

1-10,006-23-2-50.

- (1) Number of pages _____
- (2) Date of repair _____
- (3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	99-(8)	Press
B.P. No.		Mis.
197-6199		
Dated	15-1-1874	195-.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
15th January 1874.*

Read the following papers:—

No. 197. Endorsement of the Revenue Department, dated Ootacamund, 10th October 1873.

Proceedings of the Board of Revenue, dated 10th September 1873, No. 1,789.

ABSTRACT.—*Kambakal Channel*—in Chingleput District, which derives its supply from Palar Anicut.—Government recommended to order arrangements to be made for placing the various tanks dependent on—under direct supply from the channel.—Collector to publish a notice in *District Gazette* stating that the channel is under control of Public Works Department, and prohibiting all interference on part of villagers and others with distribution of water by Government officers.

TRANSFERRED to the Public Works Department.
(Signed) R. A. DALYELL,
Acting Secretary to Government, R.D.

No 806A.

No. 198. *Note by the Chief Engineer for Irrigation.*

IN 1868-69 Captain Lindsay and Lieutenant Purchas were employed in surveying and levelling the channels on the north side of the Palar, from the anicut to the Cauverypauk and Streepermatoor tanks, with a view to a comprehensive scheme for making the most of the water-supply available being drawn up. These officers prepared also drawings of all the existing masonry works, so that a good deal has been done in the way of ascertaining the present circumstances of the distributaries; but much remained to be learnt and reported as to the areas of land and the assessment or revenue involved, and also as to the water-supply; and in a

No. 251, dated 20th August 1869.

memorandum as per margin the then Superintending Engineer of the 4th Division was told what particulars were required, and the course which it would be advisable to adopt as soon as these had been obtained.

2. Since then, so far as this office is aware, nothing has been done, probably because there was no one available to take the project up, beyond an attempt on Mr. Ottmann's part, in ignorance it would seem of what had been done by Captain Lindsay, to try and effect some improvement.

3. It is necessary now that the District Engineer should, as soon as he may be able to do so, take up the question where it was shelved four years ago, and in the first place obtain the requisite Revenue information, and work out from the registers, which have been kept at the anicut, the particulars of the water-supply. The Revenue statement for Fasli 1271 may be of some use, but it is not clear why a year twelve years ago was selected, and at any rate particulars for a series of years are required. The statement for that year, it will be observed, gives very little evidence in support of the opinion that improvements are much needed; for out of an assessment of Rupees 60,759, remissions to the extent of Rupees 459 only were granted.

4. With the surveys and levels taken by Captain Lindsay and the Revenue Survey Maps, it should be practicable before long for the District Engineer to make

*Proceedings of the Madras Government, Public Works Department,
15th January 1874.*

a preliminary report, showing tolerably clearly what measures of improvement are essential to the utilization of the water which may be available, and what the probable cost of these, and the results which may be expected from them, will be; then the Government will be able to determine how the project shall be taken up and worked out in detail, for it is improbable that this could be successfully done without a special establishment for the purpose.

5. I concur with the District Engineer in thinking that a separate head at the Palar Anicut for the Kambakal is impracticable and unnecessary. There are already two large sluices, and there is no room for a third between the Cauvery-pauk sluice and the river.

WEFAIRRU,
14th November 1873.

(Signed) J. MULLINS, Lieut.-Colonel, R.E.,
Chief Engineer for Irrigation.

No. 251.

MEMORANDUM.

The undersigned has the honour, with reference to the letter, No. 1,814, of the 6th ultimo, from the Superintending Engineer, 4th Division, with its accompaniments, to make the following observations on the information still needed regarding the Palar Anicut Irrigation, before the leading features of any improvements or extensions can be determined.

2. In paragraph 2 of his memorandum No. 121, of the 9th December last, Colonel Anderson refers to a plan showing the alignment of the channels, and to a register which he thought would show with sufficient accuracy the cultivation now affected, or which may be affected by them. These papers were not sent with Colonel Bran's letter, but Captain Lindsay informs me that the register is for lands in the Madras District only. It appears to the undersigned to be necessary that a statement should be obtained from the Revenue Officers showing:—

1st.—The ayacut, area, and assessment of all the tanks at present supplied, or which have any claim to a supply from the Palar Anicut channels.

2nd.—The area, assessment, and remissions of and on the nunjah lands cultivated, for the whole period since the construction of the anicut.

3rd.—Similar particulars for any tanks not at present entitled to a supply, which it is probable could be supplied were the channels improved.

3. Paragraph 7 of Colonel Anderson's memorandum clearly shows the way in which he proposed to deal with the question of improvement, and in the view therein expressed the undersigned entirely concurs. As yet however none of the particulars regarding water-supply therein referred to have been received. What is required is—

1st.—Information as to the average supply of the Palar for as many years as the particulars are obtainable. With the statement showing the supply month by month in each year, a description of the way, accurate or approximate, as the case may be, in which the calculations have been made should be given.

2nd.—Information as to the quantity of water which has passed down the present channels, derived from the depths of water at the head-sluice and the discharge of the main channel at various depths.

4. From these particulars it will be possible to determine, *first*, what water is still unutilized; *secondly*, what areas of land and in what villages may be supplied; *thirdly*, how much of the supply now not made use of can be economically brought to account by enlarging and improving the arrangements of the channels. It will also be known approximately what quantity of river water, in addition to the supplies which the tanks get from local rainfall drainage, may be taken as necessary for the cultivation.

5. After the information above referred to has been obtained or collected and put into a form in which it can be made use of, it will be determined what the size of the channel should be,

*Proceedings of the Madras Government, Public Works Department,
15th January 1874.*

and what modifications of the existing arrangements will probably be desirable, and then possibly it will be the best plan to depute an officer of some experience to draw up a complete project, to do which would occupy not less than several months, as alterations of existing distribution cannot be made without a careful local inquiry and examination into the requirements of each part of the existing irrigation.

(Signed) J. MULLINS, Lieut.-Colonel, R.E.,
Chief Engineer for Irrigation.

20th August, 1869.

No. 199.

ORDER THEREON, 15th January 1874, No. 99.

IRRIGATION, No. 14.

In their Proceedings of the 11th December 1869, the Board of Revenue directed that the Sub-Collector of

Chingleput should inspect the Kambakal channel and its dependent tanks from end to end, and report the result of his personal inquiries, giving also the views of the villagers.

2. On 31st July 1872, the Collector submitted reports from the Sub-Collector and from Mr. Sub-Engineer Ottmann, recommending certain works and especially branch channels, for direct supply of various tanks now only fed by surplus from upper tanks. A separate head-sluice at the Palar Anicut for Marlgan's channel, now dependent on the Cauverypauk channel, and on which the Kambakal channel is dependent, was also advocated.

3. The District Engineer, who had not joined the district while the above reports were in preparation, took exception to the conclusions arrived at in them, when brought to his notice; and the Chief Engineer for Irrigation specially concurs in his opinion that a separate head-sluice at the Palar Anicut is impracticable and unnecessary.

4. It further appears from Lieutenant-Colonel Mullins' Note, that in 1868-69 a commencement was made of collecting accurate information with a view to a comprehensive scheme for making the most of the water available on the north side of the Palar, in which the Kambakal Channel was to have been included.

5. The District Engineer will now attend to the instructions contained in paragraphs 3 and 4 of Lieutenant-Colonel Mullins' Note; and the Chief Engineer for Irrigation will see that the matter is not again shelved for years, as no doubt the Revenue Board are justified in their anxious wish that every endeavour should be made to render this important auxiliary work of irrigation as efficient as possible.

(True Extract.)

Colonel, R.E.,

Secretary to Government.

To the District Engineer, Chingleput.
" Chief Engineer for Irrigation.
" Board of Revenue.

Exd. S. T. Austin.

Spare Copies.

PROCEEDINGS OF THE BOARD OF REVENUE, dated 10th September 1873.
Read again Board's Proceedings, dated 11th December 1869, No. 9,082, and 23rd August 1872, No. 1,671

Read also the following letters:—

From Colonel F. J. B. MOBERLY, R.E., Superintending Engineer, 4th Division, to J. GROSE, Esq., Secretary to the Board of Revenue, dated Madras, 25th September 1872, No. 2,724.

I HAVE the honour to request that you will move the Board to allow me to examine into the statement made to the Sub-Collector by Mr. Ottmann, and embodied with letters from the District Officers, in Proceedings, No. 1,671, 23rd August 1872, before they lay the subject before Government.

2. The Board will, I cannot but think, be surprised to hear that the Superintending Engineer had no syllable of information, so far as I can discover, as to the enquiry which was being instituted as to the management of the Kambakal; management which I am free to confess appears from his own statement by no means creditable to Mr. Ottmann, who was in charge of the Range for four years, and as such, had the control of the sluices of the Kambakal, for the working of which, he had an establishment detailed

1 Maistry....	20	in the margin, sanctioned in G. O.,
2 Lascars at Rs. 6 each ...	12	No. 68, dated 12th January 1873
12 Niraganties at 4 Rs. each ...	48	Revenue Department.
Total...	80	3. Of this the Collector and, I presume, the Board were not aware

From R. W. BARLOW, Esq., Acting Collector of the Chingleput District, to J. GROSE, Esq., Secretary to the Board of Revenue, dated Sattividu, 19th July 1873, No. 286.

In reply to the Proceedings of the Board, No. 1,671, dated 23rd of August last, and their Official Memorandum, No. 964, dated 4th instant, I have the honour to submit the further report, called for regarding the Kambakal channel, together with a letter, (to be returned) No. 268, from the District Engineer. I regret the delay that has occurred in replying. A reference had to be made to the Sub-Collector for the statistics, called for at paragraph 2, and I then forwarded all papers to the District Engineer, who had requested to see them, and expressed grave doubts as to Mr. Ottmann's levels and calculations; his reply was only received on the 15th of May last, and Mr. Irvine allowed the matter to lie over till my return from leave, which was only late in last month.

2. Colonel Moberly takes a different view of the possible future capabilities of the Kambakal to that expressed by the Range Officer, and as regards engineering difficulties, I defer, of course, to his professional opinion; but there are several statements in his letter, calling for some remarks from a revenue point of view.

3. As regards paragraphs 2, 3, and 4, if a new sluice is impossible at the Palar anicut, still any means that can be devised for increasing the flow of water in the Kambakal are highly desirable, not to fill the tanks under it, but to dis-

tribute rapidly some water to all of them, to enable the ryots to commence cultivation early in the season, the south-west monsoon in this district being very precarious. I think that Mr. Crole at paragraph 6 of his No. 654 of the 30th September 1871, clearly explains that the supplementing of the supply, received from catchment drainage in the north-east monsoon, is his object in wishing the Kambakal to be improved, and it was never our intention to depend on it entirely.

4. With reference to paragraphs 5 and 9, I observe that it was not proposed to supply each tank with a separate channel, but with a branch channel for each system of tanks—*Vide* paragraph 5 of my letter No. 321, dated 31st of July last.

5. If "Branch channels for each chain of tanks" with "Regulating dams in these branch channels at proper intervals" as proposed by Mr. Ottmann at paragraph 12 of his report are impracticable from an engineering point of view, it is greatly to be regretted, but I must observe Mr. Ottmann seems very confident and the existing system (chain) described by the District Engineer at paragraph 5, certainly has not worked well, even with the assistance of the Department Public Works Conservancy Establishment, and I observe that the Range Officer who has long had local charge says "the system engenders great heart burnings. . . . It is found almost impossible to work it."—*Vide* paragraph 12 of his report.

6. With reference to the special Establishment, and paragraphs 7 and 19 of Colonel Moberly's letter, I must remark that the G. O., in 1864, sanctioning the ~~plan~~ was never communicated to this office. As lately too as 1869, I find Mr. Thornhill commending, when addressing the Board—*Vide* Board's Proceedings, No. 9,02, dated 11th December, in that year "that it (Kambakal) should be distinctly and definitely placed under the control of the Department Public Works; ~~from this and~~ from the tenor of Mr. Ottmann's and Colonel Beans' letters, published in the same Proceedings, it seems that whatever the Conservancy Establishment may have been, the exclusive custody and control of the tanks were not clearly understood to be vested in the Department Public works, and a formal notification of the kind now ordered by the Board was highly desirable.

7. As regards paragraph 8, I need hardly remark that parties acting in opposition to this Notification will be promptly dealt with magisterially.

8. The subject commented on by the District Engineer at paragraphs 10 and 11 is not, I believe, now about to be considered by the Board.

9. I have no remarks to offer on Colonel Moberly's professional opinions at paragraphs 12 to 15, beyond observing that the Kambakal is invaluable, if properly supervised, to distribute a small supply of water to as many tanks as possible, in view to pushing on cultivation in June, July and August.

10. It might have been well before last reporting to the Board, if I had recalled the District Engineer previously, but I must observe, with reference to Colonel Moberly's remarks at paragraph 18, that the Sub-Collectors being ordered to report on this channel was occasioned by a letter from the Superintending Engineer in 1869, forwarding certain complaints from the Kambakal water.

11. With these remarks, I have the honour to re-submit the sketch of the Kambakal channel, together with a statement giving the statistical information ~~to be submitted to the Board.~~

ENCLOSURE No. 1.

From Colonel F. J. B. MOBERLY, R. E., District Engineer, to R. W. BARLOW, Esq., Collector of the Chingleput District, dated Nelladanavkum, 5th May 1873, No. 268.

I REGRET the delay in replying to your No. 337, dated 18th December. Much, other important occupation has prevented my taking up the subject, and I have endeavoured to discover the grounds of the suggestions made by the Sub-

1. Board's Proceedings, No. 1,671, dated 23rd August 1872.
1. Sketch of Kambakal.
1. Statement of tanks on the Kambakal.

Collector, and summed up in your No. 321, dated 31st July 1872, to the Secretary, Revenue Board.

2. There appears to be some misapprehension as to the object of the Kambakal. It was never intended, and is utterly insufficient, to fill the series of tanks under it.

3. The Mahendravady and Kaveripak tanks have the first claim to Palar water; and the Kambakal was cut with a view to utilizing the occasional extra supply by putting a small quantity into each tank, and enabling the villagers to begin their cultivation before the north-east monsoon on which the tanks did, and should, depend for their principal supply.

4. The Kambakal would need to be very much enlarged before it could carry enough water to fill tanks in six or seven out of ten years; it would never pay to enlarge it, and the cost of a separate head sluice at the Palar Anicut would be enormously out of proportion to any possible return. There is barely room for the Kaveripak channel, I cannot conceive where Mr. Ottmann would place another sluice, etc., etc.

5. I find from the sketch of the tanks that in two cases only are there four tanks in one chain. When these branches were designed, the vents in calingulas were so placed, that after a small supply of water had run into the first tank of each series, it would pass on to the second, leave a small quantity in its deep bed, and pass on by the calingula vent to the third and so on. When the lowest had its quantum, the vent above was to be closed, and the tank receive a little addition, and so backward as long as the water lasted.

6. This was the system pursued in 1862-1863. I am informed that the ryots of upper tanks have interfered with this distribution, and even forcibly insisted on filling their tank first. I do not know whether any authoritative statement of the principle is needed. If it be necessary, I beg that it may be published at once to strengthen the members of the Department Public Works in doing their duty as was intended by the designers of the channel.

1 Maistry	Rs
2 Lascars at 6 Rupees each	20
12 Nisaganties at 4 Rupees each	12
	48
Total	80

7. The Sub-Collector and yourself do not appear to be aware that we have had charge of this work since its construction and pay for an establishment (marginally detailed) sanctioned in 1864.

8. I see no difficulty in carrying out this systematic distribution, if the conservancy establishment are supported by the Magistrates, and opposition punished.

9. It is, I may say, impossible to supply each tank with a separate channel, and quite unnecessary. Each tank receives its principal supply from local drainage, and if branch channels are made, they must be so laid out as to admit the passage of surplus water from the fields above, and of the rain-fall on the gathering ground of each tank; a most difficult arrangement, and one likely to cause endless dispute.

10. I have not been able to procure the rough sketch with levels mentioned by Mr. Crole, in paragraph 9, No. 342, 19th June 1872. I must very seriously doubt the correctness of the levels. The printed map shows that the tanks on either side of the road face from it, and drain either to the Neenjal Madagu or to the coast. A plan for cutting the southern channel has been taken up more than once. I countersigned one as District Engineer, ten years ago, but kept it back on finding that a ridge which had been overlooked divided the two valleys.

11. It was, however, taken up again in 1867-68, and after an expenditure of Rupees 18,388, was again abandoned. I feel sure that in ordinary years it will carry no water, because there will be none to spare; in good years it will not be needed because there will be plenty of local rain.

12. It may be well to say a few words regarding the Kambakal. Sections 1 and 2. (Mr. Ottmann calls them) paragraph 4, are down the side of the slopes, Section 2 passes over the dividing ridge, and is between embankments; the expression gully is quite inapplicable; it will scarcely be believed after his statement in paragraph 6, that very little repair has been done in some years to this dangerously situated work, and that after the floods of 1872, (the heaviest known in many years) the conservancy establishment have been able to do all the work needed.

13. I am informed by the Maistry that in nearly every year water has reached Streepermattoor tank, I am only surprised that this should have happened at all, if the Kambakal has been treated as a large feeding channel, instead of being a small auxiliary.

14. The channel over the high ground has an average fall of $4\frac{1}{2}$ inches per mile, and the water enters the section with an initial velocity, due to a fall of "about 95 feet in 13 miles." The larger number of tanks have their channel heads in the first section, with these outlets it must be very bad management that any flood of 3 feet can rise to 10 or 12 feet any where; judging from the state of the banks, I should be inclined to put it down among others of Mr. Ottmann's very loose assertions.

15. The dam in the 23rd mile was erected to turn the water for the southern branch channel. If this be abandoned, the barrier may be removed. I have desired the Range Officer to estimate for clearing the channel bed, and cutting it to an uniform gradient, and then I see no reason why the water should not flow freely down.

16. The principal point required is, that the villagers shall be made to understand that the channel is merely an auxiliary, and not a supply channel, and that they will be punished if they interfere with the distribution which is intended to be for all in small quantities.

17. We must all deplore the great loss of water running to sea, but it must be remarked that this took place in a year when, as Mr. Crole reports, all the tanks were filled. I cannot think he is right in saying, from the Kambakal.

18. I cannot conclude without observing that correspondence involving much expenditure of time and trouble has taken place, apparently without any reference to the Superintending Engineer. I cannot find how it began, and had held the appointment four months when I received your No. 200 dated September 1872, informing me that the Board of Revenue proposed to transfer the channel to my charge.

19. I am informed that it has never been out of the hands of the Range Officer, who has paid the establishment all along.

Enclosure No. 2.—Sketch of Kambakal Channel.

Enclosure No. 3.—Statement of Tanks.

With his letter* dated 31st July 1872, the Collector of Chingleput submitted reports from the Sub-Collector and from the Range Officer, Mr. Ottmann, regarding the Kambakal, an important irrigation channel, pointing out certain defects and suggesting alterations and improvements. The District Engineer Colonel Moberly regards Mr. Ottmann's statements as inaccurate and exaggerated and considers that nothing is required except some trifling repairs, and insisting on the observance of the method of distribution originally designed — to enable the channel to fulfil its purpose as an auxiliary source of irrigation.

2. The channel derives its supply from the Palar Anicut through the head sluice that supplies the Caverypak tank but as this tank has the first claim to the water the Kambakal gets but a scanty supply when the freshes are low. The channel runs along a ridge of land to the north of the western high road and feeds

tanks on either side until it terminates in the Kepermattoor tank. The tanks dependent on it are eighty-nine in number with a revenue of about Rupees 60,000. These tanks are chiefly dependent on the rain-fall during the north-east monsoon. The Kambakal was designed as an auxiliary to give each tank a small supply after the freshes of the south-west monsoon to admit of cultivation being commenced early in the season. Many of the tanks however though nominally dependent on it derive little or no benefit from it owing it is alleged to a faulty system of distribution which is thus described by Mr. Ottmann who was in charge of the work for a long time. "The system of distribution of the channel waters for the irrigation is another great draw-back in the efficient working of the Kambakal; it has been designed after a method that

Report recorded in Board's Proceedings, 23rd August 1872.

does not permit of the benefits of the channel being extended to tanks other than those immediately along the channel. The sluices discharge in all cases into the tanks adjacent, and it was intended that the lower tanks should be fed by the upper ones. This might have been practicable to some extent if the floods were of long duration as in the rivers of the south country, but such is not the case, consequently the system engenders great heart-burnings, inconveniences, annoyances, and Magisterial interference. It is found almost impossible to do it. The tanks immediately alongside are recouped over and over again each season and owing to the very short duration of the floods it has but seldom been found practicable to run a flood into an adjoining tank. The only remedy to provide branch channels for each chain of tanks by which several tanks of a chain might be under supply at the same time. The early flood is what the ryot needs to start cultivation so that with the scanty floods available at present it is possible to distribute small supplies over very large areas if the branch channels are provided. For the present the branches need only be provided for short distances say to three tanks in a chain. Regulating dams in these branches at proper intervals will do the work of sub-distribution to each tank with great facility. The endless worry of the present system will be quite obviated by the arrangement recommended."

3. The Sub-Collector Mr. Crole says* "the chain system leads to great inequality, much bad feeling and loss" and that "opinions are unanimous in favour of separate sub-channels with self-regulating dams."

* Letter dated 19th June 1872, recorded in Board's Proceedings, 23rd August 1872.

4. It seems to the Board that the system above described is calculated to lead to disputes and the old quarrels are likely to re-open on very slight provocation. They are of opinion that in order to prevent disputes and to ensure an equitable distribution and a more economical use of the water it is very desirable that so far as practicable each tank should be placed under direct supply from the channel. They resolve to submit these Proceedings to Government with the recommendation that arrangements be made accordingly and that if it be impossible to open a separate head-sluice in the Palar Anicut for the supply of the Kambakal every endeavour be made to render this important auxiliary work of irrigation as efficient as possible.

5. The Collector should publish an order in the District Gazette notifying that the Kambakal is under the control of the Department Public Works and prohibiting all interference on the part of the villagers and others with the distribution of the water by the channel establishment under the orders of the Range Officer.

(True Copies and Extract.)

H. D. John

Acting Secretary.

To the Acting Secretary to Government, Revenue Department,
with two original enclosures, and Board's Proceedings,
dated 11th December 1869, No. 9,082,
and 23rd August 1872, No. 1,671.

To the Acting Collector of the Chingleput District,
with letter from District Engineer, returned.

Copy to the District Engineer, Chingleput.

E. J. G. A. T. T. T.

*Attended by
Mr. A. J. P. S. M.*

*Officially
Signed: J. G. A. T. T.*

*Transferred to the
Public Works Dept*

*Board of Revenue,
MADRAS.*

1873.

PROCEEDINGS, 10TH SEPTEMBER 1873, No. 1,789.

21st 219 Sept 1873

Encl. 4

SEPTEMBER, 1873.

No. 1,789.

*Kambakal Channel—in Chingleput District,
which derives its supply from Palar Anicut.—
Government recommended to order arrange-
ments to be made for placing the various tanks
dependent on—under direct supply from the
channel.—Collector to publish a notice in
District Gazette stating that the channel is
under control of Public Works Department,
and prohibiting all interference on part of
villagers and others with distribution of water
by Government Officers.*

900000/18/1873

*see
22/8/73*

*opt' test.
Ceylon Dist*

*616
968*

Oct 1973

*Oct 1973 15th Jan
P. W. R. S. 1873*

Told by the Chief Engineer for Navigation.

Result 6.

In 1868/69 Captain Lindsay and Spitham, Purchas were employed in surveying and levelling the channels on the north side of the River from the Ancient to the Quarry bank and Steepwater, with a view to a comprehensive scheme for making the most of the water supply available being drawn up. These officers prepared also drawings of all the existing masonry works so that a good deal has been done in the way of ascertaining the present circumstances of the distributaries but much remained to be learnt and reported as to the areas of land and the aspect of revenue involved, and also as to the water supply and in a Memorandum as per margin, the then Superintending Engineer of the 14th Division was told what particulars were required, and the course which it would be advisable to adopt as soon as these had been obtained.

51.22 Aug 1869.

2. Since then, so far as the Office is aware, nothing has been done, probably because there was no one available to take the project up, beyond an attempt on Mr. Ollmann's part, in ignorance it would seem of what had been done by Captain Lindsay, to try and effect some improvement.

3. It is necessary now that the District Engineer should, as soon as he may be able to do so, take up the question which it was shelved 14 years ago, and in the first place obtain the requisite revenue information, and work out from the registers, which have been kept at the Anicut, the particulars of the water supply. The revenue statement for 1827 may be of some use, but it is not clear why a year 12 years ago was selected, and at any rate particulars for a series of years are required. The statement for that year, it will be observed, gives very little evidence in support of the opinion that improvements are much needed; for, out of an apportionment of Rupees 6759, remissions to the extent of Rupees 459 only were granted.

4. With the surveys and levels taken by Captain Lindsay and the Revenue Survey maps, it should be practicable before long for the District Engineer to make a preliminary report showing tolerably clearly what measures of improvement are essential to the utilization of the water which may be available, and what the probable cost of these, and the results which may be expected from them, will be; then the Government will be able to determine how the project shall be taken

up

3
up and worked out in detail, for it is improbable that this could be successfully done without a special establishment for the purpose.

5. I concur with the District Engineer in thinking that a separate head at the Palam Anicut for the Nainbatal is impracticable and unnecessary. There are already two large sluices and there is no room for a third between the Chavaypauk sluice and the river.

Office of the Chief Eng^r

for Irrigation

Madras 14 November 1870

Subordinate District Comm^r

Chief Engineer for Irrigation

To The Secretary to Govt P.W.D.

opti! Dr. L.
Corydon

416
1918

due
22/29/18

(2)

999.151-12

P. P. 1843 Niagara
Corydon
The Chief Capt
for Niagara
to the Secretary
to 1900/1908.

12-8-1843

Oct 14 1843
Capt 1st Regt
1873.

arr. 6.

2nd 1843

Note on the

Proceedings of the
Board of Revenue

regarding the
Huntsbrook case
and change of
date.

1849-1850 Aug 1/4

(3) 2/2/98

1850/51

1851/52

8/12

2 lines
In their Proceedings of the
11th Dec. 1869 the Board of
Revenue directed that the
Subcollector of Pimpri
should inspect the Kariba
kal Channel and its de-
pendent Trenches from end
to end, and report the re-
sult of his personal in-
spection, giving also the views
of the villagers -
On 31st July 1872 the Collec-
tor submitted Reports from
the Subcollector and from
Mr. Subhagaree Ottomann
recommending certain works
most especially branch chan-
nels for direct supply of
various trenches and only
fed by surplus from the
trenches - a separate head
stence at the Palas in
for Mankur. The Channel, now
dependent on the main
branch channel, and on
which the Kariba kal
well is dependent, was
also advocated -
The District Engineer, who
had examined the District
while the above Reports were

in preparation, took exception to the conclusions arrived at in them, when brought to his notice; and the Chief Engineer for Irrigation specially concurs in his opinion, viz. that a separate Head sluice at the Dabur mouth is impracticable & unnecessary.

It further appears from Lt. Colonel Mullison's note that in 1868-69 a commencement was made of collecting accurate information with a view to a comprehensive scheme for making the most of the water available in the South side of the Dabur, in which the Hunabul Channel was to have been included. It is evidently desirable therefore that in all cases where the Board of Revenue or local Revenue Officers desire information regarding Irrigation Works the former should communicate copy of their proceedings to the Ch. Eng. for Irrig., and the latter to the District Engineer, in order that what has already been done

then 1868-69

may be turned to account need that to make opinion of incompetent men should not be attached much weight -

441

The District Engineer will now attend to the instructions contained in paras 3 & 4 of R.L. Mullison's note; and the Chief Eng. for Irrigation will see that the matter is not again shelved for years, as no doubt the Rev. H. D. might expect their anxious wish that every endeavor should be made to render this important auxiliary work of irrigation as efficient as possible -

1868-69
1869-70
1870-71
1871-72
1872-73
1873-74
1874-75
1875-76
1876-77
1877-78
1878-79
1879-80
1880-81
1881-82
1882-83
1883-84
1884-85
1885-86
1886-87
1887-88
1888-89
1889-90
1890-91
1891-92
1892-93
1893-94
1894-95
1895-96
1896-97
1897-98
1898-99
1899-00
1900-01
1901-02
1902-03
1903-04
1904-05
1905-06
1906-07
1907-08
1908-09
1909-10
1910-11
1911-12
1912-13
1913-14
1914-15
1915-16
1916-17
1917-18
1918-19
1919-20
1920-21
1921-22
1922-23
1923-24
1924-25
1925-26
1926-27
1927-28
1928-29
1929-30
1930-31
1931-32
1932-33
1933-34
1934-35
1935-36
1936-37
1937-38
1938-39
1939-40
1940-41
1941-42
1942-43
1943-44
1944-45
1945-46
1946-47
1947-48
1948-49
1949-50
1950-51
1951-52
1952-53
1953-54
1954-55
1955-56
1956-57
1957-58
1958-59
1959-60
1960-61
1961-62
1962-63
1963-64
1964-65
1965-66
1966-67
1967-68
1968-69
1969-70
1970-71
1971-72
1972-73
1973-74
1974-75
1975-76
1976-77
1977-78
1978-79
1979-80
1980-81
1981-82
1982-83
1983-84
1984-85
1985-86
1986-87
1987-88
1988-89
1989-90
1990-91
1991-92
1992-93
1993-94
1994-95
1995-96
1996-97
1997-98
1998-99
1999-00
2000-01
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16
2016-17
2017-18
2018-19
2019-20
2020-21
2021-22
2022-23
2023-24
2024-25
2025-26
2026-27
2027-28
2028-29
2029-30
2030-31
2031-32
2032-33
2033-34
2034-35
2035-36
2036-37
2037-38
2038-39
2039-40
2040-41
2041-42
2042-43
2043-44
2044-45
2045-46
2046-47
2047-48
2048-49
2049-50
2050-51
2051-52
2052-53
2053-54
2054-55
2055-56
2056-57
2057-58
2058-59
2059-60
2060-61
2061-62
2062-63
2063-64
2064-65
2065-66
2066-67
2067-68
2068-69
2069-70
2070-71
2071-72
2072-73
2073-74
2074-75
2075-76
2076-77
2077-78
2078-79
2079-80
2080-81
2081-82
2082-83
2083-84
2084-85
2085-86
2086-87
2087-88
2088-89
2089-90
2090-91
2091-92
2092-93
2093-94
2094-95
2095-96
2096-97
2097-98
2098-99
2099-00
2100-01
2101-02
2102-03
2103-04
2104-05
2105-06
2106-07
2107-08
2108-09
2109-10
2110-11
2111-12
2112-13
2113-14
2114-15
2115-16
2116-17
2117-18
2118-19
2119-20
2120-21
2121-22
2122-23
2123-24
2124-25
2125-26
2126-27
2127-28
2128-29
2129-30
2130-31
2131-32
2132-33
2133-34
2134-35
2135-36
2136-37
2137-38
2138-39
2139-40
2140-41
2141-42
2142-43
2143-44
2144-45
2145-46
2146-47
2147-48
2148-49
2149-50
2150-51
2151-52
2152-53
2153-54
2154-55
2155-56
2156-57
2157-58
2158-59
2159-60
2160-61
2161-62
2162-63
2163-64
2164-65
2165-66
2166-67
2167-68
2168-69
2169-70
2170-71
2171-72
2172-73
2173-74
2174-75
2175-76
2176-77
2177-78
2178-79
2179-80
2180-81
2181-82
2182-83
2183-84
2184-85
2185-86
2186-87
2187-88
2188-89
2189-90
2190-91
2191-92
2192-93
2193-94
2194-95
2195-96
2196-97
2197-98
2198-99
2199-00
2200-01
2201-02
2202-03
2203-04
2204-05
2205-06
2206-07
2207-08
2208-09
2209-10
2210-11
2211-12
2212-13
2213-14
2214-15
2215-16
2216-17
2217-18
2218-19
2219-20
2220-21
2221-22
2222-23
2223-24
2224-25
2225-26
2226-27
2227-28
2228-29
2229-30
2230-31
2231-32
2232-33
2233-34
2234-35
2235-36
2236-37
2237-38
2238-39
2239-40
2240-41
2241-42
2242-43
2243-44
2244-45
2245-46
2246-47
2247-48
2248-49
2249-50
2250-51
2251-52
2252-53
2253-54
2254-55
2255-56
2256-57
2257-58
2258-59
2259-60
2260-61
2261-62
2262-63
2263-64
2264-65
2265-66
2266-67
2267-68
2268-69
2269-70
2270-71
2271-72
2272-73
2273-74
2274-75
2275-76
2276-77
2277-78
2278-79
2279-80
2280-81
2281-82
2282-83
2283-84
2284-85
2285-86
2286-87
2287-88
2288-89
2289-90
2290-91
2291-92
2292-93
2293-94
2294-95
2295-96
2296-97
2297-98
2298-99
2299-00
2300-01
2301-02
2302-03
2303-04
2304-05
2305-06
2306-07
2307-08
2308-09
2309-10
2310-11
2311-12
2312-13
2313-14
2314-15
2315-16
2316-17
2317-18
2318-19
2319-20
2320-21
2321-22
2322-23
2323-24
2324-25
2325-26
2326-27
2327-28
2328-29
2329-30
2330-31
2331-32
2332-33
2333-34
2334-35
2335-36
2336-37
2337-38
2338-39
2339-40
2340-41
2341-42
2342-43
2343-44
2344-45
2345-46
2346-47
2347-48
2348-49
2349-50
2350-51
2351-52
2352-53
2353-54
2354-55
2355-56
2356-57
2357-58
2358-59
2359-60
2360-61
2361-62
2362-63
2363-64
2364-65
2365-66
2366-67
2367-68
2368-69
2369-70
2370-71
2371-72
2372-73
2373-74
2374-75
2375-76
2376-77
2377-78
2378-79
2379-80
2380-81
2381-82
2382-83
2383-84
2384-85
2385-86
2386-87
2387-88
2388-89
2389-90
2390-91
2391-92
2392-93
2393-94
2394-95
2395-96
2396-97
2397-98
2398-99
2399-00
2400-01
2401-02
2402-03
2403-04
2404-05
2405-06
2406-07
2407-08
2408-09
2409-10
2410-11
2411-12
2412-13
2413-14
2414-15
2415-16
2416-17
2417-18
2418-19
2419-20
2420-21
2421-22
2422-23
2423-24
2424-25
2425-26
2426-27
2427-28
2428-29
2429-30
2430-31
2431-32
2432-33
2433-34
2434-35
2435-36
2436-37
2437-38
2438-39
2439-40
2440-41
2441-42
2442-43
2443-44
2444-45
2445-46
2446-47
2447-48
2448-49
2449-50
2450-51
2451-52
2452-53
2453-54
2454-55
2455-56
2456-57
2457-58
2458-59
2459-60
2460-61
2461-62
2462-63
2463-64
2464-65
2465-66
2466-67
2467-68
2468-69
2469-70
2470-71
2471-72
2472-73
2473-74
2474-75
2475-76
2476-77
2477-78
2478-79
2479-80
2480-81
2481-82
2482-83
2483-84
2484-85
2485-86
2486-87
2487-88
2488-89
2489-90
2490-91
2491-92
2492-93
2493-94
2494-95
2495-96
2496-97
2497-98
2498-99
2499-00
2500-01
2501-02
2502-03
2503-04
2504-05
2505-06
2506-07
2507-08
2508-09
2509-10
2510-11
2511-12
2512-13
2513-14
2514-15
2515-16
2516-17
2517-18
2518-19
2519-20
2520-21
2521-22
2522-23
2523-24
2524-25
2525-26
2526-27
2527-28
2528-29
2529-30
2530-31
2531-32
2532-33
2533-34
2534-35
2535-36
2536-37
2537-38
2538-39
2539-40
2540-41
2541-42
2542-43
2543-44
2544-45
2545-46
2546-47
2547-48
2548-49
2549-50
2550-51
2551-52
2552-53
2553-54
2554-55
2555-56
2556-57
2557-58
2558-59
2559-60
2560-61
2561-62
2562-63
2563-64
2564-65
2565-66
2566-67
2567-68
2568-69
2569-70
2570-71
2571-72
2572-73
2573-74
2574-75
2575-76
2576-77
2577-78
2578-79
2579-80
2580-81
2581-82
2582-83
2583-84
2584-85
2585-86
2586-87
2587-88
2588-89
2589-90
2590-91
2591-92
2592-93
2593-94
2594-95
2595-96
2596-97
2597-98
2598-99
2599-00
2600-01
2601-02
2602-03
2603-04
2604-05
2605-06
2606-07
2607-08
2608-09
2609-10
2610-11
2611-12
2612-13
2613-14
2614-15
2615-16
2616-17
2617-18
2618-19
2619-20
2620-21
2621-22
2622-23
2623-24
2624-25
2625-26
2626-27
2627-28
2628-29
2629-30
2630-31
2631-32
2632-33
2633-34
2634-35
2635-36
2636-37
2637-38
2638-39
2639-40
2640-41
2641-42
2642-43
2643-44
2644-45
2645-46
2646-47
2647-48
2648-49
2649-50
2650-51
2651-52
2652-53
2653-54
2654-55
2655-56
2656-57
2657-58
2658-59
2659-60
2660-61
2661-62
2662-63
2663-64
2664-65
2665-66
2666-67
2667-68
2668-69
2669-70
2670-71
2671-72
2672-73
2673-74
2674-75
2675-76
2676-77
2677-78
2678-79
2679-80
2680-81
2681-82
2682-83
2683-84
2684-85
2685-86
2686-87
2687-88
2688-89
2689-90
2690-91
2691-92
2692-93
2693-94
2694-95
2695-96
2696-97
2697-98
2698-99
2699-00
2700-01
2701-02
2702-03
2703-04
2704-05
2705-06
2706-07
2707-08
2708-09
2709-10
2710-11
2711-12
2712-13
2713-14
2714-15
2715-16
2716-17
2717-18
2718-19
2719-20
2720-21
2721-22
2722-23
2723-24
2724-25
2725-26
2726-27
2727-28
2728-29
2729-30
2730-31
2731-32
2732-33
2733-34
2734-35
2735-36
2736-37
2737-38
2738-39
2739-40
2740-41
2741-42
2742-43
2743-44
2744-45
2745-46
2746-47
2747-48
2748-49
2749-50
2750-51
2751-52
2752-53
2753-54
2754-55
2755-56
2756-57
2757-58
2758-59
2759-60
2760-61
2761-62
2762-63
2763-64
2764-65
2765-66
2766-67
2767-68
2768-69
2769-70
2770-71
2771-72
2772-73
2773-74
2774-75
2775-76
2776-77
2777-78
2778-79
2779-80
2780-81
2781-82
2782-83
2783-84
2784-85
2785-86
2786-87
2787-88
2788-89
2789-90
2790-91
2791-92
2792-93
2793-94
2794-95
2795-96
2796-97
2797-98
2798-99
2799-00
2800-01
2801-02
2802-03
2803-04
2804-05
2805-06
2806-07
2807-08
2808-09
2809-10
2810-11
2811-12
2812-13
2813-14
2814-15
2815-16
2816-17
2817-18
2818-19
2819-20
2820-21
2821-22
2822-23
2823-24
2824-25
2825-26
2826-27
2827-28
2828-29
2829-30
2830-31
2831-32
2832-33
2833-34
2834-35
2835-36
2836-37
2837-38
2838-39
2839-40
2840-41
2841-42
2842-43
2843-44
2844-45
2845-46
2846-47
2847-48
2848-49
2849-50
2850-51
2851-52
2852-53
2853-54
2854-55
2855-56
2856-57
2857-58
2858-59
2859-60
2860-61
2861-62
2862-63
2863-64
2864-65
2865-66
2866-67
2867-68
2868-69
2869-70
2870-71
2871-72
2872-73
2873-74
2874-75
2875-76
2876-77
2877-78
2878-79
2879-80
2880-81
2881-82
2882-83
2883-84
2884-85
2885-86
2886-87
2887-88
2888-89
2889-90
2890-91
2891-92
2892-93
2893-94
2894-95
2895-96
2896-97
2897-98
2898-99
2899-00
2900-01
2901-02
2902-03
2903-04
2904-05
2905-06
2906-07
2907-08
2908-09
2909-10
2910-11
2911-12
2912-13
2913-14
2914-15
2915-16
2916-17
2917-18
2918-19
2919-20
2920-21
2921-22
2922-23
2923-24
2924-25
2925-26
2926-27
2927-28
2928-29
2929-30
2930-31
2931-32
2932-33
2933-34
2934-35
2935-36
2936-37
2937-38
2938-39
2939-40
2940-41
2941-42
2942-43
2943-44
2944-45
2945-46
2946-47
2947-48
2948-49
2949-50
2950-51
2951-52
2952-53
2953-54
2954-55
2955-56
2956-57
2957-58
2958-59
2959-60
2960-61
2961-62
2962-63
2963-64
2964-65
2965-66
2966-67
2967-68
2968-69
2969-70
2970-71
2971-72
2972-73
2973-74
2974-75
2975-76
2976-77
2977-78
2978-79
2979-80
2980-81
2981-82
2982-83
2983-84
2984-85
2985-86
2986-87
2987-88
2988-89
2989-90
2990-91
2991-92
2992-93
2993-94
2994-95
2995-96
2996-97
2997-98
2998-99
2999-00
3000-01
3001-02
3002-03
3003-04
3004-05
3005-06
3006-07
3007-08
3008-09
3009-10
3010-11
3011-12
3012-13
3013-14
3014-15
3015-16
3016-17
3017-18
3018-19
3019-20
3020-21
3021-22
3022-23
3023-24
3024-25
3025-26
3026-27
3027-28
3028-29
3029-30
3030-31
3031-32
3032-33
3033-34
3034-35
3035-36
3036-37
3037-38
3038-39
3039-40
3040-41
3041-42
3042-43
3043-44
3044-45
3045-46
3046-47
3047-48
3048-49
3049-50
3050-51
3051-52
3052-53
3053-54
3054-55
3055-56
3056-57
3057-58
3058-59
3059-60
3060-61
3061-62
3062-63
3063-64
3064-65
3065-66
3066-67
3067-68
3068-69
3069-70
3070-71
3071-72
3072-73
3073-74
3074-75
3075-76
3076-77
3077-78
3078-79
3079-80
3080-81
3081-82
3082-83
3083-84
3084-85
3085-86
3086-87
3087-88
3088-89
3089-90
3090-91
3091-92
3092-93
3093-94
3094-95
3095-96
3096-97
3097-98
3098-99
3099-00
3100-01
3101-02
3102-03
3103-04
3104-05
3105-06
3106-07
3107-08
3108-09
3109-10
3110-11
3111-12
3112-13
3113-14
3114-15
3115-16
3116-17
3117-18
3118-19
3119-20
3120-21
3121-22
3122-23
3123-24
3124-25
3125-26
3126-27
3127-28
3128-29
3129-30
3130-31
3131-32
3132-33
3133-34
3134-35
3135-36
3136-37
3137-38
3138-39
3139-40
3140-41
3141-42
3142-43
3143-44
3144-45
3145-46
3146-47
3147-48
3148-49
3149-50
3150-51
3151-52
3152-53
3153-54
3154-55
3155-56
3156-57
3157-58
3158-59
3159-60
3160-61
3161-62
3162-63
3163-64
3164-65
3165-66
3166-67
3167-68
3168-69
3169-70
3170-71
3171-72
3172-73
3173-74
3174-75
3175-76
3176-77
3177-78
3178-79
3179-80
3180-81
3181-82
3182-83
3183-84
3184-85
3185-86
3186-

cut; and that great at-
 tention should be paid by
 the Ch. Insp. for direction
 to proportioning the work
 of this nature to be made,
 taken at any given time
 to the other demands on
 himself and on District
 officers, and to the means
 available for prosecuting
 such inquiries steadily
 to a practical end -

G.M.W.

To The Chief Insp. for Dir. with four letters
 to Dist Insp. Bangalore
 Board of Rev.

Desp. with S-16/74

B:15/10/73

(25)

Offi Dorab

Cyril Dore

P 416
 908

recd
 22/9/74

4.2.20

CP 6572-5112
Govt. of 11873 Madras.

PUBLIC WORKS.

To The District Engineer
Chungpet

Dated

Recd.

Encl. 2

G. O. 15th July 1919

Nos. 197 & 199

Kambakal Channel, Chenn
Seput District. Paving
orders on papers relating
to the Channel.