in excess of the original estimate of Rupees 9000 more than as much again had been spent. In the order just quoted the Controller was authorized to pass the objectionable items included in the statement

Proceedings Madras Government 29th March 1870 - 5th page 1st item of Statement of C. C.

30 Nov 66 90 655. 656
29 March 70 - 490-491
S. R. S. 100007.
Dec 72

P. N. 1872 Madras.
From S. R. S. 100007.
The Superintendent Engineer
to
The Secretary to Government
Public Works Dept.

Dated 23rd
Recd 23rd Nov 1872
No. 3959

Reports on the Re-
-penditure incurred on
the Keenjal Madugu
project and requests
to be placed in funds
viz. Rs. 1800 to meet the
leave for compensation
of the Madugu and
Madugu of Ceylon.
- new survey for
lands taken up.
1872/3

(and

and the excess expenditure on this project thereafter did not attract attention, though in the order against the item the Superintending Engineer's attention was drawn to the fact that the supplemental estimate had not been sanctioned.

2 In November 1872 an application was made by the Superintending Engineer 4th Division for the sanction of a sum of Rupees 1800 on account of compensation for land taken up for the project, and then the facts connected with the Scheme were enquired into.

3 It now appears that the expenditure incurred has produced no results in extension of irrigation and increase of Revenue, and that the entries of returns included in the Statements of Remunerative Works are erroneous, that the original Scheme was prepared upon inadequate and incorrect data, that it is very doubtful

whether

vide Report

* Acting Sub-Collector's No 662;
24 December 1873.

* 1870-71 Rupees 873
later — — 1344

Acting Sub-Col.
Linton's letter No 1107
16 October 1874.

19
whether the much larger project investigated by Mr Sub Engineer Ottum would answer, and that Colonel Moberly was not, in October last, able to state whether the outlay already incurred could be turned to account. Since then no further report has been received, and it appears to be desirable that Government should know how this project at present stands, that erroneous entries in the accounts should be corrected, and that those whose lands have been taken up should be either paid for them or, as it appears the owners are, with the exception of the proprietors of 3 huts, willing to receive back their lands, have the lands returned to them.

4 It will be seen that Colonel Moberly considers the project altogether unpromising, and a perusal of Mr Ottum's report supports this view. It is recom-

2 mended

recommended therefore that the super-
-intending Engineer should be instructed
to arrange for the re-transfer of the
land, and to submit for sanction a bill
for settling what compensation will
still need to be paid.

Camp at
Boochiredypolam
3^d March 1875.

Whitburn Lieut. Col. R.E.
Chief Engineer for Irrigation.

To
The Secretary to Government
P. W. D.

P. M. 1875 Sept.
No: 1702

From

The Chief Supt.
for Irrigation

Dated 3 March
Recd. 13th — 1875.
S. O. X No: 253 B.

Note on papers con-
nected with the
Keenjal Madhug project, Chingleput Dist.

Two
in the Papers

S. O. No. 1048. 15-4-75

130 16th April 1875 No 99-100
" 30th May 1875 " 655-656
" 17th Dec 1874 " 378-380

No 392

21 26

P. M. Kept

Proceedings of the Madras Government
Read the following

From the Chief Engineer
for Irrigation } (N. S. No 253 B dt 3rd March 75)
G. O. No 1048 dt 15th April 1875

The Government are of
opinion that the foregoing
papers show that the
Keenjal Madhug project,
for which an estimate of
Rupees 9,000 was sanctioned
in 1866, and on which up to
November 1869 upwards of
18,000 Rupees had been ex-

It appears that
the expenditure incurred
has produced no results
in relation of crop
and increase of
revenue, that the
periods without any
revised estimates having been
sanctioned, or submitted for
sanction, was very imper-
fectly investigated and that
there

there is but very little
 re probability of any modifi-
 cation of its securing adequate
 to results for the outlay that
 would be required. The water
 for supply is unreliable, and
 there appears to be little or
 none available except in
 seasons of heavy rainfall.
 When money is required, the
 country also is liable to
 inundation, and is traversed
 by channels which would
 involve numerous masonry
 works for the passage
 of the water which they
 carry.

2 Under these cir-
 cumstances it appears to be
 advisable to abandon
 the scheme altogether, to
 re-transfer to their owners
 the lands taken up for
 the

latter of revenue as
 "wrecks" and that the
 "revenue scheme" was
 prepared upon
 "inadequate and
 incorrect data."

If you decide not
 to pass the bill
 such a state of things
 but at least to
 give the bill (as)
 the name of the
 who were primarily
 responsible for these
 plain blunders and

misstatements
 1/5/74

the project, and to pay
 to them such compensa-
 tion as may be shown
 to be reasonable. A bill
 for the latter should be
 prepared and submitted
 as soon as possible.

W. H. S. C.
 G. W. W.

This is a very important
 question and the
 Government should be
 advised to take
 the necessary steps
 to meet the situation.

3. In thus deciding upon the
 abandonment of this project
 the Secretary the Governor and
 Council cannot but notice

To the Superintendent of the
 Chief Engineer for Irrigation
 Revenue Dept. with 2 enclosures
 Collector of Chingleput
 Controller of P. W. Accounts
 with dissatisfaction the want
 of care exhibited by the Officers
 both of the Revenue and P. W.
 Departments in whose re-
 commendations the scheme
 was

Dispd - 30.4.75

was in the first instance
sanctioned. These Officers
were Mr. Baubury the
acting Collector of Madras in
1863, Mr. Cocherell Collector
in 1866 and Colonel Boyleau
the Intending Engineer
1st Division since deceased

G.M.

N-392/3

Attty

17th ★
Govt. of 1875 Madras.

PUBLIC WORKS.

To
Supt. Engineer
Chingleput.

Dated

Recd.

Encl.

G. O., 15th April 1875, No. 1048

Regt

No. 392-393

Keenjal Madaya Project,
Chingleput Dist. Papering
orders on ~~papers~~ books by
the Chief Engr for insp.
Respecting the —