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MADRAS RECORD OFFICE

Government of Madras

Revenue DEPARTMENTG.O. No. 32
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1

*Proceedings of the Madras Government, Public Works Department,
30th April 1872.*

Read the following papers :—

No. 450. From the Controller of Public Works Accounts, to the Secretary to Government, Public Works Department, dated Fort St. George, 14th December 1871, No. 2,332.

I HAVE the honour to forward, for the consideration and orders of Government, the enclosed letter from the Accountant-General of Madras under date the 8th instant, No. 6,205, inquiring whether any steps had been taken by this department to obtain the returns required by the Government of India of reproductive works in the Madras Presidency.

1 Original letter from the Accountant-General, Madras, No. 6,205, dated 8th December 1871, with three accompaniments.
 1 Do. Proceedings of the Board of Revenue, No. 3,693, dated 28th August 1871.
 1 Do. letter from the Chief Engineer for Irrigation, No. 200, of the 28th November 1871.
 1 Do. do. from the Public Works Accountant-General, No. 86-I, dated 18th September 1871.
 1 Do. from Superintending Engineer, 1st Division, No. 2,546, dated 16th November 1871.
 1 Do. from do., 2nd Division, No. 48, dated 21st October 1871.
 1 Do. from do., 3rd do., " 1,392, " 26th " "
 1 Do. from do., 5th do., " 194, " 2nd " "
 1 Do. from do., 7th do., " 28, " 5th " "
 1 Do. from do., 8th do., " 2,518, " 12th " "

2. Heretofore two returns have been submitted annually by Superintending Engineers through this office, one of "remunerative works" of magnitude, and another of "reproductive works." The preparation of the former of these returns commenced with the year 1855-56, (see paragraph 28 of late Chief Engineer's report No. 8,001, dated 11th November 1856,) and the latter, in its present form, was ordered in G. O., No. 1,046, dated 21st April 1870, as an accompaniment to the Public Works Administration Report.

3. The several statements received from Superintending Engineers have been compiled in this office into one general return, but the Controller has not been able to exercise any check upon the figures entered by the local officers. This was explained to Government in my letters, No. 1,901, dated 21st October 1871, and No. 2,099-A., dated 14th November last.

4. If returns showing the cost of construction of *all* our reproductive works, maintenance charges, and revenue derived are to be furnished, it is better that, in lieu of two annual statements serving different purposes, one complete return should be prepared. As regards old works, the capital outlay on which it is now impossible to verify, we must accept the figures appearing in the statements of remunerative works. In the case of the Godavery and Kistna schemes, all the required information may be taken from the late Colonel Anderson's reports, recorded in G. Os., Nos. 93 and 193, dated 13th and 21st January 1869, respectively. With respect to the Pennair anicut, the outlay on new works and repairs is clearly recorded in the statement embodied in G. O., No. 2,860, dated 10th November 1871; but it will be necessary to make an addition here on account of establishment charges, and since no really accurate and reliable information of the outlay on establishments incurred in connection with the Pennair scheme is forthcoming prior to 1867-68, an addition of 10 per cent. to the outlay on works up to 30th April 1867 may be made in accordance with the suggestion contained in paragraph 116 of Colonel Strachey's "Report on Irrigation works in India," dated 2nd September 1868.

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5. The Accountant-General of the Public Works Department, who recently visited my office, was disappointed to find that this department was not in possession of all the necessary details in connection with reproductive works. Calling attention to the orders of the Financial Department of the Government of India, No. 4,395, dated 30th October 1869, and to the orders as per margin issued thereupon by the Board of Revenue, Colonel Innes requested to know what had been done in the Public Works Department, and what was known in that department of the matter. These papers had not been communicated to me, nor had I received any instructions from Government on the subject, and I was, therefore, unable to say what progress had been made.

6. The latest orders received by me from Government in respect to the "accounts of Irrigation works" are those recorded in Proceedings No. 2,301 of the 9th September last. It will be seen on reference to that G. O. that at the request of the Government of India action on their Circular No. 40 of 1871 has been suspended.

7. I would here beg to bring to the notice of Government the difficulties which are felt in reconciling figures, in connection with revenue derived from reproductive works, appearing in the statements furnished by Superintending Engineers with those given by the Board of Revenue. A reference to the general statement of reproductive works for 1869-70, and the enclosed Proceedings of the Board of Revenue (in original) No. 3,693 of the 28th August 1871, will show the difference between the results reported in both cases. The revenue figures appearing in the statement of reproductive works are furnished to Superintending Engineers by Collectors, and do not pass through the Office of the Board of Revenue.

8. In connection with my letter No. 2,099-A., dated 14th ultimo, giving cover to the last statement of remunerative works, I beg to enclose one from the Chief Engineer for Irrigation, No. 200, dated 28th November 1871, and to state, in reference to the concluding paragraph, that the Accountant-General of the Public Works Department considers that no work should be omitted from these returns, but that the works should be grouped in such ways as would lead to a true idea of the accuracy and utility of the information afforded. Colonel Innes further states that very great care should be taken in grouping and sub-dividing the various works. One way of grouping would, he states, be according to the description of work, and another according to the degree in which there is knowledge extant of the outlay, etc., etc.

9. As respects the statements of reproductive works, the Accountant-General of the Public Works Department, in letter No. 86-I., dated 18th September 1871 enclosed, requested to be furnished with information as to how the particulars therein given are arrived at, and how far those figures may be considered as reliable and representing actual results. Reference having been made to the Superintendent-Engineers on the 27th September, the replies as per margin have up to date been received, and these I have now the honour to submit to Government for consideration in connection with the general question now placed before them.

From 1st Division, No. 2,546, dated 16th Nov. 1871.	ing Engineers on the 27th September,
" 2nd " " 48, " 1st Oct. "	the replies as per margin have up to
" 3rd " " 1,392, " 26th " "	date been received, and these I have
" 5th " " 194, " 2nd " "	now the honour to submit to Govern-
" 7th " " 28, " 5th " "	ment for consideration in connection
" 8th " " 2,548, " 12th " "	

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10. It was originally intended,* when the subject of the Capital and Revenue Accounts of Irrigation works was mooted, to strengthen the staff of Controllers' offices, and to detach one of the officers on these establishments for employment on this special duty. In order to this it was deemed advisable to locate the selected officer in the office of the Chief Engineer for Irrigation, the Controller furnishing him with instructions in regard to departmental duties. No definite orders in respect to the proposed Capital and Revenue Accounts having been issued, the arrangement has not been adopted here, but the matter is again brought before Government as one which appears to require immediate attention.

No. 451. Proceedings of the Madras Government in the Financial Department, dated 13th December 1871, No. 777.

Proceedings of the Government of India in the Financial Department, dated Fort William, 27th November 1871, No. 4,911 (Accounts).

Read again—

Financial Resolution No. 3,224, dated 31st August 1871, issued in furtherance of a requisition by the Select Committee of the House of Commons on Indian Finance, and calling, in respect of various special enterprises therein enumerated, for, *firstly*, a revenue account of the enterprises for the past two years at least; and, *secondly*, a capital and profit and loss account for a suitable series of years.

Read—

Copy of a Memorandum No. 14, dated 13th October 1871, from the Marine Department, to the Secretary to the Government of India, Public Works Department, stating, in reply to an inquiry as to the kind of Public Works expenditure which should be included in the returns for harbours, that it is believed in the Marine Department that "information is required on the actual Public Works Department expenditure during the past two years on such works as those at Kurrachee, at Carwar, at Madras (in constructing the piers, etc.), and at Bombay in reclamations, the construction of quays, etc., on all of which works it is supposed a rate or toll is levied on persons using them."

RESOLUTION.—The Governor-General in Council confirms the views held in the memorandum of the Marine Department, and observes that the cost of construction, including interest for the period occupied in construction, should be made up for the capital account on the principles defined in the Financial Resolution No. 4,064, dated 3rd October 1871, for reproductive public works; and that the revenue account should show Public Works expenditure for repairs, interest, etc., on the principles defined for such accounts in the same Resolution.

2. The partial accounts thus prepared in the Public Works Department should be incorporated in a complete account by the Civil Accountant-General, who will be careful to ascertain that the charges returned by the Public Works Department are not already included in the civil portion of the accounts. This caution will be necessary more particularly for any special enterprises which, during a portion of the period embraced in the capital and profit and loss accounts, may be on the footing of a local fund. The account will be made up irrespectively of the consideration whether the enterprise appertains to general revenue or to a local fund; but as the figures will be given for each year, it should be indicated on the accounts

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for which years the enterprise was imperial and local respectively, and with regard to annual losses under the head of Local or Port Funds, the amount of consequent debt which may have been excused or written off by the Government of India in each year should be shown, together with the annual amount of debt.

ORDERED that a copy of this Resolution, and of the one dated 3rd October 1871, No. 4,064, and its enclosure, be sent to the Marine Department, the Governments of Madras, Bombay, Bengal, and the Chief Commissioner of British Burmah, the Comptroller-General, the several Accountants-General, and Deputy Accountants-General in independent charge; also that a copy of this Resolution be sent to the Public Works Department.

(Signed) R. B. CHAPMAN,
Secy. to the Govt. of India.

Resolution by the Government of India, Financial Department, dated 3rd October 1871, No. 4,064.
Read Office Memorandum from the Secretary to the Government of India, Public Works Department, to the Secretary to the Government of India, Financial Department, dated 19th August 1871, No. 161-A. I.

With reference to this office No. 154-A. I. dated the 11th instant, forwarding a copy of an order requesting that no action should be taken on Public Works Department Circular No. 40 of 1871, until further orders, the undersigned is directed to forward herewith a proof of the forms of account and the explanatory note referred to in paragraph 5 of the above circular, duly modified with reference to the objection raised in the Financial Department to the transfer of any portion of the land revenue to the accounts of the Irrigation branch of the Public Works Department, together with a draft circular which it is proposed to issue on the subject, and to inquire whether they may not, in their present form, be issued for immediate adoption.

2. There can be no doubt of the necessity of placing the capital and revenue accounts of Irrigation works on a proper footing at an early date, and this department is therefore unwilling to defer all action in the matter of these accounts until the question of the exhibition of a portion of the land revenue in the Public Works Accounts is finally settled. It will be observed that the modified forms and rules now sent forward do not in any way touch upon the particular point to which exception has been taken by the Financial Department, and which can be disposed of hereafter.

3. An early reply to this reference is requested.

DRAFT CIRCULAR.

As it is very desirable that early measures should be taken to place the capital and revenue accounts of irrigation works on a proper footing, I am directed to forward herewith a set of forms (accompanied by an explanatory note) showing the detail in which the annual accounts of irrigation works will be required in future, and to request that no time may be lost in making such arrangements as may be necessary to meet the requirements of the Government of India.

The Accountant-General, Public Works Department, will issue supplementary instructions explaining the precise modifications to be made in the books and accounts kept in Controllers' Offices under these orders.

Read also letter from the Comptroller-General, to the Secretary to the Government of India, Financial Department, dated 13th September 1871, No. 651.

I HAVE the honour to submit the following remarks on the papers forwarded to me semi-officially on the 25th ultimo, respecting the capital and revenue accounts of irrigation works. The points requiring notice in these papers appear to be the following, namely, (1) the relation of the accounts to the ordinary finance accounts of the Government, (2) the commencement of the accounts, (3) their preparation, and (4) their form.

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2. On the first point, I would observe the proposed accounts should be supplementary to the finance accounts, and should be checked with them, all differences being thoroughly examined and explained. They should, however, be quite distinct from the finance accounts, entries from one into the other not being permitted.

3. Regarding the commencement of the accounts, it is stated in the note prepared in the Public Works Department, paragraphs 5 to 8, that the cost of some works is known, while for others the information is not obtainable. With regard to the former, it is proposed to take the recorded cost, less any sums that may have been erroneously charged, and that may have been spent on works that have since been abandoned or replaced by others. Erroneous charges should of course be omitted, but I do not consider that the other items should be excluded. I would include them as well as the expense of all experiments, extensions, and improvements, the cost of preliminary surveys, the interest of money during the construction, and the charge for establishment while the works were in progress. As regards the works of which the cost is not known, it is proposed to open the account arbitrarily, but this is not satisfactory, and it should be explained how it is intended to fix the arbitrary cost. I would also observe that very full inquiry and report should be made before it is allowed that the cost of modern work cannot be found.

4. The preparation of the accounts. The definition in paragraphs 12 to 15 of the note is not sufficiently explicit, as, for instance, ordinary capital and extraordinary capital. Apparently the whole capital account represents extraordinary expenditure, and the only divisions to which it is liable are the generic headings describing the class of expenditure comprised in it. It is immaterial whether the money spent on capital expenditure is obtained from loans or from surplus revenue. It is understood that the accounts will be continuous, the closing balances of one year being carried forward as the opening balances of the next.

5. The forms proposed for the accounts are numerous and complicated, and it is worth while to consider whether they are susceptible of simplification, so as to make them more readily intelligible to the public. As now prepared they are in three divisions, named, respectively, appropriation account, capital account, and revenue account, the first division consisting of nine parts, the second of three parts, and the last of two parts, or a total of fourteen accounts. All these accounts recite the same facts, with this difference, that each succeeding account is in greater detail than its predecessor. It would be advisable to adopt a more direct and simple method of working out the results required.

6. The papers under review are herewith returned.

RESOLUTION.—With the following reservations, the Governor-General in Council approves of the draft circular and of the forms of account, namely:—

1st.—It is presumed that the entries in the forms are merely specimens, and that in following the forms, the accounts will record distinctly the income and expenditure of each work which may have been separately sanctioned, several such works not being grouped or classed in one aggregate. The Comptroller-General, a copy of whose letter will be forwarded to the Public Works Department, takes exception to the number and the complex character of the forms; but the Public Works Department will judge as to the degree of detail necessary for administrative check and control beyond that which might suffice for exhibiting the financial outturn of each separate work.

2nd.—The proposed accounts will be outside the finance and revenue accounts, and quite distinct from the latter, so that entries from the one to the other will not be permitted, and writes-off in the capital and revenue accounts of irrigation works will not affect the finance account. This being understood, the new accounts will be supplementary to the finance accounts and should be checked by them, all differences being thoroughly examined and explained.

3rd.—In starting the account it is proposed, with respect to works of which the cost is known, to take the recorded cost less any sums which may have been erroneously charged, or which may have been spent on works that have since been abandoned or replaced by others. Erroneous charges should of course be omitted. But the cost of works which may have been abandoned or been replaced by others should be shown, the cost of mistakes being an integral part of the charges of construction, though such cost may be shown as a distinct item.

4th.—With respect to works of which the cost is not known, it is desired to open the account arbitrarily, but it should be explained how it is intended to fix the arbitrary cost. Very full

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inquiry and report should be made before it is allowed that the cost of any modern work cannot be ascertained.

5th.—The charges of construction should include the cost of preliminary surveys and of establishments while the works were in progress, and also the interest of money during the construction of the work, that is to say, simple interest on the outlay, for the period that each work was in progress, should on its completion be added to the cost of the work.

6th.—The new account should be continuous, the closing balance of one year for each work being carried forward as the opening balance of the next.

7th.—The inclusion of any work in the account will be determined by its character without heeding whether the money spent on the work was borrowed or was obtained from surplus revenue.

8th.—The Public Works accounts *within* the finance and revenue accounts will show as charge against the revenue of the year all ordinary Public Works charges which in the special accounts outside the finance and revenue accounts may be charged to capital. The forms appended to the note imply this, but it should be distinctly affirmed.

In consequence of the decision to omit land revenue for the present from the special accounts, not one of the canals may fall into the category of canals which pay considerably more than the interest on the capital borrowed, and in that case the form may require alteration.

The entry in form of interest account at foot of page 18 of the forms, namely, "proportion of revenue due to loan expenditure, *vide* columns of revenue account, No.—, Ganges Canal and Eastern Jumna Canal," is not intelligible.

Vide paragraph 29, Section 2, Public Works Department office note.

Ordered that a copy of this Resolution, and of the letter from the Comptroller-General, be sent to the Public Works Department, with the original papers received from that department, and that a copy be sent to the Comptroller-General.

COMMUNICATED to the Revenue and Public Works Departments, to the Accountant-General, and Master Attendant, Madras.

(True Extract)

(Signed)

W. HUDLESTON,

Secretary to Government.

No. 452. Circular letter from the Government of India, Public Works Department (Account—Irrigation), to the Governments of Madras, Bombay, Bengal, the North-Western Provinces, and the Punjab; the Chief Commissioners of Oudh, Central Provinces, British Burmah, and Mysore and Coorg; the Resident at Hyderabad; the Agents to the Governor-General for Central India and Rajpootana, and to the Superintendent of Port Blair and Nicobars, dated Fort William, 29th December 1871, No. 80:—

As it is very desirable that early measures should be taken to place the Capital and Revenue Accounts of Irrigation works on a proper footing, I am directed to forward herewith a set of forms (accompanied by an explanatory note) in future, and to request that no time may be lost in making such arrangements as may be necessary to meet the requirements of the Government of India.

2. The Accountant-General, Public Works Department, will issue supplementary instructions explaining the precise manner in which the new books should be opened so as to meet fully the requirements of the forms prescribed under these orders.

3. These rules and forms must be brought into force from the commencement of the year 1872-73.

(Signed)

C. H. DICKENS, Colonel, R.A.,

Secretary to the Government of India.

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NORTH-WESTERN PROVINCES.
APPROPRIATION ACCOUNT OF IRRIGATION WORKS (IMPERIAL) FOR THE
YEAR 1871-72.

PART I.
Extraordinary and Ordinary.

Service Heads.	Grant as per Budget Orders.	Outlay.	DIFFERENCE.	
			Unspent balance of grant.	Excess.
	RS.	RS.	RS.	RS.
CAPITAL				
Extraordinary.				
Works, etc.	3,00,000	42,50,000	50,000	...
Establishment	8,50,000	9,00,000	...	50,000
Tools and Plant	2,00,000	1,30,000	70,000	...
Profit and Loss	...	...	...	...
A.—Extraordinary Total...	53,50,000	52,80,000	70,000	...
Ordinary.				
Works, etc.	4,25,000	3,00,000	35,000	...
Establishment	1,20,000	1,15,000	5,000	...
Tools and Plant	...	...	...	...
Profit and Loss	...	...	...	...
B.—Ordinary Total...	5,45,000	5,05,000	40,000	...
Total Capital Extraordinary and Ordinary...	58,95,000	57,85,000	1,10,000	...
REVENUE.				
Maintenance of Works	5,30,000	5,25,000	10,000	5,000
Establishment	4,50,000	4,24,000	26,000	...
Plantations and Compensation ..	9,000	15,000	...	6,000
Tools and Plant	16,000	15,000	1,000	...
Profit and Loss	...	...	...	...
C.—Revenue Total...	10,05,000	9,79,000	26,000	...
ORDINARY AGRICULTURAL EXPENDITURE FOR WHICH NO CAPITAL OR REVENUE ACCOUNT IS KEPT.				
Original Works	...	...	...	...
Repairs	...	...	...	...
Establishment	...	...	...	...
Tools and Plant	...	...	...	...
D.—Total...	...	...	...	...
E.—Total Ordinary B + C + D...	15,50,000	14,84,000	66,000	...
Grand Total Ordinary and Extraordinary A + E	69,00,000	67,64,000	1,36,000	...
Add increase of Stock	...	...	...	...
Add increase of London Stores	...	...	...	...
Total ...	69,00,000	67,64,000	1,36,000	...
Less reduction of grant	...	...	...	...
Less "expenditure in England"	...	...	...	...
Total...	69,00,000	67,64,000	1,36,000	...

A.—These entries will appear under each of the heads Extraordinary, Ordinary, and Revenue.

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NORTH-WESTERN PROVINCES.
APPROPRIATION ACCOUNT OF IRRIGATION WORK (IMPERIAL) FOR THE
YEAR 1871-72.

PART II.
Distribution of Extraordinary and Ordinary outlay.

Works.	New Works.	Maintenance.	Plantations.	Compensation.	Miscellaneous.	Total of works, etc.	Establishment.	Tools and Plant.	Profit and Loss.	Total.
CAPITAL.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Extraordinary.										
Ganges Canal	21,00,000	...	...	...	...	21,00,000	3,70,000	60,000	...	25,30,000
Eastern Jumna Canal.	1,50,000	...	...	...	...	1,50,000	20,000	40,000	...	2,10,000
Lower Ganges Canal.	14,00,000	...	...	...	...	14,00,000	3,10,000	30,000	...	17,40,000
Agra Canal	5,95,000	...	...	...	...	5,95,000	...	...	...	5,95,000
A.—Total...	42,45,000	...	...	...	...	42,45,000	3,90,000	1,30,000	...	46,65,000
Ordinary.										
Ganges Canal	2,95,000	...	...	...	...	2,95,000	...	...	...	2,95,000
Eastern Jumna Canal.	74,000	...	...	...	...	74,000	...	...	...	74,000
Lower Ganges Canal.	...	...	...	...	...	...	...	...	...	...
Agra Canal	15,000	...	...	...	...	15,000	...	...	...	15,000
B.—Total...	3,84,000	...	...	...	...	3,84,000	...	...	...	3,84,000
Total Capital A + B.	46,29,000	...	...	...	...	46,29,000	...	...	...	50,49,000
REVENUE.										
Ganges Canal	...	8,30,000	10,000	5,000	...	8,45,000	...	...	...	8,45,000
Eastern Jumna Canal	...	85,000	...	...	...	85,000	...	...	...	85,000
Lower Ganges Canal.	...	...	...	...	...	...	...	...	...	...
Agra Canal	...	1,10,000	...	...	...	1,10,000	...	...	...	1,10,000
C.—Total...	...	5,25,000	10,000	5,000	...	5,40,000	...	...	...	5,40,000
ORDINARY EXPENDITURE FOR WHICH NO CAPITAL OR REVENUE ACCOUNT IS KEPT.										
Embankment works.	...	...	...	...	...	...	...	...	...	...
Fisheries	...	...	...	...	...	...	...	...	...	...
D.—Total...	...	...	...	...	...	...	...	...	...	...
E.—Total Ordinary B + C + D...	3,84,000	5,25,000	10,000	5,000	...	9,24,000	...	...	...	9,24,000
Grand Total, Ordinary and Extraordinary, A + E	46,29,000	5,25,000	10,000	5,000	11,000	62,64,000	14,39,000	1,45,000	...	78,48,000

N.B.—When necessary provision should be made for the exhibition in a separate column of the fluctuation in the balances.

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NORTH-WESTERN PROVINCES.
APPROPRIATION ACCOUNT OF IRRIGATION WORKS (IMPERIAL) FOR THE YEAR 1871-72.

PART III.
Abstract of Expenditure chargeable to Capital Account.

Works.	A.—TEMPORARY WORKS.			B.—COST OF LAND.			C.—MASONRY WORKS.						
	Rs.	Rs.	Rs.	Main Canals and Branches.	Distributing Channels.	Total.	Main Canals and Branches.	Distributing Channels.	Drainage works.	Supply of Tanks.	Road Bridges.	Navigation Works.	Mills.
Extraordinary.													
Ganges Canal	...	...	...	5,000	10,000	15,000	7,00,000	2,15,000	...	...	...	...	...
Eastern Jumna Canal	...	...	...	25,000	35,000	60,000	40,000	35,000	...	...	...	...	...
Lower Ganges	...	...	...	...	5,000	5,000	5,20,000	2,20,000	...	...	...	...	...
Agra Canal	...	...	...	...	...	...	1,75,000	1,25,000	...	...	...	...	...
Total...	10,000	...	...	30,000	50,000	80,000	14,35,000	5,95,000	...	...	...	...	...
Ordinary.													
Ganges Canal	...	...	...	...	10,000	10,000	1,00,000	...	...	...	...	...	...
Eastern Jumna Canal	...	...	...	...	...	...	37,000	...	...	...	...	...	...
Lower Ganges	...	...	...	...	...	...	...	...	...	...	...	...	...
Agra Canal	...	...	...	...	...	...	1,37,000	94,000	...	...	...	...	...
Total...	5,000	...	...	...	20,000	20,000	1,37,000	94,000	...	...	...	...	...
Grand Total...	15,000	...	...	30,000	70,000	1,00,000	15,72,000	6,89,000	...	...	...	...	...

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Works.	D.—EARTHWORKS.							GRAND TOTAL OF NEW WORKS.	F.—MISCELLANEOUS.	F.—PLANTATIONS.	G.—ESTABLISHMENT.	H.—PLANT.	GRAND TOTAL.
	Main Canals and Branches.	Distributing Channels.	Drainage.	Supply of Tanks.	Navigation Channels.	Supply channels to Mills.	Total.						
Extraordinary.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
Ganges Canal	5,50,000	6,20,000	.....	.....	.....	.....	11,70,000	21,00,000	.....	...	3,70,000	60,000	23,80,000
Eastern Jumna Canal ...	.....	75,000	.....	.....	.....	...	75,000	1,50,000	.....	...	20,000	40,000	2,10,000
Lower Ganges	5,00,000	90,000	.....	.....	.....	...	5,90,000	14,00,000	.....	...	3,10,000	30,000	17,40,000
Agra Canal	2,30,000	60,000	.....	.....	.....	...	2,90,000	5,95,000	5,000	...	2,00,000	.....	8,60,000
Total...	12,80,000	8,45,000	.....	...	...	...	21,25,000	42,45,000	5,000	...	9,00,000	1,30,000	52,80,000
Ordinary.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
Ganges Canal	55,000	55,000	.....	...	...	...	1,10,000	2,95,000	5,000	...	82,000	.....	3,85,000
Eastern Jumna Canal ...	.....	5,000	11,000	...	...	2,000	18,000	74,000	1,000	...	22,000	.....	97,000
Lower Ganges .. ..	.....	.....	.....	...	...	...	.....	.....	.....	...	.....	.....	.....
Agra Canal ... ..	.....	.....	.....	...	...	...	.....	15,000	.....	...	8,000	.....	23,000
Total...	55,000	60,000	11,000	...	...	2,000	1,28,000	3,84,000	6,000	...	1,15,000	.....	5,05,000
Grand Total...	3,35,000	9,05,000	11,000	...	...	2,000	22,53,000	46,29,000	11,000	...	10,15,000	1,30,000	57,85,000

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NORTH-WESTERN PROVINCES.
APPROPRIATION ACCOUNT OF IRRIGATION WORKS, 1871-72.

PART IV.
Schedule of Expenditure on Irrigation, 1871-72, chargeable to Capital Account.

Divisions.	Detail of Work.	Amount of sanctioned Estimate.	Outlay to end of 1871-72.	Grant, 1870-71.	Outlay, 1871-72.
	EXTRAORDINARY.	Rs.	Rs.	Rs.	Rs.
	A.—TEMPORARY.				
	1.—Main Canal.				
Lower Ganges Canal, 1st Division.	Bund to direct stream or weir	11,000	10,000	11,000	10,000
	B.—COAST OF LAND.				
	1.—Main Canal and Branches.				
Lower Ganges Canal, 1st Division.	Land for Main Channel, Allypurrh	40,000	85,000	15,000	15,000
	Ditto, Etah	20,000	10,000	20,000	10,000
Ganges Canal, Allypurrh Division.	Koel Branch in Allypurrh Division	10,000	10,000	5,000	5,000
	2.—Distributing Channels.				
Lower Ganges Canal, 1st Division.	Etamadpoor Rajbaha	5,000	5,000	5,000	5,000
	Futtehpurrh	20,000	18,000	20,000	18,000
Do. 2nd Division.	Allahabad	30,000	9,500	20,000	9,500
	Bindker	5,000	4,000	2,000	2,000
Ganges Canal, Northern Division.	Deobund	9,000	7,500	5,000	4,500
Meerut Division...	Main Right	30,000	27,500	6,000	5,500
Agra Canal, 1st Division.	Okla	10,000	5,500	10,000	5,000
	LAND, TOTAL...	1,79,000	1,22,000	1,08,000	80,000
	C.—MASONRY WORKS.				
	1.—Main Canal and Branches.				
Ganges Canal, Northern Division.	Permanent Weir at Myapoor...	12,60,000	8,00,000	4,00,000	3,60,000
	Flooring Solani Aqueduct	1,60,000	60,000	50,000	25,000
Meerut Division	Abou Nallah Escape Head	95,000	97,000	29,000	83,000
Allypurrh Division	Barota Bridges	10,000	9,000	5,000	4,500
Cawnpore Division	Locks, Basins, Wharves, etc.	2,00,000	2,42,000	1,50,000	1,42,500
Boolmdehuhur Division.	Regulating Bridge at Head of Boolmdehuhur Branch	1,00,000	95,000	1,00,000	95,000
	Palee Bridge on ditto	5,000	5,000	5,000	5,000
	Secunderabad Bridge ditto	4,500	4,700	4,500	4,700
Allypurrh Division	Koel Branch Head-work	1,00,000	75,000	80,000	30,300
	etc., etc.				
	2.—Distributing Channels.				
Northern Division	20 Bridges on Deobund Rajbaha	20,000	19,500	20,000	19,500
	20 Falls ditto	50,000	47,800	50,000	47,800
Other Divisions	Other works	2,00,000	1,78,700	1,50,000	1,43,700
	etc., etc.				

And other works until total "masonry," etc., is arrived at.
N. B.—All the Extraordinary and Ordinary Works chargeable to Capital will be included, and the Schedule will work up to the figures in Account Part III.

NORTH-WESTERN PROVINCES.

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PART V.

Abstract of Expenditure chargeable to Revenue.

MAINTENANCE OF WORKS.																
EXTENSIONS AND IMPROVEMENTS.										MAINTENANCE AND REPAIRS.						
	Main canal.	Distributing channels.	Drainage works.	Tanks.	Navigation works.	Mills.	Buildings.	Miscellaneous.	Main canal.	Distributing channels.	Drainage works.	Tanks.	Navigation works.	Mills.	Buildings.	Miscellaneous.
Ganges Canal	1,50,000	40,000	10,000	...	8,000	5,000	12,000	...	61,000	7,000	5,000	1,000	...	7,000	8,000	16,000
Eastern Jumna Canal	20,000	5,000	3,000	...	...	...	12,000	...	10,000	15,000	7,000	...	...	...	13,000	...
Lower Ganges Canal.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Agas Canal	60,000	4,000	2,000	...	...	...	2,000	...	20,000	6,000	8,000	...	...	...	2,000	5,000
Grand Total..	2,30,000	42,000	15,000	...	8,000	5,000	27,000	...	91,000	23,000	20,000	1,000	...	7,000	23,000	21,000

Total maintenance of works.	Plantations.	Compensation.	Establishments.	Tools and Plant.	Grand Total.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
8,30,000	10,000	5,000	3,00,000	5,000	6,50,000
85,000	...	...	60,000	...	1,45,000
...	...	...	...	...	...
1,10,000	...	...	61,000	10,000	1,54,000
5,25,000	10,000	5,000	4,24,000	15,000	9,79,000

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NORTH-WESTERN PROVINCES.
APPROPRIATION ACCOUNT OF IRRIGATION WORKS, 1871-72.

PART VI

Schedule of Expenditure on Irrigation, 1871-72, chargeable to Revenue.

Division.	Particulars.	Amount of each Estimate.	Expenditure.	DIFFERENCE.		Authority for Audit.
				More than Estimate.	Less than Estimate.	
	A.—MAINTENANCE OF WORKS.	RS.	RS.	RS.	RS.	
	I.—Extensions and Improvements.					
	(1).—Main Canals—					
Northern Division, Ganges Canal.	Repairs to bunds ...	35,000	40,000	5,000	...	Chief Engineer's No. dated
	Additions to locks ...	10,000	9,000	...	1,000	Superintending Engineer's No. dated
	Renewing capstans ...	12,500	12,000	...	500	Do. do. dated
Southern Division, Ganges Canal.	Repairing lock-gates.	10,500	11,000	500	...	Chief Engineer's No. dated
	Repairs to bunds ...	87,000	33,000	1,000	...	
	Do. to falls at ...	2,000	2,000	...	2,000	
Ganges Canal, Ally- ghur Division.	Do. to bunds ...	40,000	23,000	...	...	
	Do. do. ...	20,800	20,000	...	800	
Eastern Jumna Canal.	Do. do. ...	31,000	30,000	...	1,000	
Agra Canal, 1st Di- vision.	Do. do. ...	20,000	20,000	...	...	
	Renewing lock-gates.	11,000	10,000	...	1,000	
	Total Main Canal...	...	2,30,000	...	...	
	(2).—Distributing channel, etc., etc.					

APPROPRIATION ACCOUNT OF IRRIGATION WORKS FOR THE YEAR 1874-72.

PART VII

Schedule of Expenditure on Establishment.

Particulars.	EXPENDITURE.		Budget- Estimate.
	Amount.	Total.	
A.—GENERAL.			
DIRECTION.—	RS.	RS. *	RS.
Chief Engineer and Joint Secretary and Assistant	45,600		
Office Establishment	17,400	63,000	61,000
Travelling allowance	.....	5,000	5,000
Contingencies	.....	9,000	9,000
		77,000	78,000
Four Superintending Engineers	70,000		
Office Establishment	20,000	90,000	93,000
Travelling allowance		10,000	10,000
Contingencies		12,000	13,000
		1,12,000	1,16,000

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Schedule of Expenditure on Establishment.—(Continued.)

Particulars.	EXPENDITURE.		Budget- Estimate.
	Amount.	Total.	
A.—GENERAL.—(Continued.)			
ACCOUNTS.			
Deputy Controller	RS. 10,000	RS.	RS.
Office	60,000		
Travelling allowance		70,000	70,000
Contingencies		2,000	2,500
		4,500	5,000
Total Direction		76,500	77,500
EXECUTIVE.—Engineering		2,65,500	2,71,500
Upper Subordinates	4,12,750		4,40,000
Lower do.	72,000		70,000
Petty	60,000		60,000
Office and Accounts	40,000		39,500
Travelling allowance	1,15,000		1,20,000
Contingencies		7,39,750	7,29,500
		99,500	1,00,000
		39,500	40,000
Total Executive		8,78,750	8,69,500
WATER REGULATION.—			
MEDICAL.—European and Native Doctors			
Contingencies	4,500	4,500	4,500
		750	1,000
Total Medical		5,250	5,500
SURVEYS.—Engineering			
Upper Subordinates	10,000		
Petty	5,000		
Travelling allowances	5,000		
Contingencies		20,000	25,000
		2,500	2,000
		3,000	3,000
Total Surveys		25,500	30,000
B.—REVENUE.			
Share of Land Revenue Establishment		11,75,000	11,76,500
Special Canal Establishment			
Fees and Allowances in collections	1,00,000		
Travelling allowances	82,250		
		1,82,250	2,00,000
		44,750	45,000
Total Revenue		2,27,000	2,45,000
C.—NAVIGATION.			
General control	4,800		
Working Locks, etc.	4,600		
Travelling allowances		9,400	9,500
		1,600	2,000
Total Navigation		11,000	11,500

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Schedule of Expenditure on Establishment.—(Concluded.)

Particulars.	EXPENDITURE.		Budget- Estimate.
	Amount.	Total.	
D.—MILLS AND MACHINERY.	RS.	RS.	RS.
Attending Mills		6,000	6,500
E.—PLANTATIONS.			
Controlling Establishment	20,000	20,000	20,000
Grand Total		14,39,000	14,59,500

Abstract of Charges for Establishment.

	Salaries.	Travelling Allowances.	Contin- gencies.	Total.	Budget- Estimate.
	RS.	RS.	RS.	RS.	RS.
A.—General	9,87,250	1,19,000	68,750	11,75,000	11,76,500
B.—Revenue	1,82,250	44,750		2,27,000	2,45,000
C.—Navigation	9,400	1,600		11,000	11,500
D.—Mills, etc.	6,000			6,000	6,500
E.—Plantations	20,000			20,000	20,000
Total Audited	12,04,900	1,65,350	68,750	14,39,000	14,59,500
Total Paid	12,04,900	1,65,350	68,750	14,39,000	
Budget Grant	12,22,000	1,66,500	71,000	14,59,500	
DIFFERENCE... {More					
{Less	17,100	1,150	2,250	20,500	

Distribution of Establishment over Capital (Extraordinary and Ordinary) and Revenue.

	CAPITAL.			Revenue.	Grand Total.
	Extraordinary.	Ordinary.	Total.		
Ganges Canal.	RS.	RS.	RS.	RS.	RS.
A.—General	3,70,000	85,000	4,55,000	90,000	5,45,000
B.—Revenue				1,80,000	1,80,000
C.—Navigation				10,000	10,000
D.—Mills, etc.				5,000	5,000
E.—Plantations				15,000	15,000
Total	3,70,000	85,000	4,55,000	3,00,000	7,55,000

And Similarly for other Canals.

Summary.

	Ganges Canal.	Eastern Jumna Canal.	Lower Ganges Canal.	Agra Canal.	Total.
	RS.	RS.	RS.	RS.	RS.
A.—General	5,45,000	74,000	3,10,000	2,46,000	11,75,000
B.—Revenue	1,80,000	24,000	...	23,000	2,27,000
C.—Navigation	10,000	...	...	1,000	11,000
D.—Mills, etc.	5,000	1,000	...	...	6,000
E.—Plantations	15,000	3,000	...	2,000	20,000
Total...	7,55,000	1,02,000	3,10,000	2,72,000	14,39,000

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NORTH-WESTERN PROVINCES.
APPROPRIATION ACCOUNT OF IRRIGATION WORKS FOR THE YEAR 1871-72.

PART VIII.

Abstract of Expenditure on Tools and Plant.

Works.	CAPITAL.										REVENUE.				Grand Total.		
	EXTRAORDINARY.					ORDINARY.					Navigation.					Total.	
	Navigation.	Machinery for Mills.	Miscellaneous.	Total.		Navigation.	Machinery for Mills.	Miscellaneous.	Total.		Navigation.	Machinery for Mills.	Miscellaneous.	Total.			
Ganges Canal	30,000	10,000	20,000	60,000	...	...	...	...	60,000	...	...	...	...	5,000	...	...	65,000
Eastern Jumna Canal	...	20,000	20,000	40,000	...	...	...	...	40,000	...	...	...	...	...	...	...	40,000
Lower Ganges	...	...	30,000	30,000	...	...	...	...	30,000	...	...	...	...	...	...	...	30,000
Agra Canal...	...	...	...	...	...	...	...	...	...	...	10,000	...	...	...	10,000	...	10,000
Total...	30,000	30,000	70,000	1,30,000	...	...	...	...	1,30,000	...	...	...	...	5,000	10,000	15,000	1,45,000

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NORTH-WESTERN PROVINCES.
APPROPRIATION ACCOUNT OF IRRIGATION WORKS FOR 1871-72.

PART I.
Schedule of Expenditure on Tools and Plant.

		EXPENDITURE.		Budget- Estimate.
		Amount.	Total.	
	CAPITAL EXTRAORDINARY.			
	<i>Navigation Plant—</i>	RS.	RS.	RS.
Ganges Canal, Northern Division.	1 Steamer	10,000		
	10 Cargo-boats	5,000		
	Stores	15,000		
			30,000	35,000
	<i>Machinery for Mills—</i>			
Ganges Canal, Northern Division.	10 Sets grinding stones, Kun- khal mills	2,000		
	20 Sets grinding stones, Baha- durabad mills	7,000		
	10 Sets grinding stones, Asuf- nuggur mills	1,000		
			10,000	9,000
Eastern Jumna Canal ...	Raipoor mills fitted with com- plete machinery for corn mills... ..	20,000	20,000	30,000
	Total...	...	30,000	30,000
	MISCELLANEOUS.			
	<i>Surveying and Mathematical Instruments.</i>			
Ganges Canal	Northern Division	3,000		
	Meerut	1,000		
	Allypore	200		
	Cawnpore	800		
Eastern Jumna Canal ...	Over all	2,000		
Lower Ganges	1st Division	5,000		
	2nd	2,000		
			14,000	15,000
	<i>Tools—</i>			
Ganges Canal	Northern Division	3,000		
	Meerut	1,000		
	Allypore	2,000		
	Cawnpore	500		
	Etawah	3,000		
	Futtehpore	500		
	Boondshuhur Division	1,000		
	Over all	18,000		
Eastern Jumna Canal ...	1st Division	12,000		
Lower Ganges	2nd	8,000		
			49,000	50,000
	<i>Office furniture—</i>			
Ganges Canal	Divisions to be detailed	3,000		
	Do. do.	3,000		
Lower Ganges Canal ...			6,000	5,000
	<i>Camp Equipage—</i>			
	Northern Division	1,000	1,000	2,000
	Total...	...	70,000	72,000
	Total Capital Extraordinary...	...	1,30,000	...

And similarly for Ordinary, if any, and Revenue.

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NORTH-WESTERN PROVINCES.
CAPITAL ACCOUNT OF IRRIGATION WORKS.

No. I.

Capital Account of the Eastern Jumna Canal to end of 1871-72.

	Previous.	1871-72.	Total.
A.—TEMPORARY WORKS—			
To maintain and regulate supply	Rs.	Rs.	Rs.
B.—COST OF LAND { a.—Main canals and branches	30,000	...	30,000
{ b.—Distributing channels	20,000	...	20,000
C.—MASONRY WORKS—			
1.—Main Canals and Branches—			
a.—Dams and regulating works	6,60,000	25,000	6,85,000
b.—Falls and weirs	4,00,000	16,000	4,16,000
c.—Aqueducts and works to divert or pass drainage across the canal	60,000	20,000	80,000
d.—Escapes	1,00,000	16,000	1,16,000
2.—Distributing Channels—			
a.—Head-slucies and regulating works	50,000	20,000	70,000
b.—Falls and weirs	50,000	10,000	60,000
c.—Aqueducts	25,000	9,000	34,000
3.—Drainage works (surface of lands)	60,000	15,000	75,000
4.—Supply of tanks	10,000	...	10,000
5.—Road Bridges	25,000	...	25,000
6.—Navigation works	15,000	...	15,000
7.—Mills and application of water-power	10,000	...	10,000
8.—Buildings	40,000	...	40,000
D.—EARTH-WORKS—			
a.—Excavation of bed	5,00,000	...	5,00,000
b.—Embankments or protection of banks	1,50,000	...	1,50,000
c.—Divisions of drainage crossing the canal	25,000	...	25,000
d.—Escape channels	25,000	...	25,000
1.—Main Canals and Branches	1,50,000	80,000	2,30,000
2.—Distributing Channels	50,000	11,000	61,000
3.—Drainage (surface of lands)	...	...	...
4.—Supply of tanks	...	...	...
5.—Navigation channels	...	...	...
6.—Supply channels to mills	5,000	2,000	7,000
Total Works...	21,60,000	2,24,000	23,84,000
E.—MISCELLANEOUS—			
Experiments, contingencies, etc.	10,000	1,000	11,000
Total Miscellaneous...	10,000	1,000	11,000
F.—PLANTATIONS—			
Total Plantations...	...	...	...

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Capital Account of the Eastern Jumna Canal to end of 1871-72.—(Concluded.)

	Previous.	1871-72.	Total.
	Rs.	Rs.	Rs.
G.—ESTABLISHMENT—			
A.—General—			
1.—Direction	60,000	5,000	65,000
2.—Executive	4,04,500	36,700	4,41,200
3.—Medical	2,500	300	2,800
4.—Survey	3,000	...	3,000
Total Establishment...	4,70,000	42,000	5,12,000
II.—PLANT—			
1.—Navigation	25,000	20,000	45,000
2.—Machinery for mills	5,000	20,000	25,000
3.—Miscellaneous plant	...	...	...
Total Plant...	30,000	40,000	70,000
Grand Total...	29,70,000	3,07,000	32,77,000
Add increase to balance of Stock	50,000	...	50,000
Grand Total...	30,20,000	3,07,000	33,27,000
Deduct, Receipts on Capital Account	7,000	...	7,000
Grand Total...	30,13,000	3,07,000	33,20,000
Add simple interest on the outlay during construction	8,59,400	1,30,650	9,90,050
Total Capital Outlay...	38,72,400	4,37,650	43,00,050

A similar account for every other Irrigation Work.

No. II.

Detail of main heads of Outlay.

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NORTH-WESTERN PROVINCES.
REVENUE ACCOUNTS OF 1871-72.

No. 1.
Ganges Canal.

Expenditure.		Receipts.	
	RS.		RS.
A.—MAINTENANCE OF WORKS—			
I.—Extensions and Improvements.			
1.—Main Canal	1,50,000	IRRIGATION—	
2.—Distributing channels	40,000	Special water-rates	15,75,000
3.—Drainage works	10,000	Navigation	25,000
4.—Tanks	8,000	Water-power	25,000
5.—Navigation works	5,000	Plantations	45,000
6.—Mills	12,000	Miscellaneous	15,000
7.—Buildings			
8.—Miscellaneous			
II.—Maintenance and Repairs.			
1.—Main Canals	61,000		
2.—Distributing channels	7,000		
3.—Drainage works	5,000		
4.—Tanks	1,000		
5.—Navigation works	7,000		
6.—Mills	8,000		
7.—Buildings	16,000		
8.—Miscellaneous			
Total Maintenance of Work	1,03,000		
B.—PLANTATIONS	3,30,000		
C.—COMPENSATION	10,000		
D.—ESTABLISHMENT—	5,000		
a.—General	90,000		
b.—Revenue	1,80,000		
c.—Navigation	10,000		
d.—Mills and Machinery	5,000		
e.—Plantations	15,000		
E.—TOOLS AND PLANT—	3,00,000		
1.—Navigation			
2.—Machinery for mills			
3.—Miscellaneous	5,000		
Total Expenditure...	6,50,000		
Balance net Revenue being 3-76 per cent. on the Capital of Rupees 2,77,45,000	10,45,000		
GRAND TOTAL...	16,95,000	GRAND TOTAL ...	16,95,000
Gross charges for interest up to 31st March 1871, as per Capital Account		Total net Revenue up to 31st March 1871	
Ditto ditto for year 1871-72		Net Revenue for year as per Revenue Account	
Balance			
TOTAL...	...	TOTAL...	...

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NORTH-WESTERN PROVINCES.
REVENUE ACCOUNTS OF 1871-72.
Eastern Jumna Canal.

Expenditure.		Receipts.	
	RS.		RS.
A.—MAINTENANCE OF WORKS—			
I.—Extensions and Improvements.			
1.—Main Canal	20,000	IRRIGATION—	
2.—Distributing channels	5,000	Special water-rates	6,00,000
3.—Drainage works	3,000	Navigation	
4.—Tanks		Water-power	10,000
5.—Navigation works		Plantations	10,000
6.—Mills		Miscellaneous	5,000
7.—Buildings	12,000		
8.—Miscellaneous			
II.—Maintenance and Repairs			
1.—Main Canal	10,000		
2.—Distributing channels	15,000		
3.—Drainage works	7,000		
4.—Tanks			
5.—Navigation works			
6.—Mills	13,000		
7.—Buildings			
8.—Miscellaneous			
Total Maintenance of Works.	45,000		
B.—PLANTATIONS	85,000		
C.—COMPENSATION			
D.—ESTABLISHMENT—			
a.—General	20,000		
b.—Revenue	20,000		
c.—Navigation	5,000		
d.—Mills and machinery	15,000		
e.—Plantations			
E.—TOOLS AND PLANT—	65,000		
1.—Navigation			
2.—Machinery for mills			
3.—Miscellaneous			
Total Expenditure...	1,45,000		
Balance being 12-3 per cent. on Capital of Rupees 22,00,000	4,80,000		
GRAND TOTAL...	6,25,000	GRAND TOTAL...	6,25,000
Gross charges for interest up to 31st March 1871, as per Capital Account	8,00,400	Total net Revenue up to 31st March 1870	4,30,000
Ditto ditto for year 1871-72	1,30,650	Net Revenue for year as per Revenue Account	4,80,000
		Balance...	80,050
TOTAL...	9,90,050	TOTAL...	9,90,050

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NORTH-WESTERN PROVINCES.
REVENUE ACCOUNTS OF 1871-72.

Agra Canal.

Expenditure.		Receipts.	
		RS.	RS.
A.—MAINTENANCE OF WORKS—			
I.—Extensions and Improvements.			
1.—Main Canal ...	60,000		
2.—Distributing channels...	4,000		
3.—Drainage works ...	2,000		
4.—Tanks ...			
5.—Navigation ...			
6.—Mills ...			
7.—Buildings ...	3,000		
8.—Miscellaneous ...			
	60,000		
II.—Maintenance and Repairs.			
1.—Main Canal ...			
2.—Distributing channels...	6,000		
3.—Drainage works ...	8,000		
4.—Tanks ...			
5.—Navigation works ...			
6.—Mills ...			
7.—Buildings ...	2,000		
8.—Miscellaneous...	5,000		
	20,000		
Total Maintenance of Works ...	41,000		
B.—PLANTATIONS			
C.—COMPENSATION			
D.—ESTABLISHMENT—			
a.—General ...			
b.—Revenue ...	14,000		
c.—Navigation ...	40,000		
d.—Mills and Machinery ...	10,000		
e.—Plantations ...			
	64,000		
E.—TOOLS AND PLANT—			
1.—Navigation ...			
2.—Machinery for mills ...			
3.—Miscellaneous plant ...	10,000		
TOTAL EXPENDITURE...	1,84,000		
		GRAND TOTAL ...	1,84,000
Gross charges for interest up to 31st March 1871, as per Capital Account ...			
Do. do. for year 1871-72 ...			
		Total net Revenue up to 31st March 1871 ...	
		Net Revenue for year as per Revenue Account.	
		Balance ...	
		Total...	

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NORTH-WESTERN PROVINCES.
REVENUE ACCOUNTS OF 1871-72.

No. 11.

Abstract of Revenue Accounts of Irrigation Works for the Year 1871-72.

Works.	CAPITAL OUTLAY.			Revenue Charges of 1871-72.	Gross Revenue of 1871-72.	REVENUE.	
	Outlay incurred.	Simple Interest Charges.	Total.			More than Charges.	Less than Charges.
	RS.	RS.	RS.	RS.	RS.	RS.	RS.
Ganges Canal.	29,12,000	9,53,000	24,53,000	6,50,000	16,95,000	10,45,000	.....
Eastern Jumna Canal ...	3,07,000	1,30,650	4,37,650	1,45,000	6,25,000	4,80,000	.....
Lower Ganges Canal ...	17,58,600	59,700	17,98,300	.....	.....	.....	1,23,000
Agra Canal...	8,22,200	1,54,200	9,76,400	1,84,000	61,000	.....	.....
TOTAL ..	57,79,800	12,97,550	70,77,350	9,79,000	23,81,000	14,02,000	1,23,000

INTEREST ACCOUNT FOR EXTRAORDINARY IRRIGATION WORKS FOR THE YEAR 1871-72.

Total Interest charges for 1871-72 (calculated monthly at 4 per cent.) on the Capital outlay ...	RS.	Net Revenue realized, see details above ...	RS.
Balance ...	12,97,550		14,02,000
Total ...	1,04,450	Total...	14,02,000

Progressive Account of Capital Outlay with Comparison between the Interest payable thereon, and the Revenue realized from the Irrigation Works constructed therewith.

Year.	Amount of Capital expended.	Simple Interest on the Capital Account.	Net Revenue realized on account of Irrigation Works.	Interest more than Revenue realized.	Revenue realized more than Interest paid.
	RS.	RS.	RS.	RS.	RS.
1867-68 ...	30,70,000	1,70,000	1,20,000	50,000	.....
1868-69 ...	48,70,000	2,20,000	3,00,000	.....	80,000
1869-70 ...	45,80,000	8,00,500	8,00,000	500	.....
1870-71 ...	50,00,000	8,40,000	9,00,000		60,000
1871-72 ...	57,79,800	12,97,550	14,02,000		1,04,450

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D. 16th August 1871.

Note to accompany the new Forms for the Exhibition of the financial Results of Irrigation.

A complete system of revenue accounts for Irrigation works must be established forthwith, and also a procedure for exhibiting in a distinct form the outlay from loan funds.

2. What is needed is a system of—

1st.—Irrigation Capital Accounts

2nd.—Irrigation Revenue Accounts

3rd.—Account of the loan operations connected with Public Works.

3. In view to satisfying these requirements, all the irrigation accounts must be based upon, and worked up to, the Annual Appropriation Account of the Province—the entries in which agree with those of the Controller's balanced ledger.

4. This rule is absolutely necessary to prevent mistakes. Hitherto the so-called Irrigation Capital Accounts have, in many parts of India at any rate, been prepared by other officers without necessarily any reference to, or correspondence with, the actual figures recorded in the Account's Office. They thus start off on an incorrect basis, and a doubt is thrown over the figures and results from the first, which is often only too fully justified by the facts.

It must be understood that the accounts should record distinctly the income and expenditure of each work that may have been separately sanctioned, but all the works constituting a complete project, although separately sanctioned, should be included in one account, in order that the financial results of the project as a whole may be clearly exhibited.

CAPITAL ACCOUNTS.

5.—*Starting point for Capital Accounts.*—Each Province must make the best start it can. In the North-Western Provinces and Punjab the actual cost of the different works already constructed is clearly recorded, but the Capital Account should be reduced by writing off all works for maintenance, etc., which have been erroneously charged to Capital in former years. The charges for construction should include, as far as possible, the cost of preliminary surveys and of establishments while the works were in progress. Simple interest on the outlay for the period that each work was in progress should be added each year to the cost of the work as a distinct and separate item. The charge for interest will be made on all Capital outlay whether incurred from the Ordinary or Extraordinary grant. It must be distinctly understood that the cost of all works that may have been abandoned or proved useless from whatever cause, which properly formed part of the project, must be included in the Capital Account. The account thus made up would then become the Capital Account from which to make a fresh departure.

6. No corresponding charge should be made to revenue in the case of the preliminary

(* N. B.—These writes-off would involve any alteration in the Public Works books, because these Capital Accounts are not at present recorded in those books.) writes-off* alluded to in the last paragraph. All that is necessary is that outlay must be shown in the progressive account either as Capital or Revenue charge.

7. The Capital Accounts to be opened in Madras and Sindh must be necessarily quite arbitrary, as in fact the real cost of existing works cannot, it is believed, be now ascertained. But what has to be done is to make this arbitrary opening and declaration of the sum which is to be held to constitute the Capital Account of each work, and this without further loss of time. No greater accuracy will be attained by delay, and until this is done, the Revenue Accounts also must continue to be quite inaccurate and inconsistent with each other.

In every case, however, in which it is found to be impossible to arrive at accurate results in making up the Capital Account, the circumstance should be reported to the Government of India with full particulars of the grounds upon which any amount is recommended to be accepted as representing approximately the Capital outlay up to the date of the opening of the new account.

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8. *Classification of Capital Accounts.*—To be laid down in Form No. I. of the accompanying forms.

9. In the case of works already completed, it will be possible in most cases to distribute the expenditure according to this classification otherwise an arbitrary, but such a distribution should be made as accurately as the available data will permit.

10. *Date from which Capital Expenditure should be regarded as Loan Expenditure.*—Loan expenditure should be taken into consideration with respect only to the expenditure charged as "Extraordinary" in the Public Accounts from 1867-68 inclusive. This plan will thus bring these Capital Accounts into accord with the accounts lately prepared of the outlay incurred from the Extraordinary grants.

MODIFICATIONS NEEDED IN PUBLIC WORKS ACCOUNTS.

11. The accounts will be booked as at present, except that the order of the entries in the sub journals will follow the order of the proposed new classification; but the different heads of Work and of Establishment will be closed through two new heads, "Capital" and "Revenue," precisely after the manner lately prescribed for the Capital Accounts of State Railways in the new rules.

12. *Capital* will comprise all original projects and extensions that may be authorized to be charged to this head.

13. *Revenue* will include all repairs, all renewals and extensions costing not more than Rupees 5,000 each, for separate objects and any others in excess of that sum which may not be sanctioned against Capital.

[N. B.—The head *Original Works* hitherto employed in the accounts will, of course, disappear; some works of that class will be charged to *Capital*, some to *Revenue*, and the continuance of the term would no longer be of any practical value.]

14. Establishments General (i.e., supervision, accounts, and executive) to be divided between the two heads according to the rules at present in force, or as they may be modified.

15. Establishments for collection, navigation, revenue, etc., will, of course, be all charged to *Revenue*.

N. B.—The *Capital* Account will consist partly of *Ordinary* and partly of *Extraordinary* expenditure. Two heads will, therefore, be required in the books for—

(1)—Capital Extraordinary;

(2)—Capital Ordinary;

the sum of the two giving the *total* Capital expenditure.

16. The relation between the grants and expenditure is, in fact, as follows:—

Grants.		Final Heads of Expenditure.
Extraordinary ...	{ New Works Establishment New Works Establishment Maintenance of Works Establishment	{ Capital. Revenue.
Ordinary ...		

17. This point will be found more fully developed in the forms of account.

18. *Appropriation Account, Irrigation Works, Part I.*—This is a modification of the Appropriation Account at present in use. The latter will henceforward be confined to the other services comprised in the Buildings and Roads Branch of the Department. Thus, the Appropriation Account of the Department will be in three parts—
1st, for Buildings and Roads Branch;
2nd, for Irrigation Branch;
3rd, for Railway Branch.

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19. The Irrigation Appropriation under Extraordinary and Ordinary, by year on Irrigation Works in the Province.

20. Establishments and Plant

* The audit of establishment charges during the year should continue to be conducted quite as at present. No change in this respect appears necessary or desirable. No distribution of these grants over different works would be too troublesome; the distribution of the expenditure over the different works, in its entirety, is effected by—

21. Part II. of the same account, which also distributes the work charges which are shown in the lump in Part I. over the different works in the Province;

22. Part III. of the Appropriation Account is an abstract of the outlay on Capital Account according to the proposed classification; and,

23. Part IV. is a detailed schedule of works, etc., making up the foregoing abstract; this account also shows the total outlay on each work to date compared with the sanctioned estimate thereof;

24. Parts V. and VI. are similar to III. and IV., and give the abstract and detailed schedule for maintenance of works, etc., under Revenue;

25. Part VII.—Schedule of Establishments showing their distribution over the different works, and also upon Capital and Revenue.

26. Parts VIII. and IX. are an abstract and a schedule of outlay on tools and plant.

CAPITAL AND REVENUE ACCOUNTS.

27. The foregoing complete the accounts required for recording the expenditure of the year. From these, and proved by them come the Capital and Revenue Accounts.

28. The necessary accounts for the purposes in view under this head appear to be as follows:—

Capital Account, No. I.—A detailed Capital Account in accordance with the specimen form should be made up every year for each project.

[By a little arrangement the same sheet in Controller's Office might suffice to contain the Capital Account for several years.]

Capital Account, No. II., details of main Heads of Outlay.—These main heads being Works Establishment and Plant and the increase to the stock balances. This also shows the total outlay to date on each work, bringing together the Extraordinary and Ordinary expenditure.

29. The Revenue Accounts are as follow:—

30. *Revenue Account, No. I.,* of each canal. Three specimens are given—

(1) of a canal paying less than the interest on the capital borrowed;

(2) of one paying considerably more;

(3) of one paying less than its working expenses.

31. In all these accounts the actual realizations and not the assessments of water-rate have been taken. It may be found desirable to show earnings in this account instead of realizations; if this is done, a separate account must be kept of the realizations as in the case of Guaranteed Railways. The opinion of Local Governments on this head should be sent forward to the Government of India after the new forms and accounts have been practically tried.

32. *Revenue Account, No. II.,* brings the Revenue Accounts of the various Irrigation Works in the Province together, and shows the net results in Revenue returns of the total outlay incurred thereon up to date.

33. To complete the financial history of Irrigation Works, two more accounts will be needed as follows:—

34. *First, an Interest Account for Extraordinary Irrigation Works.*—The nature of this account will at once be understood from inspection of the specimen. For the present and

ount, besides comparing the grant and expenditure also the total Capital and Revenue outlay of the

charged each to a single head as at present.* Any distribution of these grants over different works would be too troublesome; the distribution of the expenditure over the different works, in its entirety, is effected by—

which also distributes the work charges which are shown in the lump in Part I. over the different works in the Province;

Account is an abstract of the outlay on Capital

making up the foregoing abstract; this account also shows the total outlay on each work to date compared with the sanctioned estimate thereof;

and give the abstract and detailed schedule for maintenance of works, etc., under Revenue;

showing their distribution over the different works, and also upon Capital and Revenue.

are an abstract and a schedule of outlay on tools and plant.

CAPITAL AND REVENUE ACCOUNTS.

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A detailed Capital Account in accordance with the specimen form should be made up every year for each project.

the same sheet in Controller's Office might suffice to contain the Capital Account for several years.]

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To complete the financial history of Irrigation Works, two more accounts will be needed as follows:—

First, an Interest Account for Extraordinary Irrigation Works.—The nature of this account will at once be understood from inspection of the specimen. For the present and

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until further orders the interest on the capital outlay incurred should be reckoned at 4½ per cent. per annum.

35. The second and final account, which compiles record of what is required in this matter, is the—

Progressive Account of Capital Outlay which shows the capital outlay on Irrigation works year by year, the revenue derived from the outlay year by year, and the difference between the interest defrayed and the revenue realized.

36. No change need be made in the accounts of Executive Engineers, except in the preparation of schedule which should follow the new classification. But it will be necessary to keep the accounts of Irrigation Works in all stages of progress entirely distinct from those of other Public Works.

37. A distinct set of monthly accounts must also be rendered to the Accountant-General, Public Works Department, by Controllers of Public Works Accounts.

No. 453. From the Controller of Public Works Accounts.

(Here enter No. 2,700, dated 5th February 1872.)

No. 454. From do. do.

(Here enter No. 2,917, dated 1st March 1872.)

No. 455. ORDER THEREON, 30th April 1872, No. 1,102.

IRRIGATION, No. 29.

The papers recorded at the head of these Proceedings relate to the preparation of Statements of the financial

results from Irrigation Works throughout the Presidency.

2. The statements hitherto submitted under the heads "Remunerative" and "Reproductive works" have related to a few of the more important works in the Presidency, and the results obtained from them do not, therefore, indicate the financial results from irrigation works throughout the Presidency; while the different methods under which the entries under Capital and Revenue have been estimated render the statements almost useless.

3. It is now desired that the Capital and Revenue Accounts of irrigation works shall be placed on a proper footing, and that accounts may be opened from which financial results for the whole Presidency may be obtained. The forms in which these accounts are to be kept accompany Circular No. 80 from the Government of India, and the notes attached to them indicate, in detail, the annual accounts of irrigation works required in future.

4. The statement of Remunerative works will not be superseded by the statement which will indicate the financial results of the whole of the irrigation works in the Presidency, though some of the works in the former will reappear in the latter, while others will be lumped together or with works which do not now find a place in the Remunerative statement. The Controller will, therefore, verify the entries in the Remunerative statement as already directed in G. O. No. 340, dated 5th February 1872, and will report the result to Government.

5. As regards the Financial Statement of irrigation works for the Presidency the information required for their preparation will be found in the registers of

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irrigation works which have
dated 13th July 1868, and in

No. 2,864 of 23th October 1869,
Department.

No. 3,555 of 6th November 1869, Public
Department.

6. The Revenue Board will
the information which the above
not will call upon the Collectors to
7. The Superintending Engineers are called upon to state what action they
have taken on G. O. No. 3,555 of 6th November 1869, relative to the same
statement.

8. The Revenue and Public Works Officers should prepare the statement
conjointly in order to prevent any subsequent discussion between the departments
as to the true origin of the increase of revenue.

9. When the statement adverted to above and the irrigation registers have
been completed and brought up to date, there will be no difficulty in preparing
the statement of financial results from them. In order, however, that the entries
in the statement may not be in too great detail, each district should be divided
into three or four or more sections, according to the nature of the works on which the

Godavery. Palar.
Kistna. Streeviguntum.
Pennair. Upper Coleroon.
Lower Coleroon.

A second sub-division may consist of lands dependent upon channels
branching from the main rivers above or below the anicuts and hence, independent
of those works.

A third may comprise lands dependent upon the minor streams in a district.

A fourth those dependent upon tanks and so on, or the grouping may be made
according to the degree in which knowledge is extant relative to the outlay on the
original works.

10. The Capital Accounts to be kept in Madras must, in a great measure,
be arbitrary as the real cost of existing works, with a few exceptions, cannot now
be ascertained; the manner in which the Capital Accounts are to be computed
must be determined for each work or group of works after the sub-division of the
Districts into groups has been made; it will then be possible to mark in the Irriga-
tion Registers the works which appertain to each sub-division or group and to
ascertain from the records in the Superintending Engineer's and Controller's offices
the expenditure made both on account of New Works and Repairs in each group
since 1856-57, the date of the transfer of the executive of Public Works to the
Professional Department, and the amounts thus arrived at must be taken to repre-
sent the Capital and Revenue expenditure upon the groups of works. The
Revenue will represent the difference between the amount derived from Irrigation
previous and subsequent to 1856-57 from each group. As regards the larger works,
such as those adverted to in paragraph 9, it will be possible to carry back the

under preparation under G. O. No. 2,234,
as called for by the Right Honourable the
Secretary of State for India in his
despatch No. 75, dated 31st August
1869, which was communicated to the
Revenue Board and to the Superintend-
ing Engineers.

, with the least possible delay, whether
the statement will afford has been obtained, and if
the completion of the statements.

are called upon to state what action they
relative to the same
statement.

various sections may depend for their
supply of water. Where large tracts
depend for their supply on anicuts, such
as those noted in the margin, such tracts
form a natural section or sub-division.

depend upon channels
branching from the main rivers above or below the anicuts and hence, independent
of those works.

lands dependent upon the minor streams in a district.

lands dependent upon tanks and so on, or the grouping may be made
according to the degree in which knowledge is extant relative to the outlay on the
original works.

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Superintending Engineer's and Controller's offices
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Professional Department, and the amounts thus arrived at must be taken to repre-
upon the groups of works. The
between the amount derived from Irrigation
As regards the larger works,
it will be possible to carry back the

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Capital Account to expenditure incurred
and on determining the amount to be carried
tending Engineers will report briefly the result
upon the amount carried to that account, a
charge for each particular work. If charged
in the amount brought forward as Capital
amount on account of Establishment.

11. The items which Capital and Revenue
in paragraphs 11 to 15 of the explanatory memo-
lar No. 80, and are described more in detail in
in G. O. No. 1,184 of 20th April 1869, for
will not be debited to Revenue charges.

12. The receipts under "Land Revenue"
Land Revenue on irrigated lands when levied
whole Land Revenue and the water-rate on
charged. All miscellaneous items of income
the proceeds from Nanal plantations, etc., with
as the income from navigation on canals of
irrigation.

13. His Excellency the Governor
lost on the part of the Collectors and
how their respective charges may be determined
collecting the information required
irrigation being prepared at an early date.

14. Until the Registers of irrigation
called for by the Secretary of State for India
has been obtained, and the grouping of
officers has been carried out. His Excellency's
services of a special officer are not required
financial statements of irrigation works not
(True E.)

To Superintending Engineers.
To the Controller of Public Works Accounts.
" Revenue Board.
" Revenue Department.
" Chief Engineer for Irrigation.
" Financial Department.

Ed. F. R. Bantleman.

Public Works Department,

remote period than 1856-57;
the Capital Account the Superin-
which have induced them to fix
show the main elements of
Establishment are not included
per cent. may be added to the

charges are to include are noted
indium which accompanies Circular
the Committee's Report embodied
present the charge for collection

"irrigated" will include the whole
in a consolidated rate and both the
lands, when the latter is separately
deducted from irrigation works, such as
included under this head as well
tion.

the Council desires that no time may be
wasting in determining
to groups or sub-divisions, and in
of the financial statements of

are completed, the information
under No. 75 of 31st August 1869,
works in the districts by the local
Council is of opinion that the
to aid in the preparation of the
to be introduced.

Captain, R.E.,
Secretary to Government.

Book of 1872

PUBLIC WORKS.

To

SUPERINTENDING ENGINEER

1872

May 15

1872

1872

1872

1872