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MADRAS RECORD OFFICE.

Government of Madras.

Public works **DEPARTMENT.**

G.O. No. 371	Press Mis
229-33	
Dated 9. 2	1875.

Not to be folded or roughly handled

27.9.45

Read the following papers —

- No 229 Read again Proceedings of the Madras Government, dated 27th February 1874, No 512
- No. 230 Read also Proceedings of the Board of Revenue, dated 20th October 1874, No 3,037
- No. 231 From Lieutenant-Colonel JOHN MULLINS, R E., Chief Engineer for Irrigation and Joint Secretary to Government, to R K WILLIAMS, Esq, Officiating Examiner of Railway Accounts, dated Madras, 29th September 1874, No 71.

A REFERENCE has been made to me to show what the income of the Madras Irrigation and Canal Company must be to cover interest charges on capital outlay bearing guaranteed interest, and on that interest, and I have the honor to request that you will be good enough to furnish me with a statement exhibiting the information required

2 The accounts in your office will, it is hoped, show what is the debt to the State which has accrued up to either the 30th June last, or to such other date which it may be found convenient to adopt for the calculation. Certain revenue receipts, though none of any large amount, will have to be deducted from the payments on account of interest made by the State, in estimating the amounts bearing interest in each half-year. The interest on capital will be that, viz, five per cent, fixed by the contract. The interest on payments on that account is to be calculated at four per cent, the supposed market rate

3 Besides the account above referred to, there is the loan account £600,000 were advanced to the Company by the Secretary of State under the Supplemental Contract, and it would seem to be necessary, though this point has not been mentioned in the reference made to me, to deal with the interest to which has accrued upon this loan and with the interest upon that interest in the same way as with the guaranteed interest on the original capital of the Company. You have received advice of the repayments made by the Company of the several instalments of the loan, and probably you will be able, therefore, to make the necessary calculations

4 The question then is what income will suffice to cover these charges and to meet the current working expenses of the canal, which latter may be taken at the sum entered in the current year's budget, though of course with the spread of irrigation, the annual expenses would be certain to increase, this increase might possibly, however, not be very large as additions to establishment would be in the subordinate grades chiefly

5 Any information which the records of my office may be able to afford can be made use of by you

- No 232 From R K WILLIAMS, Esq, Officiating Examiner of Railway Accounts, to Lieutenant-Colonel JOHN MULLINS, R E, Chief Engineer for Irrigation and Joint Secretary to Government, dated Madras, 24th October 1874, No 663-I

With reference to your letter, No. 71, dated the 29th September, received on the 20th instant, I have the honor to submit, herewith, three statements marked A, B and C

2 Statement A shows the amount of income required by the Madras Irrigation and Canal Company to meet working expenses, interest at five per cent on the guaranteed capital, interest at four per cent on the past net payments by the State of guaranteed interest and losses in working with simple interest thereon at four per cent to the 30th June 1874, and interest at four per cent upon the interest taken at four per cent. accrued upon loan account to the 30th June last with simple interest thereon to the same date. This is understood to be the information called for in your letter.

3 The interest payable by the Company upon the loan granted by the Secretary of State is five per cent, and Statement B has, therefore, been prepared, and is the same as Statement A except that the amount which fell due to the State each half-year for interest upon loan has been calculated at the contract rate of five per cent instead of at four per cent as in Statement A, and that an addition has been made to show the amount which would be required to pay also a dividend of four per cent upon the loan capital.

4 The Company's contract does not, however, contemplate the payment of interest on the advances made by the State for guaranteed interest and for working expenses, and similarly it is not provided in the supplementary contract that the amount falling due to the State by way of interest upon loan shall bear interest against the Company until payment. Consequently, it has been thought well to prepare also Statement C, which exhibits the income necessary to enable the Company to meet its current obligations to the State, to pay a dividend of 5 per cent upon its unguaranteed capital in accordance with clause 23 of the contract, and to discharge the debt which has accrued to the State up to the 30th June last, within a given number of years.

5 In preparing these statements, the calculations have been made up to 30th June 1874. Where the guaranteed interest paid each half-year was required, it has been deduced by dividing the amounts shown as paid each year in Government of India letter published with G.O., No. 2,587, dated the 4th November 1872, this being apparently the only information here in respect to payments of guaranteed interest, and in respect to loan, as the day of the month in which the advances were made is not shown on the returns received in India, interest has been calculated from the first of the succeeding month to the 30th June 1874, or when the debenture has been repaid, to the close of the month in which the repayment was made. Though the result thus obtained may not in some instances be strictly correct, it is no doubt a sufficiently close approximation for the purpose required. The net result of each half-year's working up to the 31st December 1873, as exhibited in the Company's Revenue Accounts, has been where a profit deducted from, and where a deficiency added to, the payments of guaranteed interest. The Revenue Account for the half-year ended the 30th June last has not been completed, and as it is thought the balance either way will not be such as to appreciably affect the calculation, and I have no means at present to hand of estimating the result with accuracy, it has not been taken into account.

6 In Statements A and B simple interest only has been calculated upon the advances of guaranteed interest and working expenses and upon the interest due each half-year upon loan. This is understood from your letter to be what is

required, and is in accordance with the contract of the guaranteed railways, in which any interest upon the advances of guaranteed interest was provided for.

7 The budget estimate of revenue expenditure for the current year is Rupees 1,82,900, but the new rules of apportionment will throw upon revenue a larger proportion of the general management than is included in this sum. Providing for the whole of the general management as a revenue charge, brings the estimate up to Rupees 1,93,900. The working expenses have, therefore, been taken at a round sum of Rupees 2,00,000, which, it may be noticed, is Rupees 25,000 less than the figure quoted in the Government of Madras letter to the Government of India, No. 1,922, dated the 16th July last. Judging from the actual expenditure in 1873, which amounted to Rupees 1,41,850, and after allowing a sum of Rupees 13,000 for the increased proportion of general management to be borne by revenue this year, it would seem probable that there will be a saving this year upon the estimate of Rupees 2,00,000, which, together with the eventual reductions contemplated by Government in the cost of general management, should, no doubt, in a very great measure, meet the more extensive repairs and additional establishments which would be required by extended irrigation. This, however, leaves out of account the London Board's expenses, which amount to about Rupees 40,000 per annum, and should be met now principally from Revenue, and probably, therefore, Rupees 2,25,000 or Rupees 2,50,000 would be a more correct estimate.

8 The contract with the Company does not appear to cease by the effluxion of time. With most of the guaranteed railways the contract is for ninety-nine years, and in Statement C eighty-three years, the balance of a term of ninety-nine have been allowed for the discharge of the present debt to Government. Under the supplementary contract, the interest on loan form a first charge against the net profits of the Company, so that no dividend on unguaranteed capital could be paid until the debt had been discharged, but as the debt to the State for guaranteed interest would, meantime, go on increasing, this would not appreciably affect the statement.

9 It may be observed that the amounts shown in Statements A, B and C are equivalent, respectively, to annual charge per acre of Rupees 518, Rupees 644, and Rupees 547 upon the 200,000 acres, for the irrigation of which, it would appear from the letter to the Government of India quoted above, the canal was designed and constructed.

STATEMENT A

Madras Irrigation and Canal Company

Annual sum required to meet working expenses, guaranteed interest, interest on past payments of guaranteed interest with simple interest thereon, interest on interest on loan, &c., to 30th June 1874

Working expenses	£	20,000
Guaranteed interest, 5 per cent on £999,666	£	49,983
Past payments of guaranteed interest to 30th June 1874,	£	652,193
minus net profits, plus deficiencies in working		
Simple interest thereon at 4 per cent to the 30th June 1874	£	62,564
Interest at 4 per cent on	£	714,757
Interest on loan at 4 per cent accrued to 30th June 1874	£	114,310

*Proceedings of the Madras Government, Public Works Department,
9th February 1875.*

Simple interest at 4 per cent. thereon to 30th June 1874	£	12,244
Interest at 1 per cent on	126,514	5,062
= at 2s per Rupee	Annual sum required	103,635

MADRAS,
24th October 1874

(Signed) R K WILLIAMS,
Offg Examiner, Railway Accounts

STATEMENT B

Madras Irrigation and Canal Company

Annual sum required to meet working expenses, guaranteed interest, interest on past payments of guaranteed interest with interest thereon, interest on interest on loan at 5 per cent with simple interest thereon at 4 per cent to 30th June 1874, and to pay a dividend of 4 per cent. on unguaranteed capital

Working expenses	£	20,000
Guaranteed interest at 5 per cent on £299,666	£	49,983
Past payments of guaranteed interest to the 30th June 1874	£	632,193
Simple interest thereon at 4 per cent to 30th June 1874	£	62,564
Interest at 4 per cent on	714,757	28,590
Interest on loan at 5 per cent. accrued to 30th June 1874	£	142,887
Simple interest at 4 per cent thereon to 30th June 1874	£	15,305
4 per cent interest on ..	1,812	6,327
Total	£	101,900
Interest at 4 per cent on unguaranteed capital £600,000 ..	£	24,000

= at 2s per Rupee ..	Annual sum required	128,900
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MADRAS,
24th October 1874

(Signed) R K WILLIAMS,
Offg Examiner, Railway Accounts

STATEMENT C

Madras Irrigation and Canal Company

Annual sum required to meet working expenses and guaranteed interest, to pay a dividend of five per cent on loan capital, and to discharge its present debt to the State in a period of eighty-three years

Working expenses	£	20,000
Guaranteed interest	£	49,983
Present debt to State—		
Past payments of guaranteed interest and working expenses up to 30th June 1874	£	632,193
Interest on loan to 30th June 1874 at five per cent	£	142,887
1/2 of	795,080	9,579
Interest on unguaranteed capital £600,000 at five per cent ..	£	30,000

= at 2s per Rupee	Annual sum required	109,520
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MADRAS,
24th October 1874

(Signed) R K WILLIAMS,
Officiating Examiner, Railway Accounts

*Proceedings of the Madras Government, Public Works Department,
9th February 1875.*

No. 233. ORDER THEREON, 9th February 1875, No 371.

IRRIGATION, No. 10

His Excellency the Governor in Council resolves to communicate these papers to the Chief Engineer and Manager, Madras Irrigation and Canal Com-

pany, and to the Collectors of Kurnool and Cuddapah, with a view to the further discussion of the several points referred to so that the best opinion possible may be formed of the financial prospects of the Company's canal

2 It is desirable that the area commanded by the canal in Cuddapah, as well as in Kurnool, should be ascertained, and it will be of advantage if in particular villages, and particular tracts of country, the areas commanded and those actually irrigated be compared, as by so doing valuable light will, it is thought, be thrown upon the relation which these are likely to bear to each other, especially if in the examples which may be adduced, the description of soil be duly noticed

3 It will be necessary to remember that, although the canal was designed to irrigate 200,000 acres, this is not really the maximum area which can ultimately be watered, and it is not the area on which the revenue should be calculated at an average rate. The 200,000 acres were supposed to consist entirely of rice cultivation, which would have commanded a rate approximating to the maximum of 6 Rupees, but arrangements have since been made, based upon the circumstances of the country traversed by the canal, for irrigating various classes of crops at rates proportioned roughly to the supply required by them, and, should these arrangements succeed, the area of irrigation will probably much exceed 200,000 acres; but what will be the ultimate average rate must necessarily, for a long time to come, be a matter of opinion only.

4 Proceeds from Navigation may also properly be considered, and on this point nothing has been said in the foregoing papers. It must be remarked, however, that until the details of the arrangements reported to be under the consideration of the Secretary of State and the Company, or those finally decided upon, shall be known, it will be doubtful whether any assistance in meeting existing liabilities will be derivable from this source.

(True Extract)

Colonel, R.E.,

Secretary to Government.

To the Chief Engineer for Irrigation.

„ Manager, Madras Irrigation and Canal Company.
„ Revenue Department
„ Examiner, Irrigation Accounts.

Exl W H French.

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GOVT. OF INDIA: SECRETARY.

PUBLIC WORKS.

To

THE CHIEF ENGINEER FOR IRRIGATION,

Madras.

Dated Madras 29th Feb.

Recd

1st

G. O., 10th Feb., 1874 No. 271

FEBRUARY.

No. 223 233

Madras Irrigation and Canal Company
1874 — Communicating cert in correspondence to the Company's Chief Engineer and to the Collectors of Kurrul and Cuddipah with a view to the further discussion of the several points referred to on the subject of the financial prospects of the Company's canal

Proceedings of the Madras Government, Public Works Department,

27th February 1874

Read the following papers —

No 574 From Colonel C. H. DICKENS, R A , Secretary to the Government of India, Public Works Department, (Account—Irrigation,) to Colonel G W WALKER, R E , Secretary to the Government of Madras, Public Works Department, dated Simla, 3rd October 1873, No. 234A I.

IN continuation of Public Works Department, No. 109 $\frac{1}{2}$ A I, dated 20th March 1872, I am directed to forward, herewith, copy of a despatch from the Secretary of State, No 61, dated 10th July 1873, in which it is intimated that it would be premature, at present, to require that the deficit in the Revenue Account of the Madras Irrigation and Canal Company should be made good from the guaranteed interest payable to the Company

2 I am to ask for a report of the views of the Governor in Council of Madras as to the mode in which Government may protect itself from paying at one and the same time the guaranteed interest and the loss in working the Company's Canals. It appears clear that the Government is not equitably bound to pay both.

3 I am also to ask whether it is probable that within any definite terms the returns to be derived from the canals will prove sufficient to cover their working expenses, and if so, whether any opinion can be given as to the number of years within which the works may be expected to pay 5 per cent on the capital expended in the construction of the canal, in addition to the sums advanced by the Government of India for working it, for if there are reasonable anticipations of the working expenses being exceeded by the year's receipt at an early date, it would be necessary to take the circumstance into consideration in arriving at a final decision on the question how the matter of present loss in working should be dealt with

Despatch from the Secretary of State for India, to the Government of India, Public Works Department, dated 10th July 1873, No 61.

IN your Excellency's letter, No 40, of 8th April last, forwarding the budget estimate for 1873-74 of the Madras Irrigation and Canal Company, and copy of the orders passed thereon, it is stated that the revenue operations of the Company are expected to result in deficits of £ 6,000 during 1872-73 and £ 12,000 during 1873-74, the actual deficit in 1871-72 having been £ 8,05, and that you propose to add these deficits to the charges for guaranteed interest in the Finance and Revenue Accounts of the year, but it is at the same time suggested for consideration whether they should not be recovered from the guaranteed interest payable to the share-holders

2 I apprehend, however, that this precise course cannot be adopted consistently with the terms of the Company's contract, which provides for deduction from guaranteed interest in no case whatever, except the solitary one of the Company having failed to keep their works in repair, and expenses having thereupon been incurred by Government in the repair of the works. The same thing in effect might perhaps be done by refusing the Company any grant in-aid of working expenses, and leaving them to meet, as they best could, any excess of those expenses over receipts, and it may possibly hereafter become a question whether that course should not be adopted. For the present, however, its adoption would be premature. The Irrigation Company's Canal, equally with irrigation canals constructed at the expense of the State, will probably have to wait for some few years, in order that its water may grow into extensive demand, and the share-holders may reasonably expect your Government to wait also for a while before mulcting them on account of deficits, which are part of the experience of many, if not of most, irrigation works in their early years

*Proceedings of the Madras Government, Public Works Department,
27th February 1874.*

REFERRED to the Chief Engineer for Irrigation, with a view to his furnishing such information as will enable the Government to reply to the inquiries of the Government of India

(Signed) G. W. WALKER, Colonel, R.E.,
16th October 1873, Secretary to Government, P.W.D.

No 575 No 57
MEMORANDUM

THE Government of India desire to be informed whether it is probable that, within any definite term, the returns to be derived from the Madras Irrigation and Canal Company's Canal will prove sufficient to cover the working expenses. There is no evidence on which a reliable opinion on this point can be formed. All that is known is that the area of irrigation is extending, but at a much slower rate than has hitherto been usual, when irrigation works have been so far completed as to render a supply of water available.

2 The following are the particulars of irrigation from the commencement up to 1872-73 —

Year	KURNOOL			CUDDAPAH			TOTALS		
	Areas	Revenue		Areas	Revenue		Areas	Revenue	
1863-64	18 36	RS	A P		RS	A P	18 36	RS	A P
1864-65	192 59	73	6 3		766	3 0	192 59	766	3 0
1865-66	816 00	3,714	5 3		816 00		816 00	3,714	5 3
1866-67	1,396 13	10,162	7 4		1,396 13		1,396 13	10,162	7 4
1867-68	1,138 86	11,213	15 9		1,138 86		1,138 86	11,213	15 9
1868-69	2,036 04	10,968	8 6		2,036 04		2,036 04	10,968	8 6
1869-70	1,998 13	10,491	4 8		1,998 13		1,998 13	10,491	4 8
1870-71	2,646 69	7,827	5 9		2,646 69		2,646 69	7,827	5 9
1871-72	5,218 19	21,648	11 10	3,322 15	11,922	8 7	8,540 34	33,571	4 5
1872-73	7,510 33	32,703	3 2	8,518 33	17,313	6 2	11,028 66	50,016	9 4
Total	22,971 32	109,567	7 6	6,840 48	29,235	14 9	29,811 80	138,803	6 3

So far as is known from the reports of the Company's Officers the area of irrigation in 1873-74 is likely to be—

In Kurnool	Acres 5,500
„ Cuddapah	„ 7,000
Total ..	12,500*

Judging from the past it will be still many years before the canal will be likely to pay the working expenses, which for the current year are estimated to amount to, in round numbers, 1½ lakhs, so that the area of irrigation must be extended to 40,000 acres to produce an equivalent revenue

3 As the Government are aware, the introduction of improved arrangements, and the revision of the rules relating to the supply of water from the Company's Canal, have for sometime past been under consideration, and it has

* Exclusive of 3 (0) acres of second crop, which cannot be relied on

*Proceedings of the Madras Government, Public Works Department,
27th February 1874.*

just been proposed that there should be a meeting at an early date to settle finally the draft before submitting these new regulations to Government for confirmation.

4 It appears to be however very questionable whether, if the State is to provide the money for the maintenance and working expenses of the canal, the necessary condition should not be that the Government should exercise a complete control and undertake the entire management. The cost of establishments would of course be much less were the canal under Government management, and moreover it would be practicable to make such changes in the charges for water, whether by way of experiment or otherwise, as might appear to be necessary to render its use popular and extended

FORT ST. GEORGE, (Signed) J. MULLINS, Lieut-Colonel, R.E.,
20th December 1873 Chief Engineer for Irrigation.

No 576 ORDER THEREON, 27th February 1874, No 512.

IRRIGATION, No 38

His Excellency the Governor in Council resolves to communicate the letter from the Government of India

to the Revenue Department with a view to the opinions of the Collectors of Kurnool and Cuddapah being obtained on the questions asked therein. The Chief Engineer and Manager of the Company will likewise be requested to favour the Government with his views on the important subjects noticed in that reference

2 The note by the Chief Engineer for Irrigation contains a statement of the revenue derived from the canal in each year up to 1872-73, and to this has been added a statement showing the revenue and the charges debited to revenue, or, in other words, the working expenses, side by side. The answer to be given to the question, when will the canal revenue cover the working expenses, manifestly depends upon the rate of extension of irrigation on the one hand, and on the amount of the working expenses on the other. On the former point the opinions of the Revenue Officers and of the Company's representative will be valuable; while on the subject of the lowest cost at which the canal can be efficiently maintained, the Chief Engineer and Manager's views will be of much service.

(True Extract.)

C. Walker Colonel, R.E.,
Secretary to Government.

To the Chief Engineer for Irrigation.
„ Manager Irrigation and Canal Company
„ Revenue Department

Exd E C Shunker
Spare Copies

Revenue Department
Govt. of 1874 Madras.
PUBLIC WORKS.

8. 7/2

To

THE CHIEF ENGINEER OF IRRIGATION.

&c, &c, &c

Dated February 27th

Recd. *March 3*

Encl.

G O, 27th February 1874, No 512

FEBRUARY.

Nos. 574-576

4-0-371-9-2-75

It was Irrigation Co. and Company's
Canal - Passing orders on letter from the
Government of India requesting certain
information respecting the Company's
Canal

8. 26

*Forwarded to the
Bd of Revenue for report
19 March 1874*

2/229

18. 11. 1874. No 5. 1. 79.

No. 3,037.

PROCEEDINGS OF THE BOARD OF REVENUE, dated 20th October 1874

Read the following letters —

From W. D. HORSLEY, Esq, Collector of Cuddapah, to J GROSE, Esq,
Secretary to the Board of Revenue, dated Sreerungarazupoliem, 25th
July 1874, No 170 —

With reference to Board's Proceedings, Miscellaneous No. 1,543, dated March
6th, 1874, I have the honor to state that I have as yet been unable to form an
idea of the rate at which irrigation under the Company's canal may hereafter
extend In Proddatur the divisional officer says he cannot report till after the
settlement of the past fash's demand The Additional Deputy-Collector in
charge of Cuddapah Taluq says he cannot arrive at a conclusion on the subject

2 It is unnecessary for me to say what has been hitherto the annual increase
of irrigation, because the Board are already in possession of that information.
The future increase depends upon the character of seasons, the rates demanded for
water by the Company, and the method in which the Company works. When
rains are ample and seasonable, there is less demand for the Company's water,
because Government water is cheaper The Company's water-rates are at present
too high, and the ryots hesitate to take the water I believe that operations are
quite capable of being extended, but I doubt if this will take place under existing
circumstances The Company being allowed to work as it does is a mistake.
The ryots resist the demands of their officers, and are averse to their interference.
This gives rise to a spirit of antagonism which must be disastrous to the interests
of the Company. If the Company's servants must have something to do with the
works, their duties ought to be confined solely to keeping the canals in good order
and distributing water when asked to do so by Government officers. It would be
scarcely worthwhile for the Company to maintain an establishment for duties
thus limited, and if that is the case, Government officers could perform them.

3. The Company is in a false position in this country, and until it works on
a different system, it will not be popular with the people, and its operations will be
restricted.

From J HOPE, Esq, Acting Collector of Kurnool, to J GROSE, Esq, Secretary
to the Board of Revenue, dated 29th August 1874, No 332

With reference to Board's Proceedings, No 1,543, dated 6th March 1874,
communicating G O, No 512, dated 27th February, I have the honor to
submit a detailed statement, showing the extent of cultivation carried on under
the canal during the past eleven years, commencing from 1863-64 The figures
given by Colonel Mullins, in his memorandum embodied in the Government
order, include a large extent of A and B class lands (in the possession of the
Company) cultivated with dry crops. I have shown this separately in the return
now submitted, in order to give the Board and Government a more correct idea
of the area actually benefited by irrigation

2 As the Board are aware, various causes combined to retard the extension
of cultivation under the canal for several years. Up to 1870-71, the irrigation was

confined only to the first thirty or forty miles in Ramalkota and Nandikotkur Taluqs, and the area irrigated was not much over 1,500 acres. In 1871-72, water was let down the canal as far as Cuddapah, but the total area irrigated in the five taluqs through which the canal in this district passes—a distance of 151 miles—did not exceed 4,265 acres. In 1872-73, the cultivation amounted to acres 5,934, and in the year ending 30th June last, acres 6,972.

3. The bulk of this cultivation (acres 3,260) occurs in the Nandikotkur Taluq. Sirwell comes next with 1,528 acres, and after it, Ramalkota, with 1,274 acres. The two remaining taluqs Nandial and Koilakuntla, the richest in the district, show less than a thousand acres, although the "arable" land commanded by the existing channels is stated by Mr. Latham to exceed acres 81,960 (*vide* his letter, dated 14th August 1874, No 66. Copy enclosed). In the first-crop cultivation there is actually a decrease in both the taluqs, as compared with 1872-73 (acres 547 against 602). The soil in these taluqs is of the best Regur lying along the rich valley of the Kyndu River, and produces excellent dry crops. The ryots are consequently slow to betake themselves to the more laborious and expensive process of wet cultivation, and I fear many years must elapse before they begin fully to appreciate the advantages of irrigation. In Nandikotkur and Sirwell, the canal passes through a large extent of country consisting of the red and mixed soils, which are better adapted for wet cultivation than for dry, and there is every reason to hope that the extension of irrigation will be much more rapid here than in the three other taluqs affected by the canal. In Ramalkota, the irrigable area is very limited, being chiefly confined to a narrow strip of land situated between the canal and the river Toongabadra. The highest cultivation during the past eleven years amounted only to 1,335 acres (under first crop). This was in 1866-67, before the water-rate was increased from 4 Rupees to 6 Rupees an acre. Since that year, the first crop cultivation has been gradually decreasing. In 1872-73, it rose to acres 1,246, but last year it fell again to acres 903.

4. In order to cover its working charges, the canal must yield a revenue of Rupees 1½ lakhs. It is only during the last three years that the canal has had a fair trial (water having been let down throughout its whole length), and in that period the revenue has increased by 86 per cent, and the irrigated area by 63 per cent. The revenue for 1873-74, including the assessment on A and B class lands cultivated with dry crops (Rupees 1,760), and the contribution paid by the Kurnool Municipality for the supply of drinking water to the town (Rupees 4,000), amounted to Rupees 39,259, showing an increase of only 6,556 over the revenue of 1872-73. Under the stimulus likely to be given to wet cultivation by the rules recently sanctioned by Government, it may be hoped that the rate of extension of irrigation in this district will be maintained at from 3 to 400 acres per annum in each of the two most favorably situated taluqs, Nandikotkur and Sirwell, and perhaps half that extent in Nandial and Koilakuntla. Of course, the rate of increase is likely to be greater in some years than in others, but the above, in my opinion, will be about the average annual increase. In Ramalkota, the highest cultivation will not probably exceed 1,500 acres.

5. Briefly, then, it may be roughly estimated that in about 10 years time, the irrigated area would amount to—

4,000	Acres in Nandikotkur Taluq
3,000	" in Sirwell do
2,000	" in Nandial do
1,500	" in Koilakuntla do
600	" in Ramalkota do
11,100	Total increase
5,000	Add existing 1st-crop cultivation
16,100	Total for the District

I do not think that much improvement can be expected in the second-crop cultivation, so long as the supply is necessarily more or less uncertain. The total area now amounts to a little over acres 590, and is probably not likely to exceed twice that extent. As regards floodings for dry crops, it seems hardly likely that canal water will be applied for, to any large extent, except in seasons of drought. In ordinary years, I do not think the area thus irrigated would greatly exceed 2,000 acres. During the last three years, it averaged only 1,396 acres.

6. Assuming that the obstacles to the development of irrigation are not greater (if not less) in Cuddapah than in this district, and that no serious accidents occur to the canal to disturb the confidence of the ryots, I think it may fairly be expected that, in about ten, or, at most, twelve years, the revenue under the canal will prove sufficient to cover its working expenses.

7. I beg to enclose copy of the Special Deputy-Collector's letter on the subject, from which it will be observed that that officer anticipates that the result will be accomplished in about twenty-five years.

ENCLOSURE No 1.—Statement

ENCLOSURE No 2

From A. RAMACHENDER ROW, Deputy-Collector, to J HOPE, Esq., Acting Collector of Kurnool, dated Nandial, 19th June 1874, No 59

With reference to your endorsement,* No 102, dated the 16th March last, at the foot of Board's Proceedings, Miscellaneous No 1,543,

* Reminded by Docket No 547, dated 6th instant. dated the 6th idem, communicating Government Proceedings, No 512, dated the 27th February preceding, I have the honor to submit the following report

2. The Government inquire whether it is probable that the working expenses of the canal of the Madras Irrigation and Canal Company would be covered within a definite term by the revenue under the canal, and if so, whether any opinion could be ventured as to the number of years within which the returns would pay 5 per cent on the capital expended in the construction of the canal, in addition to sums expended by the Government of India for working it.

3. To arrive at a correct conclusion on this important subject, the results of past years should be carefully studied together with the circumstances attending them.

4. The cultivation of the past ten years,† that is, from the very commencement of the undertaking, is given in the note‡ by the Chief Engineer for Irrigation, but not the working

† From 1863-64 to 1873-74.
‡ Published in the G O.
expenses in each year. The estimate of the working expenses for 1873-74 is stated in round numbers to be Rupees 1½ lakhs.

5 It should be remembered that the past cultivation can be no correct guide for judging the rate of extension for the future. It was only during 1871-72 that water in the canal ran the whole length, and during the earlier years, canal water was supplied bit by bit. The Draft Rules of 1864 were not sufficiently comprehensive as to afford the readiest means of the settlement of claims for compensation on account of damages of various sorts, such for instance, the question of "leakage," "choudu" and the like. The breaching of the canal bank in 1870, in various parts, cut off the supply to fields then under irrigation, and destroyed many valuable crops and lands. All these circumstances tended to induce the ryots, unaccustomed to irrigation and its benefits, to be wary in carrying on such cultivation during the period under notice. A sort of distrust in the steadiness of the supply of water seems to have also, at one time, deterred the ryots from being engaged in wet cultivation.

6 All these causes, in a great measure, are either removed or do not exist. The Company's works have stood out well the subsequent monsoons, which luckily have not been so heavy. The Draft Rules recently framed by the Committee at Cuddapah, and submitted for the sanction of Government, contain many valuable provisions for encouraging the extension of cultivation under the canal, the annoying leakage question has been fairly dealt with, progressive cowle rates for lands newly irrigated have been proposed, and every facility has been given to the ryots for putting in their applications. The Government and the Company have scrupulously been watching the interests of the ryots, their village roads and field paths, intersected by the canal and its numerous branches, are looked after, and tunnels and bridges are being constructed. The ryots have likewise had occasion to see the great aid that the canal affords during a season of dearth. There is, therefore, every reasonable probability of the ratio of annual increase in cultivation being much greater than in former years, but what this ratio would be, it is not easy to estimate. In my humble opinion, the cultivation of (40,000) acres would be an accomplished thing (25) years hence.

7 But as to the covering of the working expenses by the returns, much depends upon the economy with which the canal affairs are conducted.

8 There is no reason why the charges of the maintenance of establishments should not be curtailed. Most of the large works on the main line, I believe, are completed, and the charges on that account may not be what they have been hitherto. The Company's Chief Engineer, whose opinion has also been invited by Government, is the best judge on this head.

(True Copy)

(Signed) J HOPE,
Acting Collector

ENCLOSURE No 3

From J H LATHAM, Esq., Chief Engineer and Manager, Madras Irrigation and Canal Company,
to J HOPE, Esq., Acting Collector of Kurnool, dated 14th August 1874, No. 66.

Land commanded

I HAVE the honor to reply to your letter No 111 of yesterday, that I have not seen G O. No 512 of 27th February, but that, roughly, the area commanded in each taluq in square miles, and the arable average, if estimated at 300 acres per square mile, are as follows —

Square miles	Taluq	Acres
5	Ramalkota	1,500
81 12	Nandikotkur above cut.	24,336
42 24	do below	12,672
123 36		37,008
116 40	Nandial	34,920
136 80	Sirwell	41,040
156 80	Konkuntla	47,040
		161,508

It is difficult to answer a question which the Government, in asking, hardly understand, or, at least, hardly make clear. The land we can supply this year, the land we can supply when the channels are made which are now being mapped completely, that we can supply by a slight expense in enlarging old channels, that we can supply all at once, and that we can supply as dry crop all at once, these are all widely different quantities.

3 The above estimate probably is below the real quantity of arable land which will ultimately be commanded by our present channels when field channels are complete, and is also about as much as we can supply with water at once without enlarging old channels, as it is also a full share of our possible irrigation as compared with Cuddapah.

I have no means of giving you actual areas in villages until the present surveys are complete.

(True Copy)

(Signed) J HOPE,
Acting Collector

SUBMITTED to Government with reference to G O, dated 4th March 1874, No 26, and 15th May 1874, No 104.

2. The question before the Board is as to how long it will take for irrigation under the Irrigation and Canal Company's Canal to extend sufficiently for the working expenses to be covered by the receipts.

3 The Collector of Kurnool is of opinion that if the obstacles to irrigation are no greater in Cuddapah than in Kurnool, and if no serious accidents to the canal occur, disturbing the confidence of the ryots, "it may fairly be expected that in about ten, or, at most, twelve years the revenue under the canal will prove sufficient to cover its working expenses." The Deputy-Collector of Kurnool thinks that equilibrium will be obtained, or rather that 40,000 acres will be irrigated in twenty-five years, but he makes no allusion to Cuddapah, and probably means 40,000 acres in Kurnool alone. The Collector of Cuddapah says that he and his officers cannot form any idea of the rate at which irrigation will be extended, and is apparently sceptical of any important extension under existing circumstances. He thinks that the water-rates are too high, and that the communication between ryots and the Company's officers gives rise to ruinous antagonism.

4 It seems clear to the Board that there are not sufficient data on record, and that any calculation of the probable increase of irrigation in future years must be based on mere conjecture. Though irrigation began with 18 acres in Ramalkota in 1863-64, water was not passed down beyond the first thirty or forty miles till 1870-71, and did not get as far as Cuddapah till 1871-72. The breaching of the canal banks in 1870 destroyed the confidence of the ryots for a time. Altogether it may be said that there is but one year, 1873-74, which shows normal results.

5 Again, the rules of 1864 were not sufficiently definite and comprehensive and never became familiar to the people. The new rules lately sanctioned by Government will produce a great change.

6 The water-rate has varied. From Colonel Rundall's report it appears that in the neighborhood of Kurnool, where the soil is pure Regada, water is readily taken at Rupees 6 an acre, and this convinces him that the rate is not too high. On the other hand, Mr. Hope points out that the area under irrigation has

steadily declined in Ramalkota since the rate was raised from Rupees 4 to 6 in 1866-67. The Board have expressed an opinion that Rupees 6 is too high a rate and represses irrigation in previous Proceedings. Though the new rules retain Rupees 6 as the maximum rate, they are in many respects more liberal than the old rules, and provide for the full rate to be gradually imposed. Moreover, they arrange for watering *dry* crops on equitable terms. The rate of increase is likely therefore to be different in future years from what it has been in past years.

7 Government have resolved to open navigation on the canal, and this will probably give an impetus to irrigation. Should it be found that rice is more valuable for export to other districts than *dry* grains, navigation will tend directly as well as indirectly to increase the culture of rice.

8 If reservoirs are made, so as to secure water for second crop, as Colonel Randall advises, there will be an increase of irrigation on this account, but the Board are very doubtful as to the expediency of constructing reservoirs. They would be very costly, and unless irrigation was greatly increased in consequence of them, their cost would never be repaid. How great the increase would be, it is impossible to tell, but past experience is not encouraging. In the Godavery and Kistna Deltas, second crop is very rare, but water for a single crop has been taken readily, so that it cannot be held that second crop water is essential to the success of irrigation works in this country.

9 Considering the short period of time during which the canal has been in full working order and working under normal conditions, the changes that have been made in the water rate, the impossibility of foreseeing the effect of the new rules, superior in most respects to the old ones, and likely to become better known by the people, and the projects for navigation and reservoirs which are still in their infancy, the Board cannot express any confident opinion about future prospects. They hope the estimate of the Collector of Kurnool may be accepted, but cannot divest themselves of fears that it is too sanguine. They feel no doubt but what the chances would be much better if the canal were managed by Government. The readiness of the ryots to take water would be immensely increased, and the working expenses of the canal would be greatly reduced if the canal were a Government canal.

10 In favor of the canal there are the facts that the works have become consolidated, that the result of Colonel Randall's inspection inspires confidence, and that the new rules, and the new projects now under consideration, are likely to develop its usefulness.

11 On the other hand it must be remembered that for the first seventy miles the canal is on most dangerous ground. It is a contour work running along the steep sloping ground which forms the valley of the Toongabadra, and it is to be feared that a heavy flood like that of 1870 would breach the banks again, render the canal useless for a time, and rudely shake the confidence of the people. The levels of the canal are in many places very low, and the country through which it passes is for a great extent thinly peopled. The land is often unsuited for irrigation, as in the case of the richest Regada where

the ryot easily ploughing dry land with splendid bullocks, and reaping annually a remunerative crop of *jonna*, hesitates to undertake the cultivation of rice, which involves the toilsome ploughing up of mire with wretched buffaloes, dangers of "Soudoo," and above all the exchange of a certainty for an uncertainty. In the Kistna Delta, it may be mentioned as an example, that a good deal of the best Regada has been re-converted from *wet* into *dry*. The Board know of a large village called Kollur on the western bank of the river in the Repally Taluq where the ryots absolutely refused to take water, though an expensive *calingulah* had been built specially to accommodate them. There are, however, differences in the Regada soils, unknown to any, but those actually engaged in cultivation, and some of them are undoubtedly fit for irrigation. The ryots may be trusted to find this out, and to take water when it will pay, but Rupees 6 an acre is too high a rate for soil which grows first-class *dry* crops without irrigation.

(True Copies and Extract)

J. G. Gode

Secretary.

To the Acting Secretary to Government, Revenue Department,
with one original statement to be returned

.. the Acting Collector of Kurnool
.. the Collector of Cuddapah.

Exd W H French.

1874 March/74 No 26 No.
15 May/74 - 1874 No.

P. W. 1874 F. 26 No.
No. 1061 A
Dec 1874. Dept
Board of Revenue,
MADRAS.

Transferred to the

No Sept with reference
to the orders in that
Sept of 27 February &
23 May 1874, No 372
+ 1170

W. L. 1874

By. Secretary/Secy

Can 238.

C. 12/10/75

PROCEEDINGS, 20TH OCTOBER 1874, No 3,037

Encl. 2-30 (a) 1874
Recd. 7 Nov.

Received 21.10.75

OCTOBER.
No 3,037

Irrigation Company's Canal—in Cuddapah
and Kurnool Districts—Reports from Collectors
as to how long it will take for irrigation
under—to extend sufficiently for the working
expenses to be covered by the receipts, sub-
mitted to Government with remarks

8-0-871-9-2-75
Transferred

show the outline and more fully exhibiting the whole, which may be calculated of matter to amount in interest paid must 700 and 50 interest

DeLamont & Co. having the area commanded by the land, and the adjacent area and
 Census under it from the 1863-64 to 1893-94 in the District of Columbia.

21

Area between Green Lane Green Lane Green Lane Green Lane Green Lane Green Lane

Table. — Census 1863-64 1864-65 1865-66 1866-67 1867-68 1868-69 1869-70 1870-71 1871-72 1872-73 1873-74 3 years.
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Parish St.

18-36	186-64	188-65	183-64	99	110	9	91	21	604	99	649	87	842	56	1245	72	902	98	199	19
23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Headings	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

This includes 783 under
 irrigation tank for which no rate was paid.

St. John's

18-36	186-64	188-65	183-64	99	110	9	91	21	604	99	649	87	842	56	1245	72	902	98	199	19
23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Headings	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

St. Andrew

18-36	186-64	188-65	183-64	99	110	9	91	21	604	99	649	87	842	56	1245	72	902	98	199	19
23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Headings	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

St. Nicholas

18-36	186-64	188-65	183-64	99	110	9	91	21	604	99	649	87	842	56	1245	72	902	98	199	19
23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Headings	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

St. George

18-36	186-64	188-65	183-64	99	110	9	91	21	604	99	649	87	842	56	1245	72	902	98	199	19
23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Headings	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

St. James

18-36	186-64	188-65	183-64	99	110	9	91	21	604	99	649	87	842	56	1245	72	902	98	199	19
23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Headings	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

St. Peter

18-36	186-64	188-65	183-64	99	110	9	91	21	604	99	649	87	842	56	1245	72	902	98	199	19
23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Headings	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

DeLamont & Co.
 Collectors of
 the District of Columbia
 1893-94

C. 12, 10/1/75

Washington

of State under the Supplemental Contract,
and it would seem to be necessary, therefore, that
provision not have been mentioned in the reference
made to me, to deal with the interest which
has accrued upon this loan & with the
interest upon that interest, in the same
way as with the ^{guaranteed} interest on the original
Capital of the Company. You have received
advices of the repayments made by the Company
of the several instalments of the loan &
probably you will be able therefore to make
the necessary calculations.

4 - The question then is what income will
~~be sufficient to cover these charges and to meet~~
~~the current working expenses of the Canal,~~
which latter may be taken at the same
amount as ^{the current} last year's Budget, during the
course with the spread of irrigation the
Annual income is unlikely to increase,
this increase might possibly however with very large
~~the present income is not to meet very great extent~~

In addition to establishment would be in
the subordinate grades chiefly. Any
5 Any information which the needs of this office may
be able to afford to the Comtee by. 29/9/76 made up by you.

1. The interest on the loan is not covered
2. The interest on the loan is not covered
3. The interest on the loan is not covered

This letter can be signed by Major Scott
for the Comtee by J.
No 131

From Examr 24 Oct 74
028: 294. *W. J. J.*

To
Govt. Examiners
Re S. & C. Co's
Accounts.

Debit 27th Sept 1874.
Credit 19th Oct 1874.

Requests to furnish a
Statement showing the
income of the S. & C. Co.
to cover interest charges
on Capital outlay bearing
guaranteed interest and
on that interest.

N^o 231-

f-v-371-9-2-75

C. 12 Jan 1875

Statement C.

31 10

Maracas Irrigation & Canal Company.

Annual sum required to meet Working expenses & guaran-
teed interest, to pay a dividend of 5 percent on Loan Capital
and to discharge its present debt to the State in a period of
83 years

	£	£
Working Expenses		20 000
Guaranteed Interest		49 983
Present debt to State		
Past payments of Guaranteed interest and working expenses to 30 th June 1874	652 193	
Interest on Loan to 30 th June 74 at 5 percent	142 887	
1/83 of	795 080	9 579
Interest on Unguaranteed Capital £600 000 at 5 percent		30 000
Annual sum required		£ 109 562
at 2 1/2% per paper		Rs 10 95 620

Maracas:
24th October 74

E. J. J.

R. Williams
Offg Examiner Railway Accs.
Maracas

No. 6638.

10 33 3

EXAMINER RAILWAY ACCOUNTS' OFFICE

Madras, 24th October 1874.

From

THE EXAMINER RAILWAY ACCOUNTS,
MADRAS.

To

The Chief Engineer for Irrigation
and Joint Secretary to Govt.
Fort St. George.

SIR,

With reference to your letter dated the 29th September received on the 28th instant, I have the honor to submit herewith three statements marked A.

B. and C.

2. Statement A shows the amount of income required by the Madras Irrigation and Canal Company to meet working expenses, interest at 5% on the Guaranteed Capital, interest at 4% on the past net payments by the State of Guaranteed interest and losses in working with simple interest

Exo 2/294/74.

interest thereon at 4% to the 31st June 1898,
and interest at 4% upon the interest
taken at 4% accrued upon Loan account
to the 31st June last with simple interest
thereon to the same date. This is under-
stood to be the information called for
in your letter.

3. The interest payable by the
Company upon the Loan granted by the
Secretary of State is 5% and statement
B has therefore been prepared and is the
same as statement A except that the
amount which fell due to the State each
half year for interest upon loans has been
calculated at the Contract rate of 5%
instead of at 4% as in statement A. and
that an addition has been made to show the
amount

35 4
amount which would be required to
pay also a dividend of 4% upon the
Loan Capital.

4. The Company's Contract does
not, however, contemplate the payment
of interest on the advances made by the
State for guaranteed interest and for
working expenses, and similarly it is
not provided in the Supplementary
Contract, that the amount falling due
to the State by way of interest upon loans
shall bear interest against the Company
until payment. Consequently it has
been thought well to prepare also state-
ment C which exhibits the income
necessary to enable the Company to
meet its current obligations to the State
to pay a dividend of 5 per cent. upon
its

its Unguaranteed Capital in accordance
with Clause 23 of the Contract and to
discharge the debt which has accrued to
the State up to the 30 June last, within
a given number of years.

5. In preparing these statements
the calculations have been made up to 30
June 1874. Where the guaranteed interest
paid each half year was required, it has
been deduced by dividing the amount shown
as paid each year in Government of India
letter published with L.D. No 2587 dated
the 11 November 1873, this being apparently
the only information line in respect to
payments of Guaranteed Interest, and
in respect to Loan, as the day of the
month

37
months in which the advances were made
is not shown on the returns received in
India; interest has been calculated from
the first of the succeeding month to the
30 June 74 or when the debenture has been
repaid, to the close of the month in which
the repayment was made. Though the
result thus obtained may not in some
instances be strictly correct it is no doubt
a sufficiently close approximation for
the purpose required. The net result
of each half year working up to the 30th
December 1873, as exhibited in the Comptroller

Revenue Accounts has been where a
profit deducted from, and where a
deficiency added to, the payments of
Guaranteed Interest. The Revenue
Account for the half year ended ^{the} 30
June

June last has not been completed and as it is thought the balance either way will not be such as to appreciably affect the calculation and I have no means at present to hand of estimating the result with accuracy it has not been taken into account.

6. In Statement A & B simple interest only has been calculated upon the advances of guaranteed interest and working expenses and upon the interest due each half year upon loan. This is understood from your letter to be what is required and is in accordance with the Contract of the Guaranteed Railway in which any interest upon the advances of guaranteed interest was

was provided for.

The Budget estimate of Revenue expenditure for the Current year is Rs. 182,900 but the new rules of apportionment will throw upon Revenue a larger proportion of the General Management than is included in this sum. Providing for the whole of the General Management as a Revenue Charge brings the estimate up to Rs. 198,900. The working expenses have therefore been taken at a round sum of Rs. 20,000 which it may be noticed is Rs. 25,000 less than the figure quoted in the Government of Madras letter to the Government of India No. 1922 dated the 16 July last. Deducting from the actual expenditure in 1913 which

which amounted to \$2,100,000 and after allowing
a sum of \$15,000 for the increased proportion
of General Management to be borne by
Revenues this year, it would seem probable
that there will be a saving this year upon
the estimate of \$2,000,000 which together
with the eventual reductions contemplated
by Government in the cost of General
Management, should no doubt be a very
great increase in the more extensive
repairs and additional establishments
which would be required by extended irrigation.
This however, leaves out of account the
Southern Board expenses which amount
to about \$250,000 per annum and should
be met more principally from Revenues
and

be from the
General Revenue
of the State
G

41
and probably therefore \$2,250,000 or \$2,500,000
would be a more correct estimate.

8. The Contract with the Company
does not appear to cease by the effluxion
of time. With most of the Guaranteed
Railways the Contract is for 99 years, and
in Statement C. 83 years, the balance of a
term of 99, have been allowed for the
discharge of the present debt to Government.
Under the Supplementary Contract the
interest on loan forms a first charge
against the Net profits of the
Company, so that no dividend on the guaran-
teed Capital could be paid until the
debt had been discharged, but as the debt
to the State for Guaranteed Interest would
meanwhile go on increasing this would
not

not appreciably affect the statement.
 9. It may be observed that
 the amounts shown in statement B. B.
 and C. are equivalent respectively to
 annual charge per acre of £5.18. 0.0000
 and £5.47 upon the 200,000 acres for the
 obligation of which it would appear
 from the letter to the Government of
 India quoted above, the Canal was
 designed and constructed.

I have the honor to be
 Sir

Yours most obedient

W. H. Murray
 Off. Secy. to the
 Commr. of the
 Ry. & Ship
 Accounts

400,841-9-2-70

Statement of
 the annual
 expenditure
 of the
 Ry. & Ship
 Accounts

1874-75
 260-2-1574

W. H. Murray
 Off. Secy. to the
 Commr. of the
 Ry. & Ship
 Accounts

Railway Accounts,

M. H. M.

From
 The Examiner,
 29/9/1874

43

My dear Sir

Will you look at this
 draft letter to the Examiner &
 see if the way in which I have
 asked the question, an answer
 thereto is desired by him,
 will do. I think the Examiner
 will handle better than any one
 in our office to make the calculation
 and be in better stead and care
 maintenance of the works of our
 office

Yours sincerely
 W. H. Murray

29/9

My dear Mr. Walker & Mr. Walker
I am very glad to hear from you
and hope you are well. I am
well and hope you are well.
I am very glad to hear from you
and hope you are well. I am
well and hope you are well.
I am very glad to hear from you
and hope you are well. I am
well and hope you are well.

as a minute
 The way I want
 to put the matter is

Thus
 Guarantee Capital
 Addition of £100,000 to
 interest on £100,000 having
 been received yearly - £
 to charge & carrying earnings
 up to '187 -/-

Capital
 £100,000

annual dividend
 5% = £500,000

*
 4%

* here I take
 the market rate -

Total

Thus

the work must yield
a net income of £
per annum merely to cover
interest on its debt & to
state up to 187 - This
represents at 6 R per acre
an irrigated area of acres -
the area irrigated in that
year was acres - As
the debt is rapidly increasing
& maintenance & other expenses
have been rapidly the prospect
of the Canal being in

Statement A

27 1872

Mackay Irrigation Canal Company

Annual sum required to meet Working Expenses, Guaranteed Interest, Interest on past payments of guaranteed interest with simple interest thereon, Interest on interest on loan &c to 30th June 1874.

	£	£
Working Expenses		2000
Guaranteed Interest 5 percent on £ 999 666		49 983
Past payments of Guaranteed Interest to 30 th June 1874, minus Net profits, plus deficiencies in Working	£ 652 193	
Simple interest thereon at 4 percent to the 30 th June 1874	62 564	
Interest at 4 percent on	£ 714 757	28 59
Interest on Loan at 4 percent accrued to 30 th June 1874	114 310	
Simple interest at 4 percent thereon to 30 th June 1874	12 244	
Interest at 4 percent on	£ 126 554	5 06
Annual sum required		£ 103 635
at 2 ¹ / ₂ per paper		Rs 103635
Interest on £ 60,000 loan		12763

Mackay
24th October 74

E. J. Williams

Williams
Off Examiner Railway Accs
Mackay

Statement B

27
1874
Mackay Irrigation & Canal Company

Annual sum required to meet Working Expenses, Guaranteed Interest, Interest on past payments of guaranteed interest with interest thereon, Interest on interest on Loan at 5 percent with simple interest thereon at 4 percent to 30th June 1874, and to pay a dividend of 4 percent on Unguaranteed Capital.

	£	£
Working Expenses		20 000
Guaranteed Interest at 5 percent on £999 666		49 983
Past payments of Guaranteed Interest to the 30 th June 1874	652 193	
Simple interest thereon at 4 percent to 30 th June 1874	62 564	
Interest at 4 percent on	714 757	28 590
Interest on Loan at 5 percent accrued to 30 th June 1874	142 887	
Simple interest at 4 percent thereon to 30 th June 74	15 305	
4 percent interest on	158 192	6 327
Total		£ 104 900
Interest at 4 percent on Unguaranteed Capital £600 000		24 000
Annual sum required		£ 128 900
at 2 ^d per paper		£ 12 89 000

Mackay
21st October 1874
E. J. B.

Phillips
Off Examiner Railway Act.
Mackay

£6 No 371 of 9 Feb 1875

490
 It is now proposed
 to present to
 the Board of Directors
 a

Memorandum on the financial state and prospects of the Indian Irrigation and Canal Company.

1. The annexed letter
 from the Examiners
 of Railway Accounts
 explains clearly the
 details of the statements
 of the Company for the year
 1890-91, and (relating to
 the financial condition
 of the Indian Irrigation
 and Canal Company)
 which he has made out
 in compliance with a
 Memorandum from
 the Secretary of the
 Government.

2. The annexed letter
 from the Examiners
 of Railway Accounts
 explains clearly the
 details of the statements
 of the Company for the year
 1890-91, and (relating to
 the financial condition
 of the Indian Irrigation
 and Canal Company)
 which he has made out
 in compliance with a
 Memorandum from
 the Secretary of the
 Government.

2/24/34

26 Nov 31 79

2. In statement it is shown that the additions to the Capital charge, up to the 30 June, June 1874 for

1st Paid payment of gov.
 - wanted interest on the
 - one million or more, cor-
 - rectly £ 999,666 original
 - subscribed Capital acc.
 - funded, less net profits
 - and also deficiencies in
 - working and

2nd Simple interest accu-
 - mulated on the above
 - payments at 4 per cent.
 - Amounts to £ 410,407.

3. Further in respect of
 the subsequent loan of
 £ 600,000, the additions
 to the Capital charge in
 the ^{same} statement are entered.

1st for interest at 4 per cent
 on the several advances

has not been paid
 has not been paid
 has not been paid
 has not been paid
 has not been paid

made by the Govt of
 India, accumulating
 from the date of each
 advance 8 1/2 %

2nd for simple interest
 on the above accrued.
 - added interest due but
 not paid also at 4 per
 cent. And the total thus
 accruing on account of
 the loan is shown to
 be £ 126,500.

4. Thus the adding of the
 above to the Capital
 charge since the com-
 - mencement of the 2nd
 - change operations, up to
 the 30 June last amount
 to £ 814,511 and the total
 of the debts owing to
 the British Government

as shown below viz.

Original subscribed Capital - £977,666
Loan to the Company by Govt. " 600,000
Accruing Charges as above " 814,311

Total £3,413,977

5. The annual charges thereafter to be met are also exhibited. They provide for the payment of 5 per cent on the Shareholders' Capital and for 4 per cent interest on the loan and on the additions to the Capital charged up to the 30th June 1874, as well as for the working expenses, and amount in the aggregate to £127,635.

The

6. The last rendered revenue account exhibits a return of about 4½ Rupees (say 9 shillings) per acre irrigated, and on this basis the irrigated area required to meet the present annual charges is acres 283,630. By the last return it was about 11,000 acres or about one twenty fifth of the quantity required to balance liabilities. It must be borne in mind also that the Canal was constructed to carry water for a maximum of 200,000 acres only.

Is this the limit of the Capacity?
Does it command enough land
if the Capacity can be increased
at a moderate cost?

7. The present condition

of the undertaking in a
 financial point of view
 is obviously and eminently
 disastrous, and its pros-
 pects are almost equally
 unfavorable. It is certain
 that there can never be
 even a moderately fair
 return on the expendi-
 ture and capitalised
 arrears of interest &c.
 8. A forecast of the
 position of the company
 in a given period, say
 ten years, based on the
 most favorable ^{view} that
 present circumstances
 will admit of can be
 made with a reasonable
 degree of probability.

Landed - 1/2 acre each - In
 this one day in of great value

The indentant was that of
 this sum - I think

Acres 140000 @ 10 1/2 (50p) an acre
 are required to meet guarantee in
 level (£500000) + 1/2 by expense (£200000)
 total £700000

The working expenses
 entered in statements
 A B & C are exclusive
 of the expenses of the
 London Board which
 amount to £4000 per
 annum, but taking
 them at £20,000 as
 shown, it will require
 an extension of wet
 cultivation from 11,000
 acres (the present area)
 to 44,000 acres to cover
 them.

At the present rate of
 increase about 13 years
 would elapse before
 this result was attained,
 but taking a more
 sanguine view and
 assuming that the

The

aggregate receipts and
expenditure for working
expenses, during the next
10 years balance each other,
the financial position
in 1884 will be a Capital
liability of £3,553 354 and
the annual charge of
£14,213 4 for interest
and working expenses
as against a revenue
of say £37,000 from a
cultivated area of 82,222
acres giving with a net
return of 0.47 per cent
on the Capital or about
5.4 on every £100.

This is all too conjectural
to go much

The maximum revenue
which it is possible to
obtain from irrigation
being £90,000 or 2.5 per
cent

This is too sweeping a
statement has been made in the direction
of navigation.

cent on the Capital charge
at this date, it is evident
that if the principle is
adopted of carrying the
debit of the Capital account,
annually, unpaid, in-
terest calculated at
4 per cent the debit
must continually in-
crease, and in that
view the same ex-
penditure is completely
sunk.

g. In statement B, the
accrued interest on the
Loan already mentioned
is calculated at 5 in-
stead of 4 per cent
interest as in statement
A on the ground that

by the terms of their contract the Company were to pay interest at that rate. The increase is not of much moment under present circumstances and does not alter the general conclusion arrived at from a consideration of statement B.

10. Statement C exhibits a series of charges met annually by the Company. In these, simple interest on interest (paid to the shareholders and due for the loan) is not included because such charges are apparently not

contemplated by the contract.

The items are

- 1st Working expenses.
- 2nd Guaranteed interest on the original capital at 5 per cent.
- 3rd Payments in discharge of the debt for past payments by way of guaranteed interest, working expenses and past due interest on the loan at 5 per cent.
- 4th Interest on the loan at 5 per cent.

The payments entered as the 3rd item are calculated at the rate of $\frac{1}{83}$ of the total debt so as to extinguish it in 83 years or 100 years from the date of the formation of the

Company. The total an-
-nual charge is shown
to be £109,562 representing
an irrigated area of
243,471 acres which as
already shown cannot
be obtained.

Is this so? Has the area been
overestimated?

It is impossible under
any circumstances that
the Company can ever be
in a position to discharge
their obligations, even as
modified in the last
statement.

11. The current annual
loss of the Govt in re-
-spect of the Canal and
its works is ^{fairly} repre-
-sented by the following
sums.

Annual

Loss of the Company

Annual working expenses.
less average revenue — £10,000
Maintenance & Repairs — 5,500
Annual expenses of the
Canal Board (paid now
out of the balance of the loan) — 4,000
Guaranteed interest on
paid up Capital? — 49,983
Interest on Loan at 4 per cent. — 24,000
Total £93,483

also of profitable navigation
arrangements but it is certain
that the dividend on the money
lent on this branch of the
orig. design

It is not likely that any time
will be lost in the
from the canal in the
the canal is not likely
the canal is not likely
the canal is not likely
the canal is not likely

12. This loss is suscep-
-tible of diminution in
three ways, viz, by in-
-crease of revenue
from irrigation, by
reduction of expenses
of working and manage-
-ment, and by the pur-
-chase on favorable
terms of the rights of
the Company in the Canal.

As regards the first measures have been taken to promote extension of irrigation by the promulgation of new rules and by lowering the price of ^{water} and nothing more can be done at present.

The charges for working and management are admitted to be extravagant, and the functions of the Secretary and London Board are reduced to the discharge of ^{mere} formalities for which an annual outlay of £4,000 should no longer be allowed.

As regards the cost of the local Establishment

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the inconvenience of carrying out measures of reduction which would entail the loss of the services of the present experienced Manager and Chief Engineer at a critical period of the existence of the work - has prevented immediate action being taken but orders have been passed by the Govt. which will ensure a diminution of expenditure at the first opportunity.

13. The acquisition of the works by the Govt. on equitable terms, would

it is conceived result in
a saving of annual
outlay. By the terms
of the Agreement of June
1863, the Govt cannot
claim to take possession
before June 1888, and the
period during which
the Secretary of State has
guaranteed the payments
of interest at 5 per cent
on the subscribed Capital
would thus appear to ex-
tend to that date. Moreover
on taking possession
payment was to be made
to the Shareholders of the
value of their shares com-
puted at the average
market rate during the
previous three years.
Immediate purchase
and

This phase of the question must
be carefully worked out & laid be-
fore us - The value of shares
can be easily ascertained & the
calculation made - It is also
asked the experience of the purchase
of the Hawaiian Islands - Whether
there has been a real saving - I
believe that the first assured re-
sult will be the reduction of the
water rate

The Speculator was practically
a joint Spec: & the Speculators
are not divided

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on these terms and the
creation of an equivocal
- lent quantity of 4 per
cent Govt stock would
probably result in an
annual saving of about
£1000 -
On the other hand
and on an argument
against a concession
of such terms it should
be pointed out that
the Company have in
the course of their con-
nection with the Govt
contracted obligations
which they cannot
discharge -
Their debentures for the
repayment of the loan
of £600,000 are overdue.

They engaged also to pay in-
terest on the loan at 5
per cent although the obli-
gation is not entered on the
debenture and there was no
period fixed for payment
and no security beyond
making it, a first charge
on the Canal Revenue
after providing for working
expenses, maintenance and
Repairs. The Company
also covenanted to keep
the Canal and its works
in good working order
and in repair. They can-
not now fulfil any of
these engagements and
there is no probability of
their ever being able to do
so.

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15. By the 21st clause of
the agreement of June 1863,
the Govt. can, after due
notice, and on failure
of the Company to per-
form the last men-
tioned duty enter
in and execute the
repairs the cost of which
may then be set off
against any sum which
under the terms of the
agreement may be due
to the Company by the Sec-
retary of State, and con-
sequently as it would
thus appear against
any guaranteed interest
which may be due.
16. The refusal of the
Govt. to contribute

Further working expenses
and repairs would thus
probably eventuate in
the debiting of these ex-
penses against the guar-
anteed interest for the
Company have no power
to raise money in their
corporate capacity except
for the purpose of paying
off the loan and they have
no funds available to
meet the expenditure
referred to. Under these
circumstances the
shares would be depressed
to their real, instead of
being kept at a fictitious
value by the action of
the Govt, and the purchase
of

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of the Canal could be
made on better terms.

17. The Shareholders
would probably contend
that they entered into
their engagements and
contracted the obligations
referred to in the faith
of representations as to
probable returns which
although brought before
them by their own di-
rectors, yet were prac-
tically adopted and
endorsed by the Govt
of this country and
that it is not fair
to visit on them the
consequences of the

mistakes which have
been made.

There is undoubtedly
much in such an
argument which is
worthy of consideration
but on the other hand
it may be asked whether
the general public who
supply the revenue
which is at present
absorbed in maintaining
and working the Canal
and in paying interest
on unprofitable Capital
have no title to have
their interests taken
into account and whether
in a joint enterprise
which was necessarily

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to a considerable ex-
tent a speculation
the right of the Company
can be admitted to a
share of the profits
without at the same time
insisting on their li-
-bility to share also
the losses which have
resulted.

18. Whatever may be
the view taken of the
question above raised
it is evident that
opportunity exists
for the reduction in
a material degree of
the present annual
charge to the state
on

I am not
 in favor of hurried
 action in this matter
 & would not anticipate
 the dispatch promised
 at the end of another
 year's trial. As
 noticed by the (Master
 of Kurnool it is only
 during the last 3
 years that the
 works have had a
 fair trial throughout
 their length and the
 results are not bad
 In the meantime

I would invite Mr. Latham's comments on the paper before us. The discussion will tend to throw light on many points and afford valuable suggestions as to the future. Whatever maybe the final decision.

The statement makes out a serious disaster & unattractive & gloomy prospects, but I think that perhaps a more gloomy view is taken by the Chief Engineer for Irrigation than

Mr. Latham

Mr. Latham would accept. 538 square miles = 344,500 acres are commanded by the works in hand now alone. & Mr. Latham's estimate of the arable area viz 161,000 acres appears true need being low. We have no estimate of the area in Cuddapah. This should be obtained. Rs. 4 1/2 per acre seems low as an average - be this as it may I feel sure that one of the first consequences of taking over the works will be the reduction

Reduction of Revenue
rates and consequent
loss of revenue. And
I doubt greatly whether
the financial Estimate
of the saving to be
effected by change
would be realized.

The prospects of
navigation - but with
some £50,000 of the
Capital outlay appears
to be due - is entirely
left out of sight. -
This may prove an
source of income to
should be inquired
into.

Should refer
this paper to the
Board of Revenue and
to

to the Collectors and
to Mr. Latham for
discussion and
observation.
25/11 M.D.

I think we may well
hesitate to back
upon our revenue -
which has been agreed
to by the J. that
at the end of the year
we shall submit our
first estimates of
the financial condition
of the Company. They
will certainly complain
that we made the

myself
without
due reflection care
would be in fact
the ^{myself} ~~unconcerned~~ was sound
& well-considered. There
are certainly many points
in the financial statement
now before us open to ^{challenge} ~~notable~~
criticism. & a ^{notable} ~~substantial~~
the omission of all notice of
the navigation: and in addition
having understated the effect of
the new population, it will be
quite incomplete. I would refer the
statement to the Directors & to the collectors
as proposed for the year. At the end of
the year we cannot submit the case
fully to the Govt. of India. — 2 Dec/24

I think we should address the
Govt. of India now in connection
of our previous despatch, without
waiting for the setting of the
year for further expression &
consideration.

It seems that the pay-
ments of principal & interest
in the 1st instalment @ 4 per cent
amounted on the 30 June last
to £714 757. There is a further
accumulation of interest to the
amount

amount of £ 150 19 2
on the loan of £ 100.000 made
by the Govt of State - of which
the Company has repaid £ 228.000
Exclusion of Interest.

Then on the 30 June
last the Director's report from
the Treasury amounted to a
sum of £ 192.949. The in-
terest on which at 4% is £ 34.917.
To this has to be added the pro-
posed interest. £ 49.903 - so that

the Canal must yield an an-
nual surplus income of £ 84.900
before Govt can clear the
loan. Now this sum^{alone} - while
repairs cost 119,000 acres to
be irrigated, even at the high
average rate of 5 Rs per acre -
but the Canal is designed only
to irrigate 200.000 acres -
so that there is a surplus of
only 30.200 acres yielding at
5 Rs per acre / 151.000 Rs to
cover ^{working} expenses - estimated at

2 lacs yearly. And mean while
the debt to the State for guaran-
teed interest alone is running on
at the rate of 5 lacs yearly, and
will soon swell up very large.
It is obvious that the Com. being
in power can be buying the State
and I think the former the
condition of a State is bright
under the consideration of the
Superior to some parts the better.

The expenses of the Com. Board
which simply has nothing to do &
has nothing should be brought by light
to notice. J. B. S. 12/11

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Reports from the Collectors of Tirunelveli
and Cuddalore relative to the pros-
pects of Irrigation under the Canal
of the Madras Irrigation and
Canal Company forwarded by Board
of Revenue with reference to G.O.
No 26 of 4th March 1874 and No 104
of 15th May 1874.

Memorandum

There does not
appear to be anything
in these reports or in
the observations of
the Board of Revenue
to render necessary
modifications in the
Memorandum from
this Office of the
7th November 1874

All calculations
as

as to prospective
Revenue from irrigation
under the canal must
necessarily be based
to a great extent on
conjecture and various
estimates must be
expected to differ
largely. It would appear
to be but too certain
that the financial
condition of the
undertaking can never
be any thing but
unfortunate.

The assumption
by the state of the
possession and
management of the
works in the manner
already

§ 5
already indicated
would appear to be
the best means of
reducing the annual
loss

Asst Secy

Major R

For Chief Eng for Secy
9.11.74

St Dept

1. Letter from the Examiner of
Railway Accounts No 6638, dated
25th October 1874.

2. Memorandum from the Chief
Engineer for Irrigation dated
7th November 1874.

3 Do do do
2/9th do do do

For Order.

Circulated for
orders.

W. M. Alder C.E.
Secy: H. G. S.
J. H. L.

1695

Sept 27 1874

3.12.

Sept 27 1874

Sept 27 1874

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Proceedings of the Madras Government
Read again Proceedings Madras Govt No 512
of 27th February 1874 -

Read also Proceedings Bd of Revenue No 3037
of 20th Octr 1874. 571

Letter from Chief Engineer for Irrig to Examiner of
Accounts No 71 of 29th Sept/74.

Letter from Examiner of Accounts No 663 I of 24 Oct/74

The Board of Revenue
has been directed to
communicate these papers to the Chief
Engineer and Manager, Madras
Irrigation and Canal Company,
and to the Collectors of Tumkur
and Cuddapah, with a view
to the further discussion of the
several points referred to, so
that the best opinion possible
may be formed of the financial
= rial

Ind to be confidentially
be cannot read ~~it~~
it can
confidentially
the
account of the company.
13/1
17/1
18/13/1

cial prospects of the Company's Canal.

2 It is desirable that the area commanded by the Canal in Kuddapah, as well as in Kurnool, should be ascertained; and it will be of advantage if in particular villages, and particular tracts of country, the areas commanded and those actually irrigated be compared, as by so doing - valuable light will, it is thought, be thrown upon the relation which these are likely to bear to each other, especially if in the examples which may be adduced the description of soil be duly noticed.

3 It will be necessary to remember that, although the Canal was designed to irrigate

irrigate 200,000 acres, this is not really the maximum area which can ultimately be watered, and it is not the area on which the revenue should be calculated at an average rate. The 200,000 acres were supposed to consist entirely of rice cultivation, which would have commanded a rate approximating to the maximum of 6 Rupees, but arrangements have since been made, based upon the circumstances of the Country traversed by the Canal, for irrigating various classes of crops at rates proportioned roughly to the supply required by them; and, should these arrangements succeed the area of irrigation will probably much exceed 200,000 acres

acres, but what will be the ultimate average rate must necessarily for a long time to come be a matter of opinion only.

4. Proceeds from navigation may also properly be considered, and on this point nothing has been said in the foregoing papers. It must be remarked however that until the details of the arrangements reported to be under the consideration of the Secretary of State and the Company, or those finally decided upon, shall be known, that it will be doubtful whether any assistance in meeting existing liabilities will be derivable from this source.



L O H. H. dated
8th January 1845

W. 7/12/74
M. H.

To the Chief Engr of the
a Manager of the D. B. Co.
a Person in the
a Committee of the

1845-1846

1685

Govt. of 1875: 212-233
PUBLIC WORKS.

*The Chief Engineer for
Immigration*

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Page 3

G. O. 9 Feb. 1875. No

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For 229-233.