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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

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DEPARTMENT

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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General
Establishment.

No. 96.

READ—the following papers:—

From Colonel W. S. TREVOR, R.E., Secretary to the Government of India, Public Works Department, (General,) to the Secretary to the Government of Madras, Public Works Department, dated Simla, 24th July 1882, No. 1082 G.

I am directed to acknowledge your letter No. 1439 W., dated 9th June, making certain proposals for working new divisions proposed to be made in the Delta Irrigation Works, and to communicate the following remarks.

2. The plan proposed of engaging upper subordinates, after taking their pensions, as Executive and Assistant Engineers, is opposed to the regulations of the Civil Pension Code. It is moreover, in the opinion of the Government of India, not in the interests of Government to entrust such large responsibility to men whose previous training has been wholly in the Upper Subordinate Establishment.

3. But before any other method of increasing the strength of Engineers in Madras is considered, I am to request that the previous question may be considered whether any increase at all is required. The proposals just submitted by the Government of Madras point to the conclusion that the present staff is sufficient to meet all or nearly all requirements; for those proposals, if carried out, would only lead to an increase of a few Overseers. The Government of India has all along considered the sanctioned strength of Engineers in Madras to be extravagant, and one reason which led to its acceptance of the proposals of the Madras Government in regard to the permanent staff of Engineers was that it was thought the same staff would be able to undertake extended work, when funds should be made available. After making due allowance for revenue work, it seems probable that the whole establishment charges in Madras are not much short of 40 per cent. on the outlay on works and repairs. This disproportion has more than once been commented on by the Secretary of State. I am to request therefore that the distribution and employment of the whole Engineer staff may be carefully reviewed, and that no consideration of mere territorial occupation or traditionary custom may be allowed to stand in the way of a stringent limitation of the use of members of the Engineer Establishment to work which demands the exercise of their higher training.

4. I am to state that it must be looked upon as fixed and settled that no increase will be made to the permanent sanctioned scale of Engineers in Madras. It would therefore seem advisable to provide the Executive Engineers for the new divisions from the existing permanent staff, and if it should be found, after careful view, that an increase to the engineering staff is absolutely necessary, that increase should be obtained either by transfer from other Provinces or by the engagement of temporary Assistant Engineers or Upper Subordinates.

No. 96-A.

From the same Officer, dated Simla, 25th July 1882, No. 1087 G.

In reply to your letter No. 1448 W., dated 10th June 1882, affirming the inadequacy of the provision made for absentees in the establishment sanctioned for the Madras Public Works Department, and requesting that the provision may be increased so as to be more in consonance with actual experience gained in the Province, I am directed to observe that when the present scale of establishment for the Madras Public Works Department was sanctioned, the Government of Madras was told, in paragraph 6 of Public Works Department letter No. 1250 G., of 23rd September 1881, that the scale must be regarded as the maximum, and that provision for the superintendence of any works that might hereafter be taken in hand must be made without any increase of the permanent staff. The Secretary of State was also so informed.

2. A comparison of the percentage of establishments to works in some of the larger Provinces show that the existing establishment in Madras is by far the most expensive. The Secretary of State has on more than one occasion commented on the extravagance of the Public Works Establishments in Madras, and the Government of India regrets that it is unable to meet the wishes of the Madras Government.

3. If the Public Works Department in Madras is short handed, the first obvious step, I am to point out, is to recall to duty the officers on special leave. If this should not suffice, I am to say that the permanent establishment should be supplemented by the entertainment of temporary establishment.

No. 97.

ORDER—dated 16th October 1882, No. 2695 W., Public Works.

Ordered that the following letter be despatched to the Government of India.

(Here enter, No. 2696 W., dated 16th October 1882.)

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

Exd. S. T. Austin.
Spare Copies

Govt. of (1882) Madras.
PUBLIC WORKS.

Statement showing the Numbers and Pay of Staff, Numbers and Cost of Works in each Public Works Division, and Province.

Dated October, 16th.

Recd.

Encl.

G.O., 16th Oct. 1882, No. 2695 W.

OCTOBER.

Nos. 96-97.

Public Works Establishment,
Madras Presidency.

Ordered that the Government of India be
addressed on the subject of the scale of the—

Statement showing the Numbers and Pay of Staff, Numbers and Cost of Works in each Public Works Division, and Percentage.																																				
STAFF.													WORKS.																							
ENGINEER ESTABLISHMENT.							UPPER SUBORDINATE ESTABLISHMENT.					Petty Office, Temporary Establishment, Contingencies and Travelling Allowances.	Total Instruction.	Military.			Other Services.			New Works.	Repairs.	Total.	17.	18.	19.											
Executive Engineer.	Assistant Engineer.	Total.	Sub-Engineer.	Supervisor.	Overseer.	Total.	No.	Amount.	No.	Amount.	No.			Amount.	No.	Amount.	No.	Amount.	No.							Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.								
First Circle.																																				
Ganjam																																				
Vizagapatam																																				
Godavari Eastern																																				
Do. Western																																				
Total																																				
Second Circle.																																				
Kistna Eastern																																				
Do. Western																																				
Nellore																																				
Sungam Project																																				
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Third Circle.																																				
Bellary																																				
Cuddapah																																				
Kurnool																																				
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West Coast																																				
Chandabari																																				
Salem																																				
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N.B.—The Staff is as it stood on the 1st July 1882.

The Provincial undistributed Reserve has been assigned ratably to each division.

Statement showing the Numbers and Pay of Staff, Numbers and Cost of Works in each Public Works Division, and Percentage Charge under "Construction" arranged according to Superintendent's Report—cont.

Statement showing the Numbers and Pay of Staff, Numbers and Cost of Works in each Division.																																											
WORKS—cont.														GRAND TOTALS.																													
IRRIGATION AND NAVIGATION AND AGRICULTURE ORDINARY—cont.						PROVINCIAL.			EXCLUDED LOCAL.		INCORPORATED LOCAL.											Percentage of Expenditure on Construction.		Remarks.																			
Total.						Navigation Works.			Original Works.		Original Works.																																
Totals.						Capital.			Port Fund.		Local Funds.					Repairs, Local Funds.						Totals.		New Works.		Sizable share of Reserve.		Repairs.		Grand Total, Works, Repairs.													
Works.						Repairs.			Total.		Works.					Repairs.					Total.					No.		Amount.		Amount.		Amount.		Amount.									
No. Amount. Reserve. Total.						Amount. Total.			Amount. Amount.		Amount. Amount. Amount. Amount. Amount.					Amount. Amount. Amount. Amount. Amount.					47		48		49		50		51														
33						34			35		36					37					38					39		40		41		42		43		44		45		46			
Rs. Rs. Rs. Rs. Rs. Rs.						Rs. Rs. Rs. Rs. Rs. Rs.			Rs. Rs. Rs. Rs. Rs. Rs.					Rs. Rs. Rs. Rs. Rs. Rs.					Rs. Rs. Rs. Rs. Rs. Rs.					Rs.		Rs.		Rs.		Rs.		Rs.		Rs.									
First Circle.																																											
Ganjam						9,978 9,978 34,140 44,127			271 600		901 645 930 1,575 537 2,112					1 3,170 38,967 55,247 1,09,649 31.78																											
Vizagapatam ..						9,978 9,978 22,049 32,027			272 600		905 648 931 1,579 539 2,118					2 79,925 38,971 41,744 1,69,649 12.07																											
Godavari Eastern ..						6 57,600 9,979 66,979 40,152 1,07,131			271 600		901 645 930 1,575 537 2,112					3 75,875 38,968 1,10,242 2,26,083 17.22																											
Do. Western ..						2 19,428 9,978 29,404 36,149 55,553			1,085 2,600		3,608 2,583 3,721 6,304 2,160 8,454					38 3,93,608 1,65,865 2,69,478 9,09,612 18.04																											
Total ..						8 76,426 39,913 1,16,339 1,28,099 2,39,438			271 600		901 645 930 1,575 537 2,112					11 2,09,428 51,027 1,80,444 8,84,964 13.49																											
Second Circle.																																											
Kistna Eastern ..						1 20,000 13,303 33,303 50,309 63,702			271 600		901 645 930 1,575 537 2,112					6 62,310 51,058 75,063 1,88,431 19.74																											
Do. Western ..						 13,303 13,303 23,199 36,502			272 600		905 648 931 1,579 539 2,118					8 1,39,320 51,022 1,01,241 2,75,893 13.49																											
Nellore						1 41,673 13,307 54,980 52,401 1,07,381			271 600		901 645 930 1,575 537 2,112					3 2,74,680 2,782 1,245 5,78,007 16.04																											
Total ..						2 61,673 39,913 1,01,686 1,05,999 2,07,585			1,085 2,600		3,608 2,583 3,721 6,304 2,160 8,454					22 7,67,106 1,65,866 1,26,078 12,38,410 18.35																											
Third Circle.																																											
Bellary						1 15,000 13,303 28,303 50,199 78,502			363 600		1,204 861 1,241 2,102 716 2,820					1 3,000 51,054 59,659 1,26,716 20.22																											
Cuddapah						1 8,000 13,307 21,307 41,201 62,502			363 600		1,204 861 1,241 2,102 716 2,820					1 3,000 51,054 59,659 1,26,716 20.22																											
Karnool						 13,303 13,303 30,199 43,502			363 600		1,204 861 1,241 2,102 716 2,820					1 3,000 51,054 59,659 1,26,716 20.22																											
Total ..						2 23,000 39,913 62,913 1,21,599 1,84,512			726 600		2,408 1,722 2,482 4,204 1,432 5,640					2 6,000 102,108 119,318 253,432 40.44																											
Fourth Circle.																																											
West Coast ..						 9,978 9,978 17,149 27,127			271 600		901 645 930 1,575 537 2,112					4 28,800 38,965 1,09,246 1,77,061 25.52																											
Coimbatore ..						1 10,000 9,978 19,978 85,149 1,05,127			271 600		901 645 930 1,575 537 2,112					4 28,800 38,965 1,09,246 1,77,061 25.52																											
Salem						2 32,000 9,979 42,658 35,149 77,307			271 600		901 645 930 1,575 537 2,112					4 28,800 38,965 1,09,246 1,77,061 25.52																											
North Arcot ..						1 3,000 9,979 12,979 90,152 1,03,131			1,085 2,600		3,608 2,583 3,721 6,304 2,160 8,454					20 2,33,775 1,55,866 8,04,978 6,32,619 25.52																											
Total ..						4 45,680 39,913 85,593 2,37,599 3,13,102			363 600		1,204 861 1,241 2,102 716 2,820					2 54,838 51,012 1,35,062 2,42,008 25.52																											
Fifth Circle.																																											
South Arcot ..						3 17,118 13,307 30,425 1,11,201 1,41,626			363 600		1,204 861 1,241 2,102 716 2,820					2 54,838 51,012 1,35,062 2,42,008 25.52																											
Chingleput ..						2 49,020 13,303 62,323 62,690 1,25,022			363 600		1,204 861 1,241 2,102 716 2,820					7 1,18,105 61,010 88,159 2,41,874 25.52																											
Buckingham Canal ..						 13,303 13,303 23,199 36,502			363 600		1,204 861 1,241 2,102 716 2,820					7 1,18,105 61,010 88,159 2,41,874 25.52																											
Presidency ..						 15,303 13,303 23,199 36,502			1,085 2,600		3,608 2,583 3,721 6,304 2,160 8,454					24 4,89,756 1,55,878 3,42,130 1,09,877 25.52																											
Total ..						6 66,138 39,913 1,06,051 1,37,099 3,03,150			363 600		1,204 861 1,241 2,102 716 2,820					2 54,838 51,012 1,35,062 2,42,008 25.52																											
Sixth Circle.																																											
Trichinopoly ..						 7,982 7,982 85,121 93,103			217 600		724 616 744 1,260 430 1,690					10 2,08,107 31,172 1,00,399 6,43,175 25.52																											
Tanjore						2 83,720 7,982 91,702 63,621 1,55,323			217 600		724 616 744 1,260 430 1,690					10 2,08,107 31,172 1,00,399 6,43,175 25.52																											
Nagapattinam ..						 7,982 7,982 59,321 67,303			217 600		724 616 744 1,260 430 1,690					10 2,08,107 31,172 1,00,399 6,43,175 25.52																											
Madurai						 7,982 7,982 63,121 71,103			217 600		724 616 744 1,260 430 1,690					10 2,08,107 31,172 1,00,399 6,43,175 25.52																											
Total ..						6 83,431 7,982 91,413 67,121 1,77,433			1,085 2,600		3,608 2,583 3,721 6,304 2,160 8,454					30 4,89,756 1,55,878 3,42,130 1,09,877 25.52																											
Seventh Circle.																																											
Madurai						 7,982 7,982 85,121 93,103			217 600		724 616 744 1,260 430 1,690					10 2,08,107 31,172 1,00,399 6,43,175 25.52																											
Total ..						10 1,05,661 39,913 2,05,965 3,47,305 5,53,270			1,085 2,600		3,608 2,583 3,721 6,304 2,160 8,454					30 4,89,756 1,55,878 3,42,130 1,09,877 25.52																											
N.B.—The Staff is as it stood on the 1st July 1882.																																											
The Provincial undistributed Reserve has been assigned ratably to each division.																																											

N.B.—The Staff is as it stood on the 1st July 1882.

The Provincial undistributed Reserve has been assigned ratably to each division.

APPENDIX A.

PART II.

iv

Abstract of Statement showing the Numbers and Pay of Staff, Numbers and Cost of Works in each Public Works Division, and Percentage Charge under "Construction" arranged according to Superintending Engineers' Circles.

STAFF.														WORKS.																				
ENGINEER ESTABLISHMENT.				UPPER SUBORDINATE ESTABLISHMENT.				Petty, Office, Tempo- rary Establish- ment, Contingencies, and Travelling Allowance.	Total Construc- tion.	IMPERIAL.						PROVINCIAL.																		
Executive Engineer.	Assistant Engineer.	Total.		Sub Engi- neer.	Supervisor.	Overseer.	Total.			Military.			Other Services.			New Works.			Repairs.			Total.												
		No.	Amount.				No.			Amount.	No.	Amount.	No.	Amount.	Reserve.	Total.	Amount.	Amount.	No.	Amount.	Reserve.	Total.	Amount.	Amount.	No.	Amount.	Reserve.	Total.	Amount.	Amount.				
		3	4	5	6	7	8	9	10	11		12	13	14		15	16	17		18	19													
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.													
No. I Circle	2	27,000	7	44,400	4	12,000	8	17,232	22	19,540	24	49,302	65,530	1,59,902	1	3,568	4,130	7,698	45,833	53,531	..	..	3,581	3,581	2,666	6,247	8	1,29,269	97,105	2,26,374	22,897	2,49,271		
" II do.	4	38,400	12	72,240	6	18,000	5	11,232	23	24,528	33	63,760	62,958	1,89,958	..	..	4,130	4,130	45,833	49,963	..	..	3,581	3,581	2,666	6,247	4	47,370	97,105	1,44,475	22,897	1,67,372		
" III do.	2	16,200	2	16,200	2	9,000	5	10,200	14	19,384	21	33,784	40,472	96,456	5	47,310	4,130	51,440	45,833	97,273	..	..	3,581	3,581	2,666	6,247	1	30,000	97,105	1,27,105	22,897	1,50,002		
" IV do.	5	40,800	3	13,800	8	63,880	4	15,720	5	10,716	19	21,108	28	47,644	60,710	1,62,134	5	38,288	4,130	42,418	45,833	88,251	1	13,527	3,581	17,108	2,666	19,774	10	1,26,280	97,105	2,23,385	22,897	2,46,282
" V do.	3	20,400	7	60,600	10	47,316	7	16,512	26	27,180	43	91,008	89,378	2,40,986	10	1,08,515	4,130	1,12,648	45,835	1,58,483	3	17,340	3,581	20,921	2,670	23,591	15	1,37,300	97,106	2,34,406	22,898	2,57,304		
" VI do.	6	36,800	4	20,400	11	71,076	4	14,880	12	25,032	23	22,080	39	61,992	76,234	2,09,302	..	..	4,130	4,130	45,833	49,963	1	3,000	3,581	6,581	2,666	9,247	16	2,40,225	97,105	3,37,330	22,897	3,60,227
Architect	1	14,940	1	14,940	1	5,640	1	2,280	..	..	2	7,920	11,334	34,194	..	..	..	..	..	..	2	1,81,000	..	1,81,000	..	1,81,000	1	5,792	..	5,792	..	5,792		
Total	22	2,04,836	26	1,28,400	48	3,33,336	39	1,23,756	43	93,204	127	1,28,420	200	3,45,380	4,13,616	10,92,332	21	1,97,681	24,793	2,22,464	2,75,000	4,97,464	7	2,14,867	21,483	2,36,353	16,000	2,52,353	55	7,16,236	5,82,531	12,98,867	1,87,388	14,36,250

APPENDIX C.

Statement showing the Number, the Area irrigated, and Revenue derived from Irrigation Works under the charge of Collectors.

Districts.	NUMBER OF		Area Irrigated.	Revenue.	Remarks.
	Channels.	Tanks.			
1	2	3	4	5	6
Ganjam ...	...	2,661	ACRES. 213,237	RS. 3,18,459	N.B.—The figures for columns 2 and 3 have been taken from the Revenue Board's Proceedings, No. 1762 of 19th November 1880. The figures for columns 4 and 5 have been obtained by deducting from the figures shown in the Revenue Board's Proceedings, No. 1724 of 6th July 1882, the totals for works under the charge of the Public Works Department as shown in Appendix B; but in the case of the Godavari District the figures have been got by deducting the figures in columns 2 and 3 of Appendix B from those shown in G.O. No. 68 L of January 1881 for the non-delta works in the Godavari District. The amount of revenue due to the Godavari Delta system as calculated by Mr. Wilson is more than that included in the amount shown by the Board of Revenue for the whole District, and therefore the former cannot be adopted to deduce the amount of revenue due to works under the charge of Collectors.
Vizagapatam ...	...	370	120,776	1,55,907	
Godavari ...	...	923	81,093	1,22,635	
Kistna ...	...	406	44,926	75,359	
Nellore ...	...	537	104,010	1,44,813	
Cuddapah ...	396	906	181,650	6,12,983	
Kurnool ...	103	248	16,896	58,682	
Bellary ...	...	675	88,535	2,79,963	
Chingleput ...	...	1,474	198,749	3,66,431	
North Arcot ...	675	1,897	215,187	8,68,892	
South Arcot ...	...	2,201	193,567	8,05,886	
Salem ...	...	1,338	81,527	3,21,003	
Coimbatore ...	38	79	27,275	1,47,283	
Tanjore ...	...	398	138,830	2,32,476	
Trichinopoly ...	...	651	54,994	98,682	
Madura ...	...	1,878	71,161	1,34,533	
Tinnevely ...	...	2,038	104,271	2,85,915	
Total ...	1,212	13,685	1,936,684	50,29,402	

APPENDIX D.

Public Works Divisions sanctioned under the Normal Scale (See Appendix A, G.O., 14th July 1881, No. 1729 W.) with the corresponding Civil Districts.

Superintending Engineers' Circles.	Public Works Divisions.	Corresponding Civil Districts or parts of Districts.
No. I	1. Ganjam ...	Certain works in parts of the Ganjam District.
	2. Vizagapatam ...	Do. Vizagapatam District.
	3. Eastern Godavari ...	Only the irrigated portion of the Godavari District and the river with banks as far up as Damagudiem.
	4. Western do. ...	Headquarters at present in Ganjam, but will soon move elsewhere.
	5. A. Project Division ...	Only the irrigated portion of the Kistna District.
No. II	6. Eastern Kistna ...	Certain works in parts of the Nellore District.
	7. Western do. ...	Also in the Nellore District.
	8. Nellore ...	Certain works in parts of the Bellary District.
	9. Sangam Project ...	Do. Cuddapah do.
	10. Bellary ...	Most of the Kurnool District, the department here being still in charge of Local Fund Works.
No. III	11. Cuddapah ...	Certain works in parts of the Kurnool and Cuddapah Districts.
	12. Kurnool ...	Do. Bellary and Cuddapah Districts.
	13. Kurnool Canal Division ...	at present.
	14. C. Project Division ...	Till lately work extended over Malabar, Canara, and Nilgiri Districts, and portion of Cochin.
	15. West Coast ...	Till lately occupied part of the Coimbatore District.
No. IV	16. Coimbatore ...	Certain works in part of the Salem District.
	17. Salem ...	Do. North Arcot District.
	18. North Arcot ...	Till lately engaged in Salem and is now in Coimbatore.
	19. B. Project Division ...	Most of the South Arcot District.
	20. South Arcot ...	Do. Chingleput do.
No. V	21. Chingleput ...	Runs through the Chingleput, Nellore, and Kistna Districts.
	22. Buckingham Canal ...	Part in the Madras District and part in Mysore.
	23. Presidency and Bangalore ...	Most of Trichinopoly District, as the department here still retains Local Fund Works.
	24. Trichinopoly ...	Certain works in part of the Tanjore District.
	25. Tanjore ...	Do. do. do.
No. VI	26. Negapatam ...	Do. Madura do.
	27. Madura ...	Do. Tinnevely do.
	28. Tinnevely ...	Do. Tinnevely do.
	29. Consulting Architect ...	Chiefly in Madras District.
	30. D. Project Division ...	In office of Chief Engineer for Irrigation.
Chief Engr....		

Remarks.

Of the sanctioned thirty Public Works Divisions, it will be observed that only two (Kurnool and Trichinopoly) are quite coextensive with the Civil Districts; others occupy parts as required by the works in hand, and others again, e.g., Nos. 5, 13, 14, 15, 19, 22, 23, and 29, have work extending over parts of two or more Civil Districts.

Quite lately much of the work belonging to the West Coast in the Canara and Malabar Districts and the Native State of Cochin has been transferred to Coimbatore, and the size of the West Coast Division reduced to the Nilgiris and parts of Wynad. None of the three newly proposed divisions, e.g., the Central Godavari, Central Kistna, and Cauvery Regulators occupy any but fractional parts of Civil Districts, and their limits have been solely decided by the requirements of the works.

It may also be noticed that in letter to the Government of India, No. 1697 W., dated 9th July 1881, on the subject of the new normal scale, after showing how certain Superintending Engineers' Circles were to be formed, it was added, paragraph 11, that "all the other circles have been made out strictly with reference to the actual works in progress and proposed." No other principle has in fact been observed in the distribution of the charges, whether Superintending Engineers' Circles or Executive Engineers' Divisions.

X APPENDIX E.

Memorandum on the Percentage Charge for Establishment in the Madras Public Works Department as compared with Outlay on Works.

To all acquainted with the varying conditions under which the work of a department like that of this Presidency, where operations of every conceivable character, large and small, concentrated and scattered, have to be provided for by a single establishment, the difficulties of applying the percentage charge as a test of economical and efficient management are such as call for great caution in application.

2. Where work is concentrated, funds supplied abundantly and all the conditions are favourable, the percentage charge is, or ought to be, small, and where to such ordinary advantages there is the additional facility of obtaining the materials to be employed in construction in a finished manufactured form from England or elsewhere, as generally is the case with railway work, iron bridges, pipes for water-supply works, &c., the charges for superintendence should be reduced to a minimum.

3. It has been shown for instance that on the work of the State Railways under the Government of India, the charge for establishment is not much more than nine per cent. The Madras Harbour Works affords even a more marked example. Here as proved by the figured statement which will be found lower down, the establishment charge for construction was only 6.8 per cent. in 1878-79, 4.3 in 1879-80, 4.9 in 1880-81. In 1881-82 with the self same establishment but owing to diminished outlay, the charge rose to 10.7 per cent., and in this year from a continuance of the same cause, the charge may very probably be as high as 20 per cent.

4. With an establishment, the strength and pay of which must in great measure remain unavoidably fixed, this question of the supply of funds is vital as affecting the percentage charge, as may at once be seen from what has occurred here in the last and present years. In 1881-82, the outlay on works being only Rs. 42,47,439, the unreduced charge was 39.6 per cent., though the cost of establishment owing to previous reductions was only Rs. 16,85,442, but in the current year, although from the late sanction of the increased normal scale of establishment the cost has risen to Rs. 20,99,314, the incidence is much less, being only 34.7 per cent. from the fact that it has been found possible to raise the outlay on works to Rs. 60,45,290.

5. The mere fact of difference in price of labor prevailing in one part of India as compared with another will of itself "pro tanto" alter the incidence of establishment charge. Where labor costs two, three or four times more in one place than it does in another, the percentage charge for the self same kind of work must necessarily be in inverse ratio to these numbers; e.g., if in Burma, where labor is probably three times as dear as in Madras, the fair charge for the supervisory equivalent in Madras, as the pay of members of the establishment does not vary with the province.

6. As regards the concentration or otherwise of the work, the Government of India has in Circular XX, P.W., dated 29th September 1881, fully recognised the effects on the incidence of the establishment charge. Here (paragraph 33) it is observed that "experience and inquiry show incontestably that petty and scattered works of the general nature of local works entail expense in respect of supervision if supervised professionally from three to six times as great as latter may demand."

7. In other words, if 9 per cent. as shown to prevail on the highly concentrated and otherwise favourably placed work of State Railways be accepted as fair in the one case, from 27 to 54 per cent. would be the corresponding rate in the case of scattered works.

8. But quite apart from these and other considerations of a general character, which more or less affect all branches of the department in India, there are special duties devolving on members of the department in Madras which places its establishment in a class by itself.

9. The first of these is the need for the development of irrigation and other works, suitable for either prevention of famine or for execution during famine. It is needless after all that has been said and written by the Famine Commission, by this Government and by the Government of India, to prove the absolute necessity for special arrangements being made as regards projects of destructive famines. Suffice it to say that in full recognition of the requirements in this respect four full divisions of officers and subordinates (some not as yet however completely manned, the preparation of projects of the above character. Colonel Hasted's services were for several months similarly engaged, in bringing up the completion estimates for the Godavari system. Major Pennycuik has for the past three months been on special duty, in the preparation of the Perryaur Project—a protective work of great importance. Mr. Nordmann and a Sub-Engineer were also for a large portion of last year engaged in reconnoitring and surveying the country between Vizagapatam and Raipur, in view to the location of the proposed famine protective line of railway in this direction.

10. In these and all similar cases while there is a very heavy charge under Establishment there is absolutely no outlay under the head of "Works." Comparison is thus out of the ques-

tion, as the percentage charge would here be infinitely large. To mix up the cost of all establishment so employed is in fact misleading; yet from the method by which the charges are shown in the departmental accounts, this is what actually occurs in determining the percentage charges.

11. As shown by the correspondence in regard to famine works, the establishment thus specially set apart must yet for several years be engaged on the preparation of projects. Not only so; hardly a single Superintending or Executive Engineer but has some special work of a similar character to think of and devote some of his time to.

12. The next and much more important consideration in regard to the special duties devolving on the Madras Establishment, has reference to the care and maintenance of the existing irrigation works.

13. In this Presidency no less than 5,196,279 acres are classed as "Wet" land, the revenue under which is all dependent on irrigation works, of which the following are the numbers, omitting many very minor works:—

				Numbers.
<i>Tanks.</i>				
Irrigating below 200 acres each	...	...	...	18,685
Do. above do.	...	...	...	3,116
Total ...				21,801
<i>Channels.</i>				
Irrigating below 200 acres each	...	...	...	1,212
Do. above do.	...	...	...	1,867
Total ...				3,079

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14. In Appendices B and C other details are given showing more particularly the distribution of the works under the Public Works and Civil Officers, respectively, but the mere enumeration of so many thousands of tanks, channels or other works can by itself convey but little real appreciation of the duties devolving in practice on the establishment. No one whose service has not been devoted to the care of these works, or whose attention has not been called daily to their requirements, can form any adequate idea of the practical effects of such a charge in reference to establishment.

15. This condition of matters has, it may be said without exaggeration, no approach to a parallel in any other part of the world; consequently deductions made from the experiences in Northern India or anywhere else where the conditions are entirely different are altogether inapplicable.

16. It is in the discharge of duties, often apparently of the most trivial description in maintaining the irrigation works, that the value of a trained and efficient establishment is best shown, though for that very reason least demonstrable by figures.

17. An establishment of this kind costing a large amount per annum, may by the careful and intelligent expenditure of only a very small amount on repairs, prevent the loss of enormous amounts of revenue, while on the other hand an inefficient and comparatively costless establishment may after expending large sums, fail to prevent large remissions of assessment. An establishment whose percentage charge is perhaps as high as 100 may in other words, if thoroughly efficient, prove infinitely more economical than one whose cost is only 25 per cent. Nowhere is this truth more clearly shown than in this Presidency.

18. Where as in the case of the delta works it has been found feasible to maintain a moderately large and efficient establishment the results have as well known been most encouraging, and the profits far in advance of any of the irrigation works in Northern India.

19. Nothing has in greater degree struck the Engineers accustomed to the unpretentious but much more effective works of Madras, than the great expenditure incurred in the designs of such schemes as the Ganges Canal, the Song works, and others of a kindred character; but a little reflection will show that the system of judging the value of an establishment by its small percentage charge, directly leads to such results. The officer who carries out "grand" works regardless of expense is enabled of necessity to show the smallest percentage charge on his "works" outlay, and a direct premium is thus held out to lavish expenditure of all kinds. In Bombay these results are even more marked.

20. The only valid test must, it is thought, be that of useful effect, and to ensure true economy we must first ascertain precisely the work to be done; second, train up the most efficient establishment for its execution.

21. Efficiency and whatever it may cost to reach the needful standard is in fact the only true test, and by so much as the establishment fails in reaching that, must the Presidency pay by loss of revenue. As well expressed by a very able predecessor, the late General Charles Orr, cheap establishment means dear work.

22. Here it may not be out of place to observe that no efforts have been spared to place the Madras branch of the General Public Works Department on a satisfactory footing. Its Code, forms of account and system of control have all been improved and are believed to be quite on a par with any other in India. The reductions effected in 1879-80 had a very beneficial effect on the "personnel" of the establishment (though leaving it too weak numerically), and the late arrangement of the Superintending Engineers' Circles leaves little to be desired.

23. All now needed is (1) a more ample allowance than is at present admitted to provide against casualties from sickness, leave, &c., and (2) the gradual increase of the establishment under the head "Construction" *pari passu* with the enhanced means which it is hoped may soon be placed at disposal.

24. Improvements are needed to the curriculum of the Civil Engineering College, and the lower grades of the department and some of the office establishments require both reorganization and strengthening. The details of these improvements have been carefully worked out, but it is needless to dwell on these matters further here.

25. Turning now to the actual cost of the establishment of this department as shown in figures, the following table gives all the available information for five years including that now current:—

Statement of Percentage Charge of Establishment, Madras Public Works Department, based on actuals for the Years 1878-79 to 1881-82 and in the Budget Estimate for Current Official Year.

Column.	Description.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83. Estimated.	Remarks.
(1)	Total outlay on works under all heads of service, Imperial, Provincial, Local, excluding Harbour Works.	Rs. 61,89,539	Rs. 47,40,316	Rs. 37,43,891	Rs. 35,83,572	Rs. 67,43,290	Figures in columns (1) to (3) inclusive have been given by the Examiner of Public Works Accounts, except (a) which has been assumed on the applications made to Government of India on account of the Harbour Works.
(2)	Madras Harbour Works	7,75,029	11,56,211	13,84,164	6,63,858	(a) 3,95,000	
(3)	Total Outlay Works only	69,67,568	59,06,626	51,28,055	42,47,430	60,48,290	
(4)	Total Outlay on Establishment under all heads of service, excluding Harbour Works.	28,74,273	23,09,779	14,43,218	16,14,357	20,38,478	
(5)	Do. Madras Harbour Works.	53,020	50,295	68,632	71,085	60,836	Figures in column (10) have been taken from a return furnished by Mr. W. Wilson.
(6)	Total Outlay Establishment only.	29,27,293	23,60,065	15,11,850	16,85,442	20,99,314	
(7)	Percentage charge for Establishment without deductions of any kind.	42.0	39.9	29.4	39.6	34.7	Figures in column (12) assumed from information in the Office of the Chief Engineer for Irrigation.
Deductions.							
(8)	Direct Revenue under Imperial, Provincial, Local.	8,91,890	4,12,153	5,96,263	6,29,147	4,28,271	
(9)	Ten per cent. on same	89,189	41,215	59,628	62,914	42,827	
(10)	Indirect Revenue Productive Works (Irrigation).	36,60,221	39,39,917	48,24,022	37,59,014	35,18,015	
(11)	Six per cent. on the same	2,19,613	2,36,334	2,89,441	2,25,540	2,11,080	
(12)	Indirect Revenue on Irrigation and Navigation Works other than Productive.	70,00,000	70,00,000	70,00,000	70,00,000	70,00,000	
(13)	Three per cent. on the same	2,10,000	2,10,000	2,10,000	2,10,000	2,10,000	
(14)	Total Deductions, columns (9) + (11) + (13).	5,18,802	4,87,549	5,06,009	4,06,454	4,83,977	
(15)	Correct Establishment charge, columns (6) - (14).	24,08,491	18,72,516	10,05,791	11,86,986	16,25,337	
(16)	Correct percentage charge of Establishment, column (15) on (3).	34.5	31.7	19.6	27.9	27.0	

26. In order to meet the financial rules of the Government of India the establishment charges have hitherto been distributed at certain fixed percentages over Imperial and Local works. This has had the effect of always leaving a large residuum to be met from "Provincial" funds, which thus at times have had to bear disproportionately heavy charges.

27. The system is a purely artificial one, and quite untrue in fact, as from there being no separation of duties among the members of the department work of all classes, whether Imperial, Provincial, or Local (now only very few), is, and has always been, carried out by one and the same establishment.

28. This being the case it has been considered advisable to set aside the artificial element in the above table, and by bringing together works under all heads of service, to show the true percentage ratably distributed over all equally.

29. It will be observed that without taking into account any deductions which have to be made the highest percentage charge in the five years, including "Direction," "Construction," and "Accounts," has been 42.0 and the lowest 29.4.

30. In the matter of deductions discussions with the Government of India have continued now over some years, and have as yet been only partially concluded.

31. As a provisional arrangement the Government of India has ruled that, ten per cent. of direct revenue of all kinds claimable by the department may be shown as a contribution towards the cost of establishment; also that six per cent. may similarly be credited on the indirect revenue of Productive irrigation works.

32. There has been no difficulty in deciding on the amounts of direct revenues for the years dealt with; but as regards the indirect revenue the matter has been otherwise. Here from the different system of land tenure prevailing in this Presidency from that in Northern India, it has only been found possible after long inquiry by a specially qualified Civil Officer (Mr. W. Wilson) to decide, first as to what portion of the total revenue collection could fairly be considered as the profits, or increase of revenue, due to the several Productive works carried out by the department, and second the share of enhanced land revenue, apart from the value of the water also due to them.

33. Mr. Wilson has only quite lately been enabled definitely to settle under both the above heads, the amount of profits claimable by the Godavari, Kistna, Cauvery, Pennar, and Srivai-kunthara, works, and column 16 in the table gives the total figures ascertained for these systems.

34. This Government has also claimed that three per cent. should for analogous reasons be credited on account of the indirect revenue due to Imperial works of navigation and irrigation not classed as Productive, but as yet the Government of India have not been enabled to convey their assent, owing chiefly to the difficulties experienced in deciding on the precise amount of the revenue involved. It is not understood that any difference of opinion exists as to the propriety of the contribution, but merely as to its amount. The local Revenue authorities have as yet been unable to give the precise figures, but from the available evidence the amount cannot it is thought be approximately fixed at less than 70 lakhs per annum, which is accordingly the figure adopted provisionally in the table, as that on which the three per cent. may fairly be calculated, as a credit towards the cost of the Public Works establishment engaged on maintenance of the works.

35. Making the deductions above adverted to it will be observed that the maximum percentage cost of establishment in the five years has been 34.5 and the minimum 19.6.

36. It must not be supposed that the deductions as above claimed have been realized in the accounts of the several years to which they relate. As a fact they have not been so, and the figures given therefore merely indicate (excepting in the last official year, when a small instalment has been adjusted) how under a more equitable system than has hitherto prevailed the accounts should have stood, and that in defect of this Provincial has lost and Imperial gained not less than 22 lakhs of rupees in the period comprised. See column (14).

37. Again it must not be thought that such adjustments and deductions are in any way exceptional or unrecognized in the other provinces of the empire. The reverse is in fact the case. Not only have such contributions been admitted in the provinces of Northern India, but to a very much greater extent than has ever been even claimed in Madras.

38. From the following statement, supplied by the late Inspector-General of Irrigation, it appears that on averages of the years 1875-76 to 1879-80 there has yearly been admitted as a charge against the revenue of the following works the sums below mentioned in addition to the 25 per cent. on works charged in the Public Works Department for establishment, viz.:—

Averages for Years 1875-76 to 1879-80 inclusive.

Canals.	Outlay on Works.	ESTABLISHMENT.		Revenue.	Percentage of Column 4 on Column 5.	Percentage of Total Establishment Charges Column 3 + 4; if charged against Works only Column 2.
		25 per Cent. on Works.	Remainder.			
1	2	3	4	5	6	7
Permanent.						
Ganges Canal	Rs. 3,94,011	Rs. 98,503	Rs. 5,12,446	Rs. 31,36,781	16.3	155.0
East Jumna	89,520	22,380	25,946	9,15,350	10.5	132.2
West Jumna	1,38,165	34,541	2,29,631	13,47,306	17.0	181.3
Bares Doab	2,41,562	60,391	1,98,783	9,00,259	22.2	167.7
Inundation.						
Upper Satlej Canal...	49,268	12,317	30,684	1,08,817	28.2	57.1
Indus	1,55,123	38,781	54,359	1,92,964	28.2	60.0

APPENDIX F.

Statement showing the probable loss of Revenue consequent on the neglected condition of Tanks and other Irrigation Works from 1863-64 to 1880-81.

N.B.—All areas and values are expressed in Lakhs.

	1863-64.		1864-65.		1865-66.		1866-67.		1867-68.		1868-69.		1869-70.		1870-71.		1871-72.		1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.		1880-81.		Total.	
	Extent.	Assess-ment.	Extent.	Assess-ment.	Extent.	Assess-ment.	Extent.	Assess-ment.	Extent.	Assess-ment.	Extent.	Assess-ment.	Extent.	Assess-ment.	Extent.	Assess-ment.	Extent.	Assess-ment.	Extent.	Assess-ment.	Extent.	Assess-ment.	Extent.	Assess-ment.	Extent.	Assess-ment.	Extent.	Assess-ment.	Extent.	Assess-ment.	Extent.	Assess-ment.	Extent.	Assess-ment.	Extent.	Assess-ment.	Extent.	Assess-ment.
(a) Entire cultivable wet area in the Presidency...	52.6	244.9	52.6	244.8	52.6	244.9	51.1	237.1	51.1	237.2	51.1	237.2	51.1	237.2	51.1	237.2	51.0	237.1	51.0	237.1	51.0	237.1	51.0	237.1	51.0	237.1	51.0	237.1	51.0	237.1	51.0	237.1	51.0	237.1	51.0	237.1	51.0	237.1
(b) Deduct Inam wet...	8.3	38.9	8.3	38.9	8.3	38.9	9.4	41.5	9.4	41.5	9.4	41.5	9.4	41.5	9.4	41.5	9.4	41.5	9.4	41.5	9.4	41.5	9.4	41.5	9.4	41.5	9.4	41.5	9.4	41.5	9.4	41.5	9.4	41.5	9.4	41.5	9.4	41.5
Cultivable wet area belonging to Government.	44.3	206.0	44.3	206.0	44.3	206.0	41.7	195.6	41.7	195.7	41.7	195.7	41.7	195.7	41.7	195.7	41.4	193.6	41.4	193.6	41.4	193.6	41.4	193.6	41.4	193.6	41.4	193.6	41.4	193.6	41.4	193.6	41.4	193.6	41.4	193.6	41.4	193.6
Wet area under occupation according to Ja-mabandy statements.	24.9	173.6	24.9	173.6	24.9	173.6	35.7	173.0	35.7	173.0	35.7	173.0	35.7	173.0	35.7	173.0	35.0	169.5	35.0	169.5	35.0	169.5	35.0	169.5	35.0	169.5	35.0	169.5	35.0	169.5	35.0	169.5	35.0	169.5	35.0	169.5	35.0	169.5
(c) Land not brought under cultivation apparently for want of supply of irrigation.	9.4	33.6	11.5	41.0	5.5	31.5	6.0	22.6	0.0	2.5	6.0	23.3	5.7	23.3	5.3	22.3	5.4	24.6	4.9	23.4	4.6	25.8	4.1	24.1	4.0	23.6	4.0	23.6	4.0	23.6	4.0	23.6	4.0	23.6	4.0	23.6	4.0	23.6
Of the lands occupied, i.e., remissions granted owing to bad seasons or deficient water-supply, &c.	..	14.9	..	17.9	..	18.6	..	9.5	..	3.5	..	24.6	..	12.3	..	8.1	..	10.8	..	6.0	..	12.3	..	5.9	..	24.9	..	54.3	..	13.8	..	13.9	..	10.5	..	9.1	..	23.3
Total Loss ..	..	47.9	..	58.9	..	50.1	..	33.1	..	5.1	..	47.9	..	35.6	..	30.4	..	35.4	..	20.4	..	37.8	..	23.4	..	45.4	..	90.4	..	47.2	..	46.4	..	42.7	..	42.0	..	69.0

(a) Possibly some of the land thus classed as "wet" would require considerable outlay being covered with stones "reh" &c.
 (b) Most of this land will probably be brought under irrigation when proper facilities are supplied.

(c) The whole of this must not be eliminated as on the creation of improved facilities of water-supply some of the Inam lands may become liable to water-tax.
 * Famine Year.

PUBLIC WORKS DEPARTMENT.

General.
Establishment.

No. 98.

LETTER—from

COLONEL R. H. SANKEY, R.E., C.B.,

Secretary to Government, Public Works Department,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,

PUBLIC WORKS DEPARTMENT.

SIR,

In your letters marginally noted the attention of this Government is drawn to what is held to be the extravagantly large
No. 1082 G., dated 24th July 1882. Establishment of this Department as proved
„ 1887 G., „ 25th „ „ by the percentage which its cost bears to
works compared with the results in other Provinces.

2. Since the receipt of the above communications, proposals have been made in my letter No. 2592 W., dated 4th October 1882 for organizing the establishment of the
Godávári, Central. three new temporary divisions marginally
Kistna, do. noted on a basis which has been approved
Cauvery and Vennár Regulators. by the Government of India; my present
communication will therefore, I am desired
to say, be confined to dealing with the more important question above adverted to.

3. The first point requiring attention is that contained in paragraph 3 of your letter No. 1082 G., calling for a review of the distribution and employment of the whole of the Engineer staff, and observing that “no consideration of mere territorial occupation or traditionary custom may be allowed to stand in the way of a stringent limitation of the use of the members of the Engineer Establishment.

4. To elucidate, as far as possible, this portion of the subject, I am to solicit a reference to Appendices A, B, and C, as also to the annexed index map showing the Civil Districts of this Presidency and their respective areas.

5. In Appendix A will be found the distribution of the establishment as existing on the 1st July 1882 (which is the most convenient date with reference to the returns), the proposed outlay on works under all heads of service, including the undistributed reserve for each division in the current official year, and the percentage cost of establishment as thus shown under “Construction.”

6. To admit of an opinion being formed as to the actual duties performed by the divisional staff, Appendices B and C must also be consulted. The first shows, as far as possible, the irrigation works classified under—

(a) Large “Productive works.”

(b) Smaller systems consisting, mainly of tanks and channels irrigating over 200 acres each, and provisionally classed as “Imperial.”

Appendix C, exhibits the Minor Irrigation Works irrigating each less than 200 acres.

7. Broadly speaking, all works (a) and (b) fall to the charge of the officers of this Department, who have likewise to maintain all tanks, whether great or small, composing the chains or series crossed by lines of railway. They have, moreover, the duty imposed on them of grouping all reservoirs, irrespective of size, shown in Appendix C—a work of considerable labor.

8. The minor irrigation works not having in all cases been grouped, the returns do not at present admit of giving accurately in detail the numbers, acreage, and revenue of works falling within the charge of the several Public Works Divisions under the reorganization of last year; it has only therefore been found practicable to give the figures according to the Civil Districts. The following however may be taken as affording a fair general view of the distribution of the works and of the interests involved:—

Description.	Number of Works.	Acreage.	Net Revenues.
<i>I.—Under Public Works Officers.</i>			
(See Appendix B.)			
Productive Works (six Irrigation Systems) * ...	1,315	1,781,336	79,33,254
Navigation and Irrigation Works other than Productive ...	3,724	1,505,993	73,48,103
Total Public Works Officers ...	5,039	3,287,329	1,52,81,357
<i>II.—Under Civil Officers.</i>			
(See Appendix C.)			
Minor Irrigation Works ...	19,897	1,936,684	50,29,402
Grand Total under both Departments ...	24,936	5,224,013	2,03,10,759

9. The vast amount of work involved in the proper maintenance of these works and their enormous importance will be more clearly recognized from remarks which will be found further on; but here it may suffice to observe that, in order to estimate even approximately the duties devolving on the several divisional officers, weight must be given to the area over which the works are spread, to their numbers, and to the revenue dependent on them.

10. It may however be doubted whether, in the absence of special local acquaintance with the works, any really correct idea of the duties involved in their maintenance can be formed, as it is needless to say that nothing even approaching to a comparison with the system of water storage in Southern India can be found in any other part of the world; deductions and experiences drawn from other Provinces are in fact wholly inapplicable to the case.

11. It will subsequently be shown that, far from being in adequate strength, the Department is altogether undermanned if due consideration be given to the interests of the irrigation works.

12. Regarding the observations as to the undesirability of allowing considerations of "territorial occupation or traditional custom" to weigh in deciding the distribution of the establishment, I am to request a reference to Appendix D, which affords detailed explanations on this point.

13. No such considerations as those supposed were allowed to weigh in the arrangement of divisions under the last sanctioned normal scale, and there is not, I am to observe, any desire on the part of this Government to permit the perpetuation of any arrangement not wholly regulated by the requirements of the works.

14. Whatever advantages may have been derived from a territorial arrangement of divisions, so long as the Local Fund works were executed by this department, have

* Excluding Sangam Anicut now under construction.

now in nearly all instances ceased to exist, owing to the disconnection with the works which followed on the reduction of establishment in 1879-80.

15. The second point calling for attention is that adverted to in paragraph 2 of your letter No. 1087 G., where it is observed, that a comparison of the percentage of establishment to works in some of the larger Provinces shows that the existing establishment in Madras is by far the most expensive, adding that "the Secretary of State has, on more than one occasion, commented on the extravagance of the Public Works Establishment in Madras."

16. Before dealing with the percentage charge I am desired to submit, in reference to the above quotation, that this Government had previous to the receipt of your letters under reply only on one occasion been made aware of the Secretary of State's opinion, and this, as will immediately be shown, was based on a misconception of the facts of the case.

17. In a despatch* of 1881, his Lordship observed, that an examination of the figures of the Public Works Budgets showed a percentage charge of 84.4 on (despatch No. 41 of 16th July 1881) it was pointed out that had the full and correct figures been before his Lordship he would have seen that the percentage was about 47, and that even this apparently high rate was due, not so much to excessive numbers as to the curtailment of grants for works for this Presidency, to the great area over which works have to be supervised, and to the system adopted in Madras for debiting the charges which did not correspond with that followed in other Provinces under the Government of India.

18. As no rejoinder has been received from the Secretary of State, either to this despatch or to another connected with the same subject, No. 50-2017 W., dated 17th August 1881, it is only reasonable to conclude that his Lordship was satisfied with the explanations afforded. Both despatches were communicated to the Government of India, and special attention was drawn to the subject in my letter No. 2473 W., dated 8th October 1881.

19. In turning now to the point on which the Government of India lay most stress, viz., the high percentage charges for Establishment, I am desired to invite attention to Appendix E, which has been drawn up by the Chief Engineer for the information of this Government.

20. As the Government of India are aware that, for cogent reasons, the force of which has been admitted, it has never been found practicable to create separate branches for the Establishment, viz., for Irrigation, Military Works, General and Local; the result is that artificial arrangements connected with the method of showing the establishment charges, have for convenience in the matter of accounts been adopted under sanction of the Government of India. To avoid the complications inseparable from this method of dealing with the question, and to which previous misapprehensions may readily be traced, the establishment and work charges are now treated for five years, including that now current, as if no separate branches of the Department existed. The work as a whole, is taken as having been carried out by one undivided establishment, an assumption which in the case of this Presidency corresponds in every way with the facts. Any other method would be artificial and quite untrue.

21. The highest percentage in any of the five years examined has been found to be 42.0 without deductions of any kind, and the lowest 29.4. Taking however into account the contributions already conceded by the Government of India, and those which will in all probability be eventually granted on account of percentage due to indirect revenue of Irrigation and Navigation Works, not classed as Productive, the percentages are found to be reduced to 34.5 and 19.6 respectively.

22. Were precisely the same terms, as regards contributions on account of the indirect revenue of the irrigation works, conceded to this Presidency as are understood to prevail in Northern India, and further were the charges for establishments wholly engaged on the projection of famine works struck out of the accounts, as the individuals concerned have no executive duties chargeable to works, His Excellency the

Governor in Council sees no reason to doubt the correctness of the conclusions arrived at by the Chief Engineer, that the charge for the establishment would, as against "works," not exceed 20 per cent.

23. Considering the much more scattered character of the works in Southern India than elsewhere, the percentages as thus worked out would appear to compare not unfavorably with those of other Provinces so far as known, but as the Government is satisfied that a test of this description must prove fallacious and misleading, and only serving to divert attention from the real requirements of this Presidency, they now desire to place before the Government of India the following observations bearing upon this vital point.

24. Hitherto, I am to observe, the facts upon which the strength of the establishment of this department has been decided have mainly been (1) the sums which, after meeting other exigencies, could be conveniently spared to Madras; (2) the percentage charge which, under experience derived from other Provinces, it was held would suffice for an establishment to expend the sums thus placed at disposal.

25. His Excellency in Council, after a careful review of the Finance and Revenue Accounts of India, has been confirmed in the general conclusions submitted for the consideration of the Government of India in my letter No. 337 W., as to the measure meted out to Madras in the matter of assignments from the Imperial Revenue compared with those conceded to other Provinces; and while quite prepared to admit that there have been at times political reasons of sufficient weight to justify the occasional departure from what might appear to be a strictly rateable distribution of the general funds at the disposal of the Government of India, he feels it incumbent on him to submit that such reasons no longer exist, and that the time has arrived for conceding to this Presidency its fair rateable share of the available surplus.

26. His Excellency is fully persuaded that the Government of India will, on consideration, be prepared to admit the justice of a request of this character, for which there are, moreover, very special reasons connected with the peculiar circumstances of this Presidency, to which I am now to invite attention.

27. The first and chief of these is the well-recognized fact that Madras has from time immemorial suffered in a greater degree from destructive famines than any other part of India, while, unlike the Northern Provinces, it has been denied by nature the advantages of internal water communications, afforded by such rivers as the Indus, Ganges, and Brahmaputra with their navigable tributaries.

28. The facts in this connection are, however, too well known and recognized to call for further remark, and I am therefore now to submit, as the second special reason, for consideration the following remarks as to the actual condition of the ancient systems of irrigation works, on the proper maintenance of which the land revenue, and indeed the whole prosperity of the Presidency, mainly depends.

29. In the tours which His Excellency the Governor has since his arrival been enabled to make through various parts of the Presidency, no subject has more constantly been brought to notice in the addresses presented to him, than the need of greater outlay and attention in regard to the minor irrigation works. A précis of the evidence previously taken on the subject and other information, a specific character will, it is hoped, ere long be submitted, with definite proposals, to the Government of India; but, in the meanwhile, I am to solicit attention to Appendix F, which shows in concise form the entire cultivable area of the Presidency, and the losses which have been sustained in the form of remissions of revenue from the year 1863-64 to 1880-81, both inclusive.

30. Not to overburden the statement, areas and assessment are expressed in lakhs of acres and rupees respectively. All the land as shown in the statement has at one time or another been classed as "wet," i.e., had means of irrigation afforded, but as will be observed from the remarks appended to the statement reasons exist in some cases for supposing that the classification is not strictly accurate: making however all desirable reductions on this account the facts revealed are almost startling.

31. Here it will be seen that year after year enormous areas of land which, were the works in order, should be under irrigation and bear wet assessment, are shown to have been thrown out of cultivation from the neglected condition of the tanks and channels. The aggregate losses each year in the opinion of the Revenue officers of Government amount to not less than 40 lakhs. The statement gives the aggregate loss in the 18 years recorded at 807 lakhs, but making all due deductions as above the actual amount, which, had means existed for bestowing proper attention on the works, should have been saved, cannot be estimated at less than 700 lakhs.

32. From the statements before Government the following was the reported condition of the irrigation works in the Presidency in 1879:—

	In Repair.	Out of Repair.	Total No.	Remarks.
Tanks	29,208	6,826	36,034	The figures here given were reported before the lists (Appendix B and C) were compiled and include the many very minor works there omitted.
River Channels	10,160	801	10,961	
Spring Channels	5,893	1,008	6,901	
Anicuts	1,826	515	2,351	
Wells	378,236	58,918	437,154	

33. It is impossible to test in all cases the accuracy of the returns on which these statements have been compiled, but it may generally be assumed that a very large proportion of the works are out of repair; and in regard to this it is necessary to bear in mind that, even where in so-called "repair," but very few tanks or channels are really doing at all the amount of effective work which, under proper scientific investigation and management they should be capable of. The Board of Revenue considered that the term "in repair" merely meant that the works "were not in an absolutely useless state."

34. And this leads to the third point for special consideration as to the claims of this Presidency, viz., the construction of new and extension of the area commanded by old irrigation works, were an adequate engineering staff and enhanced funds placed at the disposal of Government.

35. The following table, taken from page 106 of Sir John and General R. Strachey's late work on the Finances and Public Works of India, amply proves the truth of the observation made by a previous writer (Mr. Buckley) that the Madras works much "more than recoup all the deficiencies" of others of a similar character in India:—

Provinces.	Capital.	Net Revenue.	Interest at $4\frac{1}{2}$ per Cent.	Surplus.	Excess Charge.
	£	£	£	£	£
Bengal	4,980,000	18,000	220,000	...	202,000
North-West Provinces	5,346,000	269,000	237,000	32,000	...
Punjab	3,544,000	170,000	155,000	15,000	...
Madras	1,720,000	427,000	77,000	350,000	49,000
Bombay	1,333,000	10,000	59,000	...	...
Total ...	16,933,000	894,000	748,000	146,000	...

36. Not only have the Madras works languished year after year for want of funds and through insufficient strength of establishment, but, as here shown, ten times the amount have elsewhere been expended, too often with the result of heavy loss to the State. The table however only shows actuals of outlay down to 1879-80, and does not disclose the enormous amount of funds which has been sanctioned for outlay or sunk in lost interest on many of the works in Northern India, which it is

submitted have by no means as great a claim as the Madras works viewed either as Productive or Protective undertakings. It is believed that, in addition to the Capital outlay shown, not less than 15 millions sterling have been lost in interest or sanctioned works, &c., whereas Madras past, present and prospective will not have had 2½ millions assigned for its great and highly remunerative works. Some 25 millions sterling have thus been spent or assigned from the Imperial exchequer without it is believed any probability of the works producing anything approaching to the same results, either as paying schemes or as safeguards against famine as would have been produced from a smaller sum expended in Southern India.

37. From information in possession of the Irrigation Branch there are the best grounds to conclude that the irrigated area of the Presidency might be increased by 1,500,000 acres were the needful means afforded, and with every prospect of returns, which if not quite on a par with those derived from the productive works constructed at an earlier period, would in all probability prove much more remunerative than works of a corresponding class in other parts of India.

38. With a thoroughly trained and sufficiently strong establishment there is thus a well-founded hope that much of the sufferings due to famine might in future be counteracted, that 40 lakhs of annual remissions of revenue might be saved, and that some 1½ millions of acres, with a revenue value of 60 lakhs per annum, might be added to the irrigated area.

39. There are other objects of a special character of hardly less importance to be attained, if the Government is to fulfil in any adequate sense the duties imposed on it. Chief among these stands the need of works of water-supply and drainage for certain large centres of population which are quite beyond the local means to execute. In reference to this the Secretary of State has lately, at the instance of the Army Sanitary Commission, pressed on the serious attention of this Government the necessity of coming to the aid of the Madras Municipality which is unable to complete from its own resources the needful works. The condition of matters at the Presidency town is little short of a disgrace to any civilized Government, and matters in other large centres are if anything in a worse condition. As the papers in connection with Madras will ere long be submitted through the Government of India for the information of the Secretary of State, His Excellency the Governor-General in Council will be enabled to see how very pressing is the need for action.

40. If it be inquired how sufficient ways and means are to be provided for meeting all the demands as above set forth for this Presidency, I am to state that nothing further is needed in the opinion of His Excellency in Council than such a re-adjustment of the Imperial charges as will throw upon Madras only its ratable share. From the Finance and Revenue Accounts, 1863-64 to 1879-80, it can be shown that this Presidency has hitherto contributed more than 22 per cent. of the Imperial charges—a disproportion so marked, whether judged from the stand point of Provincial receipts, land revenue or population, as to call for most careful consideration.

41. That such is also clear from the assignments made under the late decentralization scheme, it has only to be stated that, whereas 38·48 of the land revenue has been conceded to Bengal, 43·29 to the Punjab, 48·46 to the Central Provinces, 49·82 to Assam, 33·61 to British Burma, and no less than 58·55 to Bombay,* only 28·9 per cent. has been granted to this Presidency.

42. If the inequalities in the incidence of the public burdens which have hitherto obtained, and which, in the opinion of His Excellency the Governor in Council, there is no sufficient reason for continuing be removed, and further, if powers be granted for the needful increase of Provincial establishments adequate for the growing demands,

* The percentage is in fact very much higher, as from the manner in which inland lands are included in the Bombay land revenues, these in the last 17 years have been swelled by an anomalous asset of no less than 745·7 lakhs, or on an average of 43·6 lakhs per annum. The true amount assigned to Bombay is much more nearly 66·2 of its land revenue.

there should apparently be no difficulty in future in providing for all the most pressing wants of this Presidency or in largely swelling the Imperial revenue derived from many portions of its territory.

I have the honor to be,

Sir,

Your most obedient servant,

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

Exd. S. T. Austin.
Spare Copies

GENERAL
ESTABLISHMENT.

Govt. of (1882) Madras.
PUBLIC WORKS.

Dated October, 16th.

Recd.

Encl.

16th Oct. 1882, No. 2696 W.

OCTOBER.
No. 98.

Public Works Establishment of
the Madras Presidency.

Regarding the scale of the —.

—TH OCTOBER 1882, No. — W., PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General
Establishment.

No.

READ—the following papers:—

From Colonel W. S. TREVOR, R.E., Secretary to the Government of India,
Public Works Department, (General,) to the Secretary to the Government
of Madras, Public Works Department, dated Simla, 24th July 1882,
No. 1082 G.

I am directed to acknowledge your letter No. 1439 W., dated 9th June, making
certain proposals for working new divisions proposed to be made in the Delta Irriga-
tion Works, and to communicate the following remarks.

2. The plan proposed of engaging upper subordinates, after taking their pensions,
as Executive and Assistant Engineers, is opposed to the regulations of the Civil
Pension Code. It is moreover, in the opinion of the Government of India, not in the
interests of Government to entrust such large responsibility to men whose previous
training has been wholly in the Upper Subordinate Establishment.

3. But before any other method of increasing the strength of Engineers in
Madras is considered, I am to request that the previous question may be considered
whether any increase at all is required. The proposals just submitted by the Govern-
ment of Madras point to the conclusion that the present staff is sufficient to meet all or
nearly all requirements; for those proposals, if carried out, would only lead to an
increase of a few Overseers. The Government of India has all along considered the
sanctioned strength of Engineers in Madras to be extravagant, and one reason which
led to its acceptance of the proposals of the Madras Government in regard to the
permanent staff of Engineers was that it was thought the same staff would be able to
undertake extended work, when funds should be made available. After making due
allowance for revenue work, it seems probable that the whole establishment charges
in Madras are not much short of 40 per cent. on the outlay on works and repairs. This
disproportion has more than once been commented on by the Secretary of State. I am
to request therefore that the distribution and employment of the whole Engineer staff
may be carefully reviewed, and that no consideration of mere territorial occupation or
traditional custom may be allowed to stand in the way of a stringent limitation of the
use of members of the Engineer Establishment to work which demands the exercise
of their higher training.

4. I am to state that it must be looked upon as fixed and settled that no
increase will be made to the permanent sanctioned scale of Engineers in Madras.
It would therefore seem advisable to provide the Executive Engineers for the new divi-
sions from the existing permanent staff, and if it should be found, after careful view,
that an increase to the engineering staff is absolutely necessary, that increase should
be obtained either by transfer from other Provinces or by the engagement of tempo-
rary Assistant Engineers or Upper Subordinates.

No.

From the same Officer, dated Simla, 25th July 1882, No. 1087 G.

In reply to your letter No. 1448 W., dated 10th June 1882, affirming the inadequacy of the provision made for absentees in the establishment sanctioned for the Madras Public Works Department, and requesting that the provision may be increased so as to be more in consonance with actual experience gained in the Province, I am directed to observe that when the present scale of establishment for the Madras Public Works Department was sanctioned, the Government of Madras was told, in paragraph 6 of Public Works Department letter No. 1250 G., of 23rd September 1881, that the scale must be regarded as the maximum, and that provision for the superintendence of any works that might hereafter be taken in hand must be made without any increase of the permanent staff. The Secretary of State was also so informed.

2. A comparison of the percentage of establishments to works in some of the larger Provinces show that the existing establishment in Madras is by far the most expensive. The Secretary of State has on more than one occasion commented on the extravagance of the Public Works Establishments in Madras, and the Government of India regrets that it is unable to meet the wishes of the Madras Government.

3. If the Public Works Department in Madras is short handed, the first obvious step, I am to point out, is to recall to duty the officers on special leave. If this should not suffice, I am to say that the permanent establishment should be supplemented by the entertainment of temporary establishment.

No.

ORDER—dated September 1882, No. , Public Works.

Ordered that the following letter be despatched to the Government of India.

(Here enter, No. W., dated September 1882.)
(True Extract.)

Lieut.-Col., R.E.,
Ag. Under Secy. to Govt., P.W.D.

GENERAL.
ESTABLISHMENT.

**Public Works Establishment,
Madras Presidency.**

*Ordered that the Government of India be
addressed on the subject of the scale of the—.*

Rsd. S. T. Austin.

No. 10828

No. 10828

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

GENERAL.

To,

The Secretary to the Government of Madras
Public Works Department.

Simla, 24 July, 1882.

Sir,

I am directed to acknowledge your letter
No. 1427 dated 9th June, making certain proposals
for working new divisions proposed to be
made in the Delta Irrigation Works, and
to communicate the following remarks:-
2. The plan proposed of engaging (upper
Subordinates, after taking their pensions, as
Executive and Assistant Engineers is opposed
to the regulations of the Civil Pension Code.
It is moreover, in the opinion of the Govt.
of India, not in the interests of Government
to entrust such large responsibility to men
whose previous training has been wholly
in the Upper Subordinate Establishment.

But

3. But before any other method of increasing the strength of Engineers in Madras is considered, I am to request that the previous question may be considered & whether any increase at all is required. The proposals just submitted by the Government of Madras point to the conclusion that the present staff is sufficient to meet all or nearly all requirements; for those proposals, if carried out, would only lead to an increase of a few overseers. The Government of India has all along considered the sanctioned strength of Engineers in Madras to be extravagant, and one reason which led to its acceptance of the proposals of the Madras Government in regard to the permanent staff of Engineers was that it was thought the same staff would be able to undertake extended work, when funds should be made available. After making due allowance for Revenue work, it seems probable that the whole establishment charges in Madras are not much short of 40% on the outlay on works and repairs. This disproportion

has more than once been commented on by the Secretary of State. I am to request therefore that the distribution and employment of the whole Engineer staff may be carefully reviewed, and that no consideration of mere territorial occupation or traditional custom may be allowed to stand in the way of a stringent limitation of the use of members of the Engineer Establishment to work which demands the exercise of their higher training.

4. I am to state that it must be looked upon as fixed and settled that no increase will be made to the permanent sanctioned scale of Engineers in Madras. It would therefore seem advisable to provide the Executive Engineers for the new Divisions from the existing permanent staff, and if it should be found, after careful review, that an increase to the Engineering staff is absolutely necessary, that increase should be obtained either by transfer from other Provinces or by the engagement of temporary Assistant Engineers or

Upper Subordinates.

I have the honor to be,

Sir,

Your most Obedt^y Servant,

W. D. Colonel R. E.,
Secretary to the Govt of India

All communications
should be addressed
to the Secretary.

No. 1087 L.
GOVERNMENT OF INDIA.
PUBLIC WORKS DEPARTMENT.

GENERAL

To

The Secretary to the Government of Madras,
Public Works Department,

Madras, 25th July, 1882.

Sir,

In reply to your letter No. 1448 W dated
10 June 1882, affirming the inadequacy of the
provision made for absentees in the Establish-
ment sanctioned for the Madras P.W. Department,
and requesting that the provision may be
increased so as to be more in consonance
with actual experience gained in the Province,
I am directed to observe that when the
present scale of Establishment for the Madras
Public Works Department was sanctioned, the
Government of Madras was told, in para
6 of P.W. Department letter No. 1200 L. of 23rd Sept.
1881, that the scale must be regarded as
the maximum and that provision for

245/4

the Superintendence of any works that might hereafter be taken in hand must be made without any increase of the permanent staff. P.M. 6589

The Secretary of State was also so informed.

2. A comparison of the percentage of Establishments to works in some of the larger Provinces, shows that the existing Establishment in Madras is by far the most expensive. The Secretary of State has on more than one occasion commented on the extravagance of the Public Works Establishments in Madras, and the Government of India requests that it is unable to meet the wishes of the Madras Government.

3. If the Public Works Department in Madras is short handed, the first obvious step, I am to point out, is to recall to duty the officers on special leave. If this should not suffice, I am to say that the permanent Establishment should be supplemented by the retention of temporary Establishment.

I have the honor to be,
Sir,
Yours most obedt. servant,
W. D. D. Colonel R. C.,
Secretary to the Govt of India

Oct 9/82

Letter to India
P.W.D. General Establishment

A paper of the first importance I have made same suggestions - all in the direction of making the language richer. The Govt. is so strong that we can afford to run like Indian over Circulate to all members of Council: Show to Revenue Secretary with special reference to his Dept. must.

M.D. Oct 3/82

Mr. C. D. Hu
the Governor

3/10/82

Dear Mr. Smith.

On the 26th Aug
last Col Lankey asked
the Revenue Department
for information in connection
with Minor Irrigation
works. The information
was for ten years beginning
with 1863. but and was

Mr. L. R.

Given in a ~~given~~ Statement
in the following form:—

Head-as	1863-64		1864-65	
	acres	are	acres	are
(a) Entire culti- vated wet area in the Paddy. Do not do same wet to do (f).				

We have mislaid
our origl statement
and my first sheet

desires me to get a
copy from you. Kindly
send a copy per letter
as the same is very
urgently required.

Yours truly
P. J. Gunapathiraja

Origl sent to the Revenue
Dept to be returned.
15/11/62

J. Smith Esq.

L L L

Mr. L. R.

Can

20

I send for the only
office files two copies
of the S. P. L. & letter
to India on the
establishment
question.

The copy for
signature was sent
up yesterday.

We have reserved
three copies for the
Secy of State, but
we have not yet
received any draft
despatch forwarding
the paper.

C.

19/10/02

Saw

Send by
only 19/10

few extra copies
unstamped
of this paper for
distribution.

Ag. Mr. wants 1.
The St. M. "1" wants 1.
H. H.
5 will do.

I drafted a
Despatch to the
S. of S. but H. H.
the Governor has
withheld it for the
present.

R. S.

20/10.

Cau.

Five addl. copies
despatched this day in two
corers -

Please give date of des-
patch from Delhi of the signed
copy of the letter to India, in
view to spare copies being
sent from here -

only 23/10
21/10

Mr. H.
Letter to the
Governor
despatched
from Delhi
when required
by the
S. of S.

Cau.

Letter & map des-
patches yesterday

Ag. Mr.

21/10

Mr. H.

I do not see it so
marked on the original.
The file of the original
has been carefully
examined & it is
with printed paper
being sent to India. The
plans are in the
file.

C. H. H. this map

Saw.

Here with the final
corrections in Estab-
lishment letter - after
making these, and
others previously ad-
vised, the papers
may be struck off.
No more "Proofs" are
wanted here.

20 copies are req^d for
the Governor.

* 6 copies for W.

(7) Gov^t of India is

(3) Secy^r of State

50 for office use
& contingencies

The letter is to
be sent up for
Col. Sankey's signature

L.S.
13/10

Can

Copies for Col. Sankey

Signature

only 15/10/82.

C. A. W.

In the course of
the day I hope to
return the final
proof of the Estab-
lishment letter to the Gov^t.

Recommendations by
the Government -

Meanwhile you
can redistribute
the accompanying
papers connected
with the question
of only one of
Civil Districts being
sent later to Gov^t.

AKW

W. 11/2/10

See that this map

goes with the letter
when signed for des-
patch. The original
now with W is to be
retained here till the
proof has been struck
off - signed - and
despatched from W

R.S.
2/10

"Form", the objects
should be to get
the "Staff" and
"work" in one view.
at present they
totals ap work are
not on the same
page as the details
forming the totals.

The "Appendix"
is connected with
the letter to India
and down already
to be printed.
Appendix B & C
have still to follow.

R.S.
20/9

To The Subt. Secy. Press.

For information

of par or return

Received 5 P.M.
6/10/82

Cu

2/10/82

7-16
or 153-9 Print was 6/10/82

only 4/10

S.A.W.

Instructions for the
in printing the statement

Appendix A. Part 2

The statement con-
sists of an main parts
"Staff" and "Works". The
Staff is divided and has
a column for totals. Work
is divided in "Imperial",
"Provincial", "Imperial", "Provincial",
"Imperial", "Provincial", "Imperial",
"Provincial", "Imperial", "Provincial",
and does not with
Grand Totals, and does
with the same. "Imperial"
is divided into "Military"
and "Other Services", and "Im-
perial" into "Imperial Production"
and "Imperial Works" and "Im-
perial Production and
Imperial Works" with total
of both. The main parts re-
present the circles.

Appendix A. Part 3

Is the same as Appen-
dix A. Part 2, but without the
main parts, and is an
abstract of the figures
shown in the former.

In making up the

When the prin-
cipals come to
be printed, they can
be perhaps of use
to the

24 The figures
can be corrected in
Office to corrected
State should be
sent to the

Saw

Instructions for the use
in printing the statement

Appendix A. Part 2

The statement contains
figures for the year 1880

It

is

not

to

be

the

same

as

the

figures

in

the

statement

are

not

to

be

the

same

as

the

figures

in

the

statement

are

not

to

be

S. A. W.

I am now sending

direct to the

Super of the P.

duplicate with

the modification

noted over to

save time

TO 7/10

App

of both. The minor points are

present the circles.

Appendix A. Part 2.

Is the same as App

end A. but without the

minor points, and is an

abstract of the figures

shown in the former.

In making up the

Saw

In corrections.

If the Bureau have

received corrected

"Proof" direct from

W. They need take

no action in this.

R.S.

10-10.

10/10
Caw

In continuation
of my telegram
of yesterday, I forward
four complete proof
copies of the P. L. &
letter to India on the
Estab. question -

Three separate
proofs of Appendix
B. & C, with originals
are sent in another
cover -

The original P. L. &
& letter to India, with
first proofs, the
appendix, ^{B. & C.} & their
first proofs are
also sent in a
separate cover -

Appendix A, Parts I &
II, original & first
proofs, were sent to
only on the 7th Inst.

10/10/82

S.A.W.

"Proofs" recd.

The corrected proof
of Appendix A, since
sent down. I explain
that the corrections
are carried through
in the final
"striking off"

R.S.
11-10

10/10-10

only 10/10

C. A.W.

Proba letter should
no doubt be
printed in extenso
at end of the
P.O. — I herewith
send one — Colonel
traced has the
other in the file
into Inspector's
Statement for the
Estab. of the 2 new
divisions which
you have probably
received

To J. 26/9/82 P.H.H.

Appendix A,

II, originals &

proofs, which

To J

If you will kindly
return the letter I
shall have it printed
when it will be more
readily available for
reference.

L.S.
27.9.

Note

Since received
sent to heading to be
printed.

R. 27.9.

Oct 10-10

only 10/10

Draft reply to India's
No. 1082 G. d/25 July 11.
" 1887 G. d/25 — — —

C. A. W.

It is essential
that no time should
now be lost in
having this matter
half proof in type

As regards the letter
the text is virtually com-
plete excepting the
great figures to be
inserted in the table
para 8 which can be
done so soon as the
proof comes up here

= Appendixes D
E & F are now
complete, and A
B & C will follow
in a day or two

The press should
be instructed to
put this note in
hand as early
sending proofs quick
to me

Att

26th
to W

Instructions have
been accordingly -

The letters from the
Govt of India now being
replied to have not been
returned. I have gathered
them at the head of this
note. If you will kindly
send them, they will be
brought on record in the
usual manner.

RS

26-9

Remarks

Ganjam - Full Divisional Staff here
needed on the district is in
urgent need of improved
communications - The Great
Rural-Khubia irrigation project
has been submitted for sanction

Pirajapatnam - Improved communications
in all the short portions of
the district greatly needed
- Full Divisional Staff necessary

Podavari Eastern }
do Western } Owing to the enhanced
work due to the late
sanction by the completion
of the delta under a
proposal for a third
canal (the Central
Podavari) Division has
been instructed to the Govt

Virtwa Eastern }
do Western } Same remarks

Nellore

Full Divisional Staff necessary
for large irrigation works of the
Perman system - The Sanyasipally
project now forming is in this Division

Surgeon Project — Full divisional
Staff essential

Bellary — In addition to mil.
Contingent of irrigation
works for the investigation of
projects for famine work needed
Full staff necessary

Cuddalore — slits —

Thiruvool — Local Fund works also included
N.B. ~~Thiruvool~~ Thiruvool Canal having
lately been taken over is ^{being} organized
as a separate division with a
full staff

West Coast — This having been found too
large for a single division has
been broken up — Even with this
arrangement staff insufficient

Cimbatore — Part above separated but
has above has been added to
this division but owing to large
number of irrigation & other works
doubtful if staff will be
sufficient

Salem — Full staff required as in
addition to ordinary work the large
Murray Tank project will probably
soon have to be carried out
here

North Arcot — In addition to ordinary
work a special division has
been connected with series of tanks
crossing the ^{line} railway — Full staff
necessary

South Arcot — Most important irrigation
works in addition to ordinary
division claim constant attention
Full staff necessary

Cumbram — slits

Buckingham
Canal — Canal crosses all the
drainage of the country in
250 miles in length &
claims constant attention
for full staff

Presidency — In this are all the military
buildings of Bangalore and
military & civil buildings of
Chandras — very strong staff
needed

Trichinopoly — In addition to irrigation
and other work, including
military, the local fund
works are likewise executed

Tanjore } The largest irrigated tract
Nagapattinam } probably in India
very strong staff essential

Madura Besides the special
works at Madura & along
with in the district there
are here a greater number of
tanks than elsewhere

Zimmerly — Most important irri-
-gation works under the
Zamtrabury river and
Elsewhere — Full staff
Essential

Abstract.

	Estab ^{ts} charges.	Percentage of Estab ^{ts}
As detailed in other statements.	10,92,332	19.56
Including Estab ^{ts} employed on 4 Project Operations	11,64,554	20.85
" Executive Engineers on leave from to	13,75,712	24.63
" Supty Engineers	15,61,192	27.95
" Chief Engineers & Assistants	17,08,670	30.59
" Proj ^y Estab ^{ts}	18,44,617	33.03
" PW Stores	18,53,161	33.18
" Lithographic Estab ^{ts}	18,64,261	33.38
" Accounts Branch	20,40,607	36.54
<u>Total provision as per Budget</u>	<u>20,40,607</u>	<u>36.54</u>

Direction	3,43,998	6.16
Construction	15,20,263	27.22
Accounts	1,76,246	3.16
Total	20,40,607	36.54

Total Establishment as above		20,40,607	36.54
Subduct 10 per cent on Spirit Revenue on Pro-			
ductive Public Works Rs. 1,08,185	Rs. 10,819		
Ten per cent on Spirit Revenue on Spring & Navig-			
Rupces 20,606	Rs. 2,060		
Six per cent on Indirect Revenue from Prodrature			
Public Works Rs. 58,30,000	Rs. 3,49,800		
	" 3,62,679	16,77,928	30.04
Ten per cent on Spirit Receipts on Imperial Military			
Rs. 30,000	Rs. 3,000	16,74,928	29.99
Three per cent on Indirect Revenue from Spring & Navig-			
Rs. 9,11,900	Rs. 2,73,570	14,01,358	25.09
Ten per cent on Spirit Revenue on Provincial Navigation			
Rs. 1,17,000	Rs. 1,17,000	13,89,658	24.88

Appendix A

P. III

Will be in
note 8/27-9

Vide

C. A. W.

Parts I + II of
this Appendix A
may at once be put
in type after entering
in the 'Remarks' column
the observations
herewith

P. III need not
be put in type, and
the needful information
as to dividend percentages
change in the rate of
interest given in
Appendix E

These will have to
be taken in printing
this Appendix to
keep the work of the
Second Division clear.
They are a little con-
fused now - This
is a matter regarding
which some instructions

and send to
Remar Madras

For the

Included
Port
Educational
Provincial
General
Manga
Litho

to the Press under the
necessity

P. I could be
headed

"Statement showing
the number & pay of
Staff, number and
cost of works in each
P.W. Division ~~and~~
and percentage charge
under 'Construction'
arranged according
to Superintending
Engineers Circles"

N.B. The Staff is
as it stood on the
1st July (1882) -

The Provincial ~~Board~~
undisturbed ~~Board~~
has been ~~decided~~
notably to each
Division

P. II - Abstract of

27/9

Att

Specs instructed

Specs attended

Can

I send herewith
proofs of the letter
to India on the
subject of Detail
Charges, & of
Appendices D, E, & F
which have just
come from the Press.

Appendices A, B, &
C. are ~~not~~ awaited.

The two letters
from India were
received only
today & have not
yet been put
into type - This
however is im-
material, as proofs
will not be re-
quired at all.

To

of 30.9.82.

Cy 29/9/82

To Mr

Submitt the A

Appendix A has
since been sent to
Madras to be put
into type

Appendices B & C
are still awaited.

R.S.
2/10

Note

B & C sent to Madras
5-10-82. R.S.

Complete Proof
called for 5/10.

INDIAN TELEGRAPH.					Local No.
Class.	X S				
(Station)	Ootacamund				From (Station) Madras
Words.	Day.	Hour.	Minute.	Office Association	
19	9	16		X	
To (Person)	Chief Assistant				From (Person) Second Asst P.W.
	P.W. Secretariat				Secretariat
Complete proofs established					
letter. It will be					
despatched tomorrow					
5					
L. N.					
SENT TO					
At Hrs. Mts. By					
At Hrs. Mts. By					

Date OCTACAMUND 9-10-82

Madras Telegraph Maa

To Mr

Submitted

Appendix A has
been sent to
Madras to be put
into type

Appendices B & C
are still awaited

mm
Remind

to be kept
with the original
G. A. Papers

CP

23/10

A.W.

Send the corrected
table at once please
to the press be inserted
at end of para & of the
Estab. letter — and
ask the Supdt. to be good
enough to let me have
3 or 4 copies of the whole
correspondence with the printed
introduction

To Mr
8/10/11
Please have
Ott

27/9

This attended to.
have already asked for
extra copies of the
Complete Proof.

1882-83
7-10

Percentage of Estimate charges for 1882-83

Heads of Service	Works	Estab.	Percentage	Revenue Rs.
Imperial				
Military	497,464	115,126	23.14	
Other Services	252,353	58,040	23.00	
Printing & Stationery & Agency Ordinary	*180,564	368,264	20.39	
		20,611		
		370,325		10 per cent on Direct Revenue of Rs 20,666.
Printing & Productive Public Works	*129,536	280,378	21.64	
		10,818		10 per cent on Direct Revenue of Rs 108,185
		349,800		6 per cent on Indirect Revenue of Rs 58,32,000.
Local Funds Incorporated		640,996		
Local Funds (Set IV of 1871)	28400	6,532	23.00	
Canal & Ferry Fund	22,830	5,136	23.00	
Excluded				
Post Fund	6,510	1,497	23.00	
Educational	15,140	3,482	23.00	
Municipal				
General	143,625	759,666	52.89	
Navigation	*229,078	52,607	22.96	
		11,700		10 per cent on Direct Revenue of Rs 117,000.
Lithograph		64,307		
		11,500		

* Inclusive of compensation for lands.

1882-83

Remarks.

The figures in Columns
showing area & revenue
may be accepted as fairly ac-
curate, those relating to
P.P. Works & L. & H. works for
which Capt. & Res. Accts. are
kept are taken from the latest
returns by Mr. W. Wilson Special
Offr. in charge of L. & H. Accts.,
and the others from the latest
Pro: of L. & H.

The numbers of works of minor
size in ~~many~~ some cases only
approximate, ^{this estimate} particularly
applies to channels under the
P.P. or Lagoon other than
the Jodhpur & District where
lists of component works are
yet incomplete. As regards
numbers of tanks there are
counts for some Districts for
which lists of Imperial &
Minor works have been compiled,
for a few Districts there lists

Appendix B

Journal of the
Survey of India
Vol. 104
Part 1
1914-15

49-19

Appendix B

18-1-02
General Statement
Change 192-83
192-83

Statement showing the number the area irrigated and the revenue derived from Irrigation works under the charge of the Public Works Department.

Districts	Productive Public Works					Irrigation works for which Capital & Rev. accounts are kept.					Irrigation works for which Contingencies & Rev. accounts are kept.					Other Imperial works					Total					Remarks	
	No of canals		No of tanks irrigated		Revenue	No of canals		No of tanks irrigated		Revenue	No of canals		No of tanks irrigated		Revenue	No of canals		No of tanks irrigated		Revenue	No of canals		No of tanks irrigated		Revenue		
	acres	No	acres	No		acres	No	acres	No		acres	No	acres	No		acres	No	acres	No		acres	No	acres	No			acres
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
Ganjam																85	87	54898	226717		85	87	54898	226717			
Vizagapatnam											10			8207	42714		81	31	26086	105835	10	81	31	34273	148549		
Godavari	1	608		551044	2506145													85	26648	126284	1	608	85	277689	2632729		
Kistna	1	466		284374	1290105													44	18661	51667	1	466	44	203035	1341774		
Chittoor	1	18	72	57162	272597													14	205	163246	672482	1	32	217	220408	946079	
Cuddapah																		38	89	53962	240815		38	89	53962	240815	
Kurnool														1	5924	38259		62	16914	95257			62	22248	123616		
Bellary																		151	82147	433998			151	82147	433998		
Chingleput						1	3	2	33153	142662	2	2	3	1952	94524		74	332	240423	206667	3	79	53	27128	1413355		
North Arcot						1	4	270	41943	178042	2	88	260	2044	132421		17	143	31010	191375	3	109	673	93399	501838		
South Arcot						1	16	14	3748	16494	10	69	112	118877	11962		187	64525	333196		11	85	313	216970	1081652		
Salim														3	723	1730		11	94	28257	161763		11	97	29090	163473	
Coimbatore																		21	40	28001	146367	16	46	41	75033	437236	
Tanjore	1	89		828100	2464500						16	25	1	47032	140389			69	20257	100525	1	89	69	85835	356505		
Trichinopoly	1	1		42800	217500													44	62	110865	482499	1	45	62	153655	700999	
Madurai																		40	191	102188	452961		40	191	102188	452961	
Tirunavelli	1	33	22	17856	181107													13	126	51828	364070	8	53	306	116129	1180001	
Total	6	1215	94	1781336	7933254	3	23	286	79064	337198	47	191	538	296706	2017423		438	2198	1130013	4993482	56	1867	3416	3283329	15281357		

Foram District P. R. & S. Areas res. of P. R. & S. apparently not within the limits of the District.

Ganjam figures are said to require modification.

P. R. has been telegraphed to Land Revenue figures.

Sl. No.

(a)	9	176
S	4	274
W S	13	453
	26	903

Statement showing the number, the area irrigated and revenue derived from Irrigation works under the Charge of Collectors.

Districts	Number of		Area irrigated	Revenue	Remarks
	chains	links			
	1	2	3	4	5
Ganjam	2661	213	237	318,459	A.R. The figures for Columns
Veragapatam	370	120	776	155,907	243 have been taken from
Godavari	928	81	093	122,635	the Rev: R ^d Pro: No 1763 of 19-11-80
Kistna	406	44	926	75,357	The figures for Columns 4 & 5
Bellare	537	104	010	14,4813	have been obtained by deducting
Cuddapah	396	906	181	650	612,983 from the figures shown in the
Kurnool	103	248	168	96	58,682 R ^d Pro No 1724 of 6-7-82 the total
Bellary	675	88	535	279,963	for works under the charge
Chinglaput	1474	198	719	366,431	of the P.W.D. as shown in
North Arcot	675	1897	215	187	868,892 Appendix B, but in the case
South Arcot	2201	193	567	805,386	of the Godavari R ^d the figures
Salem	1338	81	527	321,003	have been got by deducting
Coimbatore	38	79	272	75	147,283 the figures in Columns 20 & 21
Tanjore	378	138	830	232,476	of Appendix B from those shown
Tiruchinopoly	651	54	994	98,682	in G.O. No 68 of January 1881
Madura	1878	71	161	124,533	for the Hon. Dilla works in
Tirunelveli	2038	104	271	285,915	the Godavari R ^d . The amount
Total	1212	18685	1936684	5029402	of Revenue due to the Godavari Del.

system as calculated by Mr. Nelson is more than that included in the amount shown by the Board of Rev: for the whole District and therefore the former cannot be adopted to deduce the amount of revenue due to works under the charge of Collectors.

J. J. J. J.

BT 30-9-82

Appendix C

Revised

Statement showing probable extension of irrigation

District	Name of System or Work	Source of Supply	Estimated cost				Total	Probable return on		Extent of irrigation		Remarks	
			Direct charges			Indirect charges		Direct outlay percent	Direct and indirect outlay percent	Present 1880-81	addition expected		Total
			Outlay to end of 1880-81	Further outlay	Total								
I Sanctioned Works.													
Godavari	Godavari Delta	Godavari river	89,20,776	21,67,919	110,88,695	19,43,958	130,32,653	14.92	12.69	5,77,495	6,58,515	612,000	(a) Revenue results have not been ascertained * actual charges. Revised are under preparation
Kistna	Kistna Delta	Kistna river	55,59,084	83,40,700	138,99,784	10,45,735	149,45,519	8.73	8.12	295,499	179,501	4,75,000	
Kellore	Penner Anicut	Penner river	14,28,862	-	-	236,297	-	a	a	57,384	6616	64,000	
Kellore	Sangam Anicut	do	-	28,96,457	28,96,457	6,72,612	35,69,069	6.48	5.26	-	94,000	94,000	
Tanjore	Cauvery Delta	Cauvery river	11,82,174	6,88,000	17,05,174	1,74,630	18,79,804	a	a	82,078	23,130	635,268	* approximate.
Tinnevely	Privaikuntham Anicut	Sambaram river	12,22,392	1,40,745	13,64,137	1,17,177	14,81,314	4.95	4.51	20,492	13,008	33,500	
Chingleput	Chembambakam tank	Cottalar, Hoorn rivers	613,013	42,297	6,55,310	816,148	7,36,958	a	a	12,625	5375	18,000	* actual charges. Revised are under preparation
North Arcot	Palar Anicut	Palar river	17,31,534	-	-	91,993	-	a	a	62,911	4829	67,742	
South Arcot	Odandarai Anicut	Killaur river	290,262	75,326	3,65,588	57,055	4,02,643	11.70	10.57	4043	19,241	17,884	(b) Excluding leave & pension allowances for 1879-80.
Chingleput	Madras Water Supply & extension project	Coimbatore project	14,48,757	120,482	15,69,239	1,95,647	17,64,886	-	-	2648	4375	6023	
								Total			409,100		
II Projected Works.													
Ganjam	Rushikulya project	Rushikulya & Mahanadi rivers	85,81,386	258,386	2,58,250	28,39,641	5.60	5.1	-	120,000	1,20,000	1,20,000	Investigation not completed
Coimbatore & Salem	Keringipett Anicut	Cauvery	-	-	-	-	-	-	-	20,000	20,000	20,000	
Madura	Bhogavathi reservoir	-	-	-	-	-	-	-	-	15,904	98,172	1,09,076	
Madura	Periyar project	Vaigai	-	-	-	67,50,000	67,50,000	-	-	-	-	-	
Ganjam	Mullada Tampara project	Korkay river	41,105	41,105	8,748	46,853	9.7	8.6	-	5791	5791	5791	Revenue information not available. Construction during the last 4 years - detailed plans are under preparation
Salem	Ponnandapuram tank	Periyar	-	91,445	11,375	1,02,375	-	-	-	42	245	2267	
-	Marandahully project	Sannath Canal	-	2,82,400	27,000	2,61,400	-	-	-	-	-	-	

W.

There have been a series
of statements in line of that
accounting from note
but have been obliged to send
it through only office to
have columns "Estimated increase"
filled in for certain Projects
which I think can be taken
from the list printed in
appendix V of Finance Report.

Apparently the Reserve
Reservoir with Upper Bailey
Projects were included because
they are in the list of water
other projects which the
C. of I have lately approved.
They were not finally settled
as it was kept further in
description might some day
be desirable, but the Projects
have not been handed over to
any Division.

The Bhadani Reservoir

has the incorporated into the
 hemisphere circuit & I have
 with bracketed it with that
 with. and added the ratings
 to the Channel.

Minor Projects I have grouped
 together and shown Expected
 increase 25000 cases.

Lot

15/4/82.

The Statement
 as been completed
 as far as practicable.
 Those places where
 is inserted the
 formation is not
 records. vide
 statements commencing
 p. 55 of the accom-
 panying Appendix V
 Parliamentary Papers.

R.A.
 20/9

See para 36 of Appendix E

Total deduction Column (14)

78-79	---	5,18,802
79-80	----	4,87,549
80-81	----	5,06,069
81-82	----	4,98,454
82-83	---	4,63,337

Total 24,73,211

deduct amounts which the
 Dept have agreed to allow
 as contribution towards
 an establishment in current year 1882-83

Column (9)		42,887
- do - (10)		2,11,080

Total admissible deduction 82/83 2,53,967

Balance should fall to Imperial
 & Gov to Provincial 2,19,244

Proof of the assertion
 para 36 Appendix
 E that Rufous
 had gained and
 Provincial lost not
 less than 22 lakhs
 of Rupees between
 1875-77 and 1882-83

500 000
 100 000
 100 000
 100 000
 100 000
 100 000

It is
 to be seen from the
 table that the
 amount of
 the
 (1) - 100
 (2) - 100
 (3) - 100
 (4) - 100
 (5) - 100
 (6) - 100
 (7) - 100
 (8) - 100
 (9) - 100
 (10) - 100

Total Number, Land Revenue

In 1863-64 75-80 6122

∴ bonus per annum .. 360

Amount over charge on
 amount of encumbrance 48.5

316.2

58.55 per cent on 360 = 210.78

210.78 on 316.2 = 66.3 per cent

Proof of the assertion
Hence we are to say

but between 63-64 and
72-73 the Provisionally
and estimated are
between 22 per cent of
the total charges

Bengal

Amounts spent in proposed in completing
large irrigation works ^{provisional} aggregate estimate
allowing ~~last year~~ 1879

Orissa Project	814,48,851	37,57,252
Same do -	314,70,449	
Total Bengal		1129,19,300

NWP & Oude

Ganges Canal	318,33,906	
Alga Canal	93,29,092	
Lower Ganges Canal	336,68,143	
Total NWP & Oude		748,31,141

Punjab

Western Jumna &c.	103,36,141	
Bari doab do.	177,40,872	
Lahore do	298,04,270	
Swat river do	21,01,601	
Total		599,82,884
Aggregate of Estimates		24,77,33,725

In other words irrespective of
the large amounts sunk in local
interest on a large number of the
works in western India not much
less than 25 millions sterling has
been sunk or has been promised
in carrying out these

Apparatus of animal
Estimated for large
works of inspection &
navigation in water
India

Don 58.3
 25/8
 J.S.I.

Form & statement in which
 for prepared at once
 the Sanctioned works should
 include the food, fuel &c.
 and the Proposed works the
 Amalgam Project and the
 works named in statement
 III 4.0. No. 465 I dated
 13th June 1892. Much information
 regarding these projects may be
 obtained from the list of
 entered into this office 1885 I
 dated 25th Feb. 1892. Form in
 Appendix I of Report of
 Finance Commission. The list
 then finally given would be
 'Direct charges' & 'Indirect charges'
 could be calculated in the same
 proportion as they bear in
 Sanctioned works. Where no
 information is available it
 must be so stated. There are
 for 2 or 3 other estimates the
 filed in. All of these are
 printed so as to be of use.

Statement showing possible extension of Sanctioned

Name of System or Work	Source of Supply	Estimated cost		Probable extension		Extent of Sanction		Remarks
		Direct	Indirect	Total	Direct	Indirect	Total	
		Changes	Changes		Direct	Indirect		
		R.	R.	R.	R.	R.		

I Sanctioned Works.

II Proposed Works.

P

W.C.I

34

The statement called for by the C.I in his Office note of 23rd August 1882 has been prepared & completed so far as information is available in this Office.

The indirect charges have been calculated at 1/2 of the Direct charges where the figures of the farmer are not available. The rate has been deduced from the total estimate of indirect charges for all systems for which Capital and Reserve accounts kept.

The column "Direct charges" has been so divided as to show the past and future out on works already sanctioned in order to admit of a comparison with the present & expected increase of irrigation.

BN

1-9-82

To S.I

188

1-9-82

Statement shewing the Irrigation Revenue derived from lands under and the portion thereof due to the undiminished works

Systems.	Total Revenue including land assessment dependent on the works & excluding remissions					Gross Irrigation Revenue (excluding remissions)					Profits or increase of Revenue due to the works					Share of (ie enhanced) land Revenue due to the works					Remarks.
	Actuals					Actuals					Actuals					Actuals					
	1878-79	1879-80	1880-81	1881-82	1882-83	1878-79	1879-80	1880-81	1881-82	1882-83	1878-79	1879-80	1880-81	1881-82	1882-83	1878-79	1879-80	1880-81	1881-82	1882-83	
1 Godavery	24,22,863	25,80,332	24,76,880	23,39,754	24,00,000	17,21,144	18,29,346	17,53,369	16,59,841	17,00,000	15,90,406	16,98,123	16,23,669	15,33,710	16,00,000	1,74,052	1,75,565	1,63,393	1,58,571	1,60,000	<p>(1) The Krishna figures now submitted differ slightly from those submitted in 18th Current, the reason is that by oversight the area rate of the Godavari Range at 22945 was omitted.</p> <p>(2) For the Cauvery the figures entered for 1881-82 in all columns are nearly correct actuals as entered in the department the figures for the other years are taken at the ratios found to exist between the actuals of</p>
2 Krishna	12,11,938	13,50,151	13,19,670	12,99,866	13,00,000	8,46,322	9,63,063	9,65,659	9,51,569	9,50,000	7,67,114	8,83,736	8,88,628	8,76,643	8,00,000	1,54,410	1,56,866	1,50,725	1,28,662	1,50,000	
3 Cauvery	37,81,500	38,49,000	36,82,000	39,97,000	39,00,000	26,680	27,20,000	26,97,000	28,17,500	27,50,000	57,00,000	58,00,000	57,80,000	61,20,000	60,00,000	12,50,000	12,50,000	12,50,000	12,98,500	13,00,000	
4 Pennair	2,53,521	2,62,821	2,73,597	2,74,504	2,75,000	1,98,910	2,06,362	2,14,773	2,15,506	2,15,000	91,246	98,244	1,01,469	1,02,462	1,00,000	14,492	16,575	16,646	16,366	16,500	
5 Strickhantam	1,70,736	1,82,295	1,81,107	1,84,346	1,85,000	1,47,388	1,58,576	1,57,028	1,59,998	1,58,000	60,277	61,476	59,880	62,645	60,000	1771	1823	1885	1921	1900	
6 Bellandur	10,532	16,166	16,494	7,372	16,000	6,813	9,447	10,078	3,107	10,000	2,774	6,328	6,969	12	6,000	63	65	101	65	65	
7 Palar	2,10,064	2,57,278	2,51,327	2,59,317	2,60,000	173,318	189,916	185,477	193,193	1,90,000	67,503	81,082	78,909	87,779	85,000	14,027	14,133	14,292	13,491	14,000	<p>* Floods of 1882 may make heavy remissions</p> <p>* On the supposition that the Anicut is repaired.</p>
8 Chembarambakkam	71,037	71,525	69,377	70,305	70,000	53,646	54,397	51,909	62,801	53,000	36,682	37,432	34,934	35,887	35,000	402	479	632	576	650	

Irrigation Accounts Office
Madras 20th September 1882

Only the first 5 systems are P. & W. works. The 6th & 7th are under construction of 99th & 100th class and 8th is a new work for which the P. & W. works are kept. The 9th & 10th are under construction and the P. & W. works are kept. The 11th & 12th are under construction and the P. & W. works are kept. The 13th & 14th are under construction and the P. & W. works are kept. The 15th & 16th are under construction and the P. & W. works are kept. The 17th & 18th are under construction and the P. & W. works are kept. The 19th & 20th are under construction and the P. & W. works are kept. The 21st & 22nd are under construction and the P. & W. works are kept. The 23rd & 24th are under construction and the P. & W. works are kept. The 25th & 26th are under construction and the P. & W. works are kept. The 27th & 28th are under construction and the P. & W. works are kept. The 29th & 30th are under construction and the P. & W. works are kept. The 31st & 32nd are under construction and the P. & W. works are kept. The 33rd & 34th are under construction and the P. & W. works are kept. The 35th & 36th are under construction and the P. & W. works are kept. The 37th & 38th are under construction and the P. & W. works are kept. The 39th & 40th are under construction and the P. & W. works are kept. The 41st & 42nd are under construction and the P. & W. works are kept. The 43rd & 44th are under construction and the P. & W. works are kept. The 45th & 46th are under construction and the P. & W. works are kept. The 47th & 48th are under construction and the P. & W. works are kept. The 49th & 50th are under construction and the P. & W. works are kept. The 51st & 52nd are under construction and the P. & W. works are kept. The 53rd & 54th are under construction and the P. & W. works are kept. The 55th & 56th are under construction and the P. & W. works are kept. The 57th & 58th are under construction and the P. & W. works are kept. The 59th & 60th are under construction and the P. & W. works are kept. The 61st & 62nd are under construction and the P. & W. works are kept. The 63rd & 64th are under construction and the P. & W. works are kept. The 65th & 66th are under construction and the P. & W. works are kept. The 67th & 68th are under construction and the P. & W. works are kept. The 69th & 70th are under construction and the P. & W. works are kept. The 71st & 72nd are under construction and the P. & W. works are kept. The 73rd & 74th are under construction and the P. & W. works are kept. The 75th & 76th are under construction and the P. & W. works are kept. The 77th & 78th are under construction and the P. & W. works are kept. The 79th & 80th are under construction and the P. & W. works are kept. The 81st & 82nd are under construction and the P. & W. works are kept. The 83rd & 84th are under construction and the P. & W. works are kept. The 85th & 86th are under construction and the P. & W. works are kept. The 87th & 88th are under construction and the P. & W. works are kept. The 89th & 90th are under construction and the P. & W. works are kept. The 91st & 92nd are under construction and the P. & W. works are kept. The 93rd & 94th are under construction and the P. & W. works are kept. The 95th & 96th are under construction and the P. & W. works are kept. The 97th & 98th are under construction and the P. & W. works are kept. The 99th & 100th are under construction and the P. & W. works are kept.

Resumes under
Productive
Workers

From X

W. Wilson Esq.

Ag. B. Member B. of Mass.
in charge Insignia

To The Secretary to Government
R. W. De P.

Date of 20th } September 1892
Received }

Statement showing the Insignia
Resumes under the Insignia
System

Q^d 91/9/92

Statement showing the amount of Revenue realized in the Civil Department from the
Productive Public Works.

	1878-79			1879-80			1880-81			1881-82			1882-1883		
	Bridge Rev.	Profits or Increase of Sriputra Rev.	Share of Land Rev.	Bridge Rev.	Profits or Increase of Sriputra Rev.	Share of Land Rev.	Bridge Rev.	Profits or Increase of Sriputra Rev.	Share of Land Rev.	Bridge Rev.	Profits or Increase of Sriputra Rev.	Share of Land Rev.	Bridge Rev.	Profits or Increase of Sriputra Rev.	Share of Land Rev.
Productive Public Works													1715,000	1715,000	
Godavari Delta System	1721134	1590406	174054	1829346	1698123	175355	1753369	1623669	163393				935700	935700	
Kistna	828447	744167	154410	940118	860791	156856	942714	85613	130725				230000	120000	
Penner Ancient System	198900	91246	14472	206362	98244	18575	214773	101469	15646				230000	910000	
Caaveri Delta		847722			964202			748409					150000	50000	
Sriwai Kuntalam Ancient	147338	50277	1771	158576	11476	1823	157028	59880	1885	159998	62645	1921			
													5830000	3780000	
Total		3323820			3622336			3397110							

6/9. Ca
For E. L.

Page
79. Dr No 211.

To

Enc. 1

W. H. Wilson

The information available in this Office regarding the indirect produce of Production Public Works, is abstracted in the accompanying Statement. Mr. Wilson has furnished the Revenue accounts to end of 1880-81 for all the Irrigation Systems classed as Productive Public Works, except for the Cauvery, Kistna, for which the accounts are still under preparation. For this System, the approximate amounts of the increase of Revenue as

as calculated by the Board of Revenue have been entered in the absence of more correct figures, the information as to extent of irrigation revenue under this system is not available. The revenue accounts for 1881-82 for the Sri-
.Vishnuvarthanan Ancient Sys-tem have been received, but those for the remain-
ing systems are still in preparation in Mr. Wilson's office.

In the Budget Estimates for 1882-83, the share of land revenue creditable to the system has not been estimated.

Mr. Wilson shows in the Revenue Accounts for each system

the total irrigation re-
venue.
the increase of irrigation

revenue after deducting the revenue due to old irrigation prior to the construction of the works.
(3) Share of land revenue creditable to the system.

In the current year Budget Estimates the percentage charge on revenue, on account of P. W. Re-establishment has been calculated on items (1). The accounts credited for the Examiner's administrative Accounts to comprise only items (2) and (3).

It has to be decided whether the calculation should be made on items (1) and (3) or (2) and (3). In the former case the irrigation system will be

fee charged with a
percentage on the re-
venue due to old irri-
gation, which is not
credited to the system,
and in the latter case,
the contribution to Provin-
cial Funds will be
reduced.

6/9 Ci
For E. I.

Description	No. of units	Revenue	Revenue
I. Under Public Works Offices			
Production Water	1315	1,781,336	79,33,254
Navigation and Irrigation other than Production	3724	1,505,493	73,48,103
Total Public Works Offices	5039	3,287,329	152,81,357
II Under Civil Offices			
Minor Irrigation Works	19,897	1,436,684	50,29,402
Grand Total under both Departments	24,936	5,224,013	203,10,759

only 7/9

(2) the increase of irrigation

E1

I have reviewed &
hope to make summary
of the other 2 parts
of this file but from
I cannot make much
of the part without
your aid

(1) I see projects are
included e.g. the
Great Victoria reservoir,
Upper Bulawayo projects &
which it has been decided
to shelve

(2) others e.g. the
Bosman Reservoir,
Extension of the Kalungwene
Channel & which we
hope may some day be
carried out

(3) In the column of
"Additions expected" blanks
are left which if we are
to arrive at a total
must be filled up approx-
imately stating that such
is the case in the remarks
if necessary

(4) In Return contains

many minor projects
individually specified
which may well be
omitted -

If included it would
quite answer all purposes
to merely enter a
sump increase in the
Civil District; indeed
this I think might fairly
be done where there is
reasonable hope of
projects of a feasible
character being known to
exist.

Attt

7/9/82

& I think he will be
able to give a more accurate
information. The accounts
must be more complete
now.

Don

urgent

E. I.

I am sure that - a
question by your Office
which I regret my inability
to answer, and must
therefore ask you kindly
to decide.

The figures also given
in the statement are in-
complete.

No entry is made under
"Share of Land Revenue"
in the Company Delta books
in any of the years, but I
am now writing to Mr.
Wilson of and hope to
get him to give some ap-
proximate figures which will
be better than nothing
- as also figures in 8/82

Attt

10/9/82

W.

As regards all systems
except the Cawari, the fraction
has raised some time

3
very to answer. The whole
Establishment including
many being paid in this
Department. The preceding
change for this must should
be based on the total irrigation
Revenue & share of land
revenue available to the system;
the case of the Canadian system
is somewhat complicated.
until Mr. Wilson completes
the capital & revenue of the
system (which I understand
he is likely to do by the end
of the year) we do not
know the irrigation Revenue
or share of land Revenue -
and in this system though we
provide a secondary establish-
ment the extent of managing
the regulating works at the
heads of the rivers, the Revenue
Department maintain a
certain establishment for
distribution of water. I cannot
at present say what the cost
of this establishment is, but

until the works are finally fixed
and the Department I should think
the establishment change might be
calculated on the irrigation Revenue,
so long as this is collected.

Jr

14/9/82

Memo

I have stood over as
in a more complete statement
since received from Mr. Wilson
(but still including the
Company) I have been enabled
to compile sufficiently re-
-liable figures for the letter
to the Govt.

Att

18/9/82

Compiled from a number of reports
 and a summary statement
 showing the probable
 loss of Revenue consequent on the
 neglected condition of tanks and
 other irrigation works.

	Acres.	Assessment. Rs.
(a) Entire cultivable wet area in the Presidency.	57,96,249	24,8,18,072
(b) Deduct Inam wet.	9,63,650	4,27,5,220
(c) Cultivable wet area belonging to Govt.	42,32,629	20,54,2,852
(d) Wet area under occupation, according to the Jamabandi report for 1880-81.	34,98,281	17,15,9,832
(e) Land not brought under cultivation apparently for want of supply of irrigation of the land occupied i.e. (d) - permissions granted owing to bad season or deficient water supply &c.	4,34,348	2,38,3,020
	"	10,59,956
(f) Total loss in 1880-81.	"	34,42,976
(a) Possibly includes land which is never likely to become cultivable without considerable outlay being made with stones, saline particles, water &c. &c.		The

(b) The whole of this must not be eliminated, because when fresh sources of water supply are provided, some of the Inam lands may become liable to water tax.

(c) Vide remark for (a).

(d) These are the latest figures available. If the figures for the past ten years be required, a reference to the Madras Office will be necessary. The materials here are defective.

(e) Most part of this land will probably be taken up, if proper means of irrigation and drainage are provided.

(f) The total loss of Revenue every year may be taken roughly at Rs. 30,00,000 (thirty lakhs). It must not be assumed that the whole land will be taken up the moment irrigation is provided, extension of cultivation depending on various other contingencies.

Attention is also solicited to the statement at page 5 of the enclosed G. O. dated 24th September 1879. No. 1949.

This however represents the loss to the State but not the entire loss to the people, for owing to the deficient supply of water caused by the neglected state of works, the yield is considerably diminished for which no remuneration whatever is granted by Govt.

It discloses the following results.

Irrigation works in the Presidency.	In repair		Out of repair	Total
	No.	Ac.	No.	Ac.
Tanks	29,208	6,826	36,034	
River channels	10,160	801	10,961	
Spring channels	5,893	1,008	6,901	
Ancients	1,836	575	2,351	
Wells	3,78,236	58,918	4,37,154	

Note. The above figures do not include Zemindari and Inam villages. The Board remark - "It must not be assumed that all the works returned as in repair are in a state of complete efficiency. They should only be taken as not being in an absolutely useless state." - Vide Board's para 11, at page 4 ibid.

For Mr. Macleod

Ottacamund,
10th Aug. 5, 1882.

Secretary to Govt.

Exd
Ct

Notes

1. Assuming the net cultivable area (C) as recorded in the Quinquennial returns to be fairly accurate, the prospective cultivation of the whole of the difference between it and the area actually occupied (A) depends not only on the maintenance of Irrigation works in a state of perfection but also on the character of seasons.

2. As in some cases remissions are not shown in the Jamabandi Statements separately for wet and dry lands, the figures relating to the former only were, on application, obtained from

from the Board's Office. These, however, are restricted to years subsequent to Fasli 1280 (1870-71), the required details not being available in that Office either for previous years. For Fasli 1273 to 1280, therefore, the totals as given in the Jamabandi statements, excluding only such items as appear distinctly as Cunjia remissions, are entered in the accompanying Statement.

3. One of the items of Annual remissions which appear under the general head "Occasional" is that granted out of the enhanced rates imposed at new Settlements, being the difference between full

full rates and those actually charged for the year under the gradual increment system. As this has nothing to do with the condition of Irrigation works, the item has been excluded both in the Board's Office figures for later years and those filled up for Fasli 1273 to 1280 from the Jamabandi Statements in this Office.

4. Formerly it was the practice to show the areas in all Revenue Accounts under three heads, wet, garden and dry, and it was in Fasli 1275 that the present division between the two main heads, wet and dry, only was introduced, lands till then classed as garden

79
garden having been dis-
tributed between them
— according as they
were irrigated or uniri-
gated. There being no means
for separating these com-
ponent items of garden,
the whole is included in
the ^{wet} areas for Basils 1243 &
1244. The extent of an-
irrigated garden being
comparatively very small,
its inclusion can not appre-
ciably affect the general
correctness of the figures
shown as representing wet
areas.

Notes to accompany
the statement of loss of
revenue from the neglect
- & condition of -
Irrigation works.

Forwarded to Col.
Sankey R.E. C.B. with
reference to his O.O.
dated 26 Aug/82.
E.F.W.
6/9/82

C.A.W.

Col. Sankey wants
the two statements put
in his letter O.O. & return
which may require modification.
Please let me hear the proof
of the figures for yesterday at
Sankey. I will return it before
13/10/82.

Submitted

R.S.
13/10

C.A.W.

To make the figures given
in Appendix 2 correct & amended
it will be necessary to correct
para 13 Appendix 2. and add
'remains' in para 32 of letter
O.G. of T. as shown in pencil -
please attend to this, as not if
necessary proofs may be given

to. memo morning.

John

13/10/82

On looking over the corrections
made. I see that in
Appendix B P.P. W. H. of
Amicals 6 is right, the one
shown in Trily is probably
the head Amical. The bracket
including Tanyie & Trily is right.
I think a foot note as given in
penit is advisable. A similar
foot note is required elsewhere
para 8 of letter 84 of J.

John

Corrections noted on
the "proof" sent to
Madras 13-10-82.

R.S.

C. A. W.

The 'proof' of the
Exhibit letter should
not be sent to Madras
till received back
from the Governor to
whom I sent it early
this morning.

Please see that the
missing No 1 date of
the letter should be
in para 2 and filled

Statement showing the number, the area irrigated and revenue derived from irrigation works under the charge of Collectors.

Districts	Number of		Area irrigated	Revenue	Remarks
	Canals	Tanks			
1.	2	3	4	5	6
Ganjam	2661	213,237	3,18,459	N.B.	The figures for columns
Vizagapatam	370	120,776	1,55,907	2 and 3	have been taken from the Rev.
Godavari	928	81,093	1,22,635	B ^d Pro: N ^o 1763 of 19 th Nov: 1880.	The figures
Kistna	406	44,926	75,359	for columns 4 & 5	have been obtained
Nellore	537	104,010	1,44,813	by deducting, from the figures shown	
Guddapah	396	906	181,650	612,983	in the Rev: B ^d Pro: N ^o 1724 of 6 th July 1881,
Kurnool	103	248	16,896	58,682	the totals for works under the charge
Bellary	675	88,535	2,79,963	of the P.W.D. as shown in Appendix	
Chingleput	1474	198,749	3,66,431	B; but in the case of the Godavari	
North Arcot	675	1897	2,15,187	8,68,892	D th the figures have been got by
South Arcot	2201	193,567	805,386	deducting the figures in columns	
Salem	1338	81,527	3,21,003	20 and 21 of Appendix B from those	
Coimbatore	38	79	27,275	1,47,283	shown in G.O. N ^o 683 of January 1881
Tanjore	398	138,830	2,32,476	for the now-delta works in the	
Trichinopoly	651	54,994	98,682	Godavari D th . The amount of	
Madura	1878	71,161	1,34,533	Revenue due to the Godavari Delta	
Tinnevely	2038	104,271	2,85,915	system as calculated by Mr	
Total	1212	18,665	19,36,684	50,29,402	Wilson is more than that in-

7 4 4 2 5

cluded in the amount shown by the B^d of Rev: for the whole District and therefore the former cannot be adopted to deduce the amount of revenue due to works under the charge of Collectors.

Appendix C.

Appendix D

Public Works Division's sanctioned under the normal scale (see Appendix A G.O. 14th July 1881 N^o 1729 W) with the corresponding Civil Districts.

Supg. Engineers Circles S.W. Divisions Corresponding Civil Districts or parts of Districts

- No. I.
1. Ganjam — Parts of the Ganjam District.
 2. Vizagapatam — Do — Vizagapatam.
 3. Eastern Godavari } Only the irrigated portion of the Godavari D^{ty}.
 4. Western — do — } and the river with banks on both sides of the Godavari.
 5. A Project Division Head quarters at present in Ganjam but will soon move elsewhere.

- No. II.
6. Eastern Krishna — Only the irrigated portion of the Krishna D^{ty}.
 7. Western — do — }
 8. Nellore — Parts of the Nellore District.
 9. Sanguin Project. Also in the Nellore District.

- No. III.
10. Bellary — Parts of the Bellary District.
 11. Cuddapah — Do — Cuddapah — do —
 12. Kurnool — Most of the Kurnool — do — the Dept. here being still in charge of local fund works.
 13. Kurnool Canal } In parts of the Kurnool & Cuddapah Districts.
 14. C Project Division In parts of the Bellary & Cuddapah D^{ty} at present.

- No. IV.
15. West Coast — Till lately, work extended over Malabar, Canara, & Nilgiris D^{ty}, and portion of Cochin.
 16. Coimbatore — Till lately occupied part of the Coimbatore District.
 17. Salem. — Part of the Salem District.
 18. North Arcot. — Ditto — North Arcot — do —
 19. B Project Division Till lately engaged in Salem and is now in Coimbatore.

- No. V.
20. South Arcot. — Most of the South Arcot D^{ty}.
 21. Chingleput — Do — Chingleput — do —
 22. Buckingham Canal. Runs through the Chingleput, Nellore & Krishna Districts.
 23. Presidency & Bangalore — } Part in the Madras D^{ty} and part in Mysore.

Chief Engineers' Circles	P. W. Divisions	Corresponding Civil Districts or parts of Districts.
	24. Trichinopoly	Most of Trichinopoly District as the Dept. here still retains Local Fund Works.
N ^o III	25. Tanjore	Part of the Tanjore District.
	26. Negapatam	do do do
	27. Madurai	do do do
	28. Tinnevely	do do do
Chief Engineer	29. Consulting Architect	Chiefly in Madras District.
	30. D. Project Division	In office of Chief Engineer for Irrigation.

Remarks.

Of the sanctioned 30 P.W. Divisions it will be observed that only two (Kurnool & Trichinopoly) are quite ~~contiguous~~ ^{contiguous} with the Civil Districts. Others occupy parts as required by the works in hand, and others again, e.g., Nos 5, 13, 14, 15, 19, 22, 23 and 29 have work extending ^{over} parts of two or more Civil Districts.

Quite lately much of the work belonging to the West Coast in the Canara and Malabar Districts and the Native State of Cochin has been transferred to Coimbatore, and the size of the West Coast Division reduced to the Nilgiris and parts of Wynnad. None of the three newly proposed Divisions e.g. the Central Godavari, Central Kistna, and Cauvery Regulators occupy any but ^{fractional} ~~fractional~~ parts of Civil Districts and their limits have been solely decided by

the requirements of the works.

It may also be noticed that in letter to the Govt. of India N^o 1694 W dated 9th July 1881 on the subject of the new normal scale, after showing how certain Superintending Engineers' Circles were to be formed it was added para: 11 that "all the other Circles have been made out strictly with reference to the actual works in progress and proposed." No other principle has in fact been observed in the distribution of the charges whether Superintending Engineers Circles or Executive Engineers Divisions.

Plt.

Appendix D

Memorandum on the percentage charge for Establishment
in the London P.W. Department
as compared with outlay on works.

Appendix E

To all acquainted
with the varying conditions
under which the works of
a Department like that of
this Presidency, where opera-
tions of every conceivable
character, large and small,
concentrated and scattered,
have to be provided for
by a single establishment,
the difficulties of applying
the percentage charge as a
test of economical and
efficient management are
such as call for great
caution in application.

1. Where work is con-
centrated, funds supplied
with the wonderful liberality,
and all the conditions are
favourable the percentage
charge is, or ought to be,
small, and where to such
ordinary advantages there
is the additional facility
of obtaining the materials
to be employed in construction
in a finished manufactured
form.

from England or elsewhere
form, as generally is the
case with Railway work,
iron bridges, pipes for water
supply works &c, the charge
for superintendence should
be ~~reduced to a minimum~~
~~be, reduced to a minimum~~

3. It has been shown for
instance that on the work
of the State Railways un-
der the Government of
India the charge for Es-
tablishment is not much
more than 9 per Cent. The
Madras Harbour works af-
fords even a more marked
example. Here as ~~shown~~ ^{proved} by
the figured statement which
will be found lower down
the Establishment charge
for construction was only
6.8 per Cent in 1875-79, 4.3 in
1879-80, 4.9 in 1880-81. In 1881-82
with the self same Estab-
lishment but owing to dimi-
nished outlay the charge
rose to 10.7 per Cent, and in
this year from a continuance
of the same cause the charge
may very probably ^{be} as
high as 20 per Cent.

4. With an ~~unavoidable~~
~~fixed~~ Establishment the
question of the supply of

the strength & pay of which
must in great measure remain
unavoidably fixed

of funds is vital as af-
fecting the percentage charge,
as may at once be seen from
what has occurred here in
the last and present year.
In 1881-82 the outlay on works
being only Rs 42,47,430 the
~~unavoidable~~ charge was 39.6 per Cent
though the cost of Establish-
ment owing to previous re-
ductions was only Rs 16,83,442;
but in the current year, although
from the late sanction of
the increased normal scale
of Establishment the cost
has risen to Rs 20,99,314, the
incidence is much less, being
only 34.9 per Cent. ^{from the}
^{fact that it has been found possible to raise}
the outlay on works
~~is estimated at~~ Rs 69,45,290.

5. The mere fact of difference
in price of labor prevailing
in our part of India as
compared with another will
"pro tanto" alter the inci-
dence of Establishment
charge. Where labor costs
2, 3 or 4 times more in our
place than it does in another,
the percentage charge for
the self same kind of work
must necessarily be in some
ratio to these numbers.

Q.P.3
90

Cent as shown to prevail on the highly concentrated and otherwise favorably placed works of State Railways be accepted as fair in the one case, from 27 to 54 per cent would be the corresponding rate in the case of scattered works.

But quite apart from these and other considerations of a general character which more or less affect all Branches of the Department in India there are special duties devolving on Members of the Department in Madras which places its Establishment in a class by itself.

The first of these is the need for the development of irrigation and other works suitable for either prevention of famine or for execution during famine.

It is needless after all that has been said and written by the Famine Commission, by this Government and the Government of India to prove the absolute necessity for special arrangements being made as regards projects of this kind - Madras having

eg. If in Burma where labor is probably three times as dear as in Madras the fair charge for the supervision of any specific operation be 15 per cent, it follows that 45 per cent would be the correct equivalent in Madras as the pay of members of the Establishment does not vary with the Province.

6. As regards the concentration or otherwise of the work the Govt of India has not long since in Circular No. 429 of September 1887 fully

recognised the effects on the incidence of the Establishment charge. Here (para 31) it is observed that

"Experience and enquiry shew incontrovertibly that 'petty and scattered work' of the general nature of 'local works entail expense 'in respect of supervision 'if supervised professionally from three to six times as great as work 'that are concentrated or 'in large stations however 'Great the professional skill 'that the latter may demand'

7. In other words if 9 per

having notoriously suffered more than any other provinces in India from destitute famines. Suffice it is to say that in full recognition of the requirements in this respect four full divisions of officers and subordinates come not as yet however completely manned. I have throughout a great portion of the past year been engaged exclusively in the preparation of projects of the above character. Colonel Hasted's services were for several months similarly engaged in bringing up the completion estimates for the Godavari system. Major Pennycook has for the past 3 months been on special duty in the preparation of the Perryand project a protective work of great importance. Mr Nordmann and a Sub Engineer were also for a large portion of last year engaged in reconnoitering and surveying the country between Vizagapatnam and Raipur in view to the location of the proposed Famine Protective line of railway.

See Appendix A

in this direction.

10. In these and all similar cases while there is a very heavy charge under Establishment there is absolutely no outlay under the head of "works". Comparison is thus out of the question, as the percentage charge would here be ^{infinitely large}. To mix up the cost of all establishments so employed is in fact misleading yet from the method by which ^{the charges are shown in} the Departmental accounts ~~is~~ this is what actually occurs in determining the percentage charges.

11. As shown by the correspondence in regard to dam works the Establishment thus specially set apart must yet for several years be engaged on the preparation of projects. Not only so but by a single Superintending or Executive Engineer but some special work of a similar character to think of and devote some of his time to.

12. The next and much more important consideration in regard to the special duties

duties devolving on the
Madras Establishment has
reference to the care and
maintenance of the existing
Irrigation works.

13. In this Presidency no
less than 5,196,279 acres are
classed as "wet" land the
Revenue under which is all
dependent on Irrigation works
of which the following are
the registered numbers,
omitting many very minor
works.

<u>Tanks</u>	<u>Numbers</u>
Irrigating below 200 acres each	33,572
Do. above 200 acres	2,462
<u>Total</u>	<u>36,034</u>

<u>River Channels</u>	
Irrigating below 200 acres each	74,144
" Above do	3,791
<u>Total</u>	<u>77,935</u>

<u>Ancients</u>	
Irrigating below 200 acres each	1,750
" Above do	573
<u>Total</u>	<u>2,323</u>

14. In Appendix B other
details are given shewing
more particularly the dis-
tribution of the works un-
der the P.W. and Civil of-
ficers respectively, but the
mere

mere enumeration of so
many thousands of tanks,
channels or other works
can by itself carry but
little real appreciation of
the duties devolving in
practice on the Establish-
ment. No one, whose service
has not been devoted
to the care of these works
or whose attention has
not been called daily
to their requirements can
form any adequate
idea of the practical
effects of such a charge
in reference to Estab-
lishment.

15. This condition of
matters has, it may be
said without exaggera-
tion, no approach to a
parallel in any other
part of the world.

Consequently deductions made from the experiences in Northern India or anywhere else where the conditions are entirely different are altogether inapplicable.

16. It is in the discharge of duties, often apparently of the most trivial description in maintaining the irrigation works that the value of a trained and efficient establishment is best shewn, though for that very reason least demonstratable by figures.

17. An establishment of this kind costing a large amount per annum may by the careful and intelligent expenditure of only a very small amount on repairs prevent the loss of enormous amounts of Revenue ~~per annum~~ ^{would} on the other hand an inefficient and comparatively costless estab.

Lickhuent may after expending
 large sums fail to prevent
 large remissions of assessment
 Lickhuent whose per centage
 charge is perhaps as high
 as 100 ^{in some cases} may ~~there~~ if thoroughly
 efficient, prove infinitely
 more economical than one
 whose cost is only 25
 per cent. Nowhere is this
 truth more clearly shown
 than in this Presidency.

18. Where as in the case of the Delta works it has been found feasible to maintain a moderately large and efficient establishment the results have as well known been most encouraging, and the profits far in advance of any of the irrigation works in Northern India.

19. Nothing has in greater degree struck the Engineers.

accustomed to the impu-
tentious but much more
effective works of Madras
than the extravagance dis-
played in the designs
of such works as the
Ganges Canal, the Sone
works, and others of a
kindred character; but
a little reflection will
shew that the system of
judging the value of an
establishment by its
small per centage charge
directly leads to such
results. The officer who
carries out 'grand' works
regardless of expence,
is enabled of necessity
to shew the smallest
per centage charge on
his "works" outlay, and
a direct premium is thus
held out to lavish ex-
penditure of all kinds.
In Bombay these results

are even more marked.

20. The only valid test
must, it is thought, be
that of useful effect, and
to ensure true economy
we must first ascertain
precisely the work to be
done, second, train up
the most efficient estab-
lishment for its execution.

21. Efficiency and what-
ever it may cost to reach
the needful standard
is in fact the only true
test, and by so much
as the Establishment
fails, in reaching that
must the Presidency pay
by loss of revenue. As
well expressed by a very
able predecessor, the late
General Charles Oer, cheap
Establishment means dear

work. Here it may not be out of place to observe that no efforts have been spared to place the Madras branch of the General S. W. Dept. on a satisfactory footing. Its Code, Forms of account and system of control have all been improved and are believed to be quite on a par with any other in India. The reductions effected in 1879-80 had a very beneficial effect on the personnel of the Establishment (though leaving it too weak numerically) and the late arrangement of the Superintending Engineers Circles leaves little to be desired. All now needed is the gradual increase of the Establishment under the head "Construction" pari passu with the enhanced means which it is hoped may soon

- (1) a more ample allowance than at present admitted to provide against Casualties
(2) Dismissals, leave, &c. and

Statement of percentage charge of Establishment Madras S.W. Dept. based on actual for the years 1878-79 to 1881-82 and in the Budget Estimate for Current official

Col.	Description	1878-79	1879-80	1880-81	1881-82	1882-83 Estimated.
(1)	Total outlay on Works under all heads of service Imperial Provincial, Local, Excluding Harbour Works.	61,89,539	47,40,415	37,43,891	35,83,572	57,43,290
(2)	Madras Harbour Works.	7,78,029	11,66,211	13,84,164	6,63,858	3,05,000
(3)	Total Outlay Works Only.	69,67,568	59,06,626	51,28,055	42,47,430	60,48,290
(4)	Total outlay on Establishment under all heads of service including Harbour Works.	28,74,273	23,09,770	14,43,218	16,14,357	20,38,478
(5)	S. - Madras Harbour Works.	53,020	50,295	68,632	71,085	60,836
(6)	Total Outlay Establishment only	29,27,393	23,60,065	15,11,850	16,85,442	20,99,314
(7)	Percentage charge for Establishment without deductions of any kind.	42.0	39.9	29.4	39.6	34.7
(8)	Direct Revenue under Imperial Provincial Local	89,1890	4,12,153	5,06,283	6,29,147	4,28,971
(9)	See per cent on same	89,189	4,12,15	5,06,28	6,29,14	4,28,97
(10)	Indirect Revenue Productive Works (Sinking)	36,60,221	39,38,917	48,24,022	37,57,044	35,18,015
(11)	See per cent on the same	1,12,278	32,10,770	20,98,977	20,98,977	20,98,977
(12)	Indirect Revenue on Sinking & Savings Works other than Productive	2,12,613	2,36,334	2,87,144	2,25,540	2,11,080
(13)	Three per cent on the same.	1,70,537	1,92,658	1,85,995	1,92,250	1,88,611
(14)	Total deductions Clauses (9) + (11) + (13)	70,00,000	70,00,000	70,00,000	70,00,000	70,00,000
(15)	Correct Establishment charge	2,10,000	2,10,000	2,10,000	2,10,000	2,10,000
(16)	Col. (6) - (14)	5,78,393	4,87,840	5,96,059	4,98,454	4,68,977
(17)	Correct percentage charge of Estbl.	24,08,521	18,72,516	10,05,751	11,86,988	16,35,337
(18)	Col (15) on (3)	24,51,667	19,10,193	10,05,751	11,86,988	16,35,337
(19)		34.5	31.7	19.6	27.9	17.0

118. be placed at disposal.

24- Improvements are needed to the curriculum of the Civil Engineering College, and the lower grades of the Dept. and some of the ^{Establishments} ~~Offices~~ require both reorganization and strengthening. The details of these improvements have been carefully worked out, but it is needless to dwell on these ^{rather} further here.

25- ~~24~~ Turning now to the actual cost of the Estab^{ts} of this Dept. as shown in figures, the following table gives all the available information for five years including that now current.

† (See statement.)

26- ~~25~~ In order to meet the financial rules of the Govt of India the Estab^{ts} ment charges have hitherto

been distributed at certain fixed percentages over Imperial and Local works. This has had the effect of always leaving ^{a large} ~~the~~ ^{reim-} dumm to be met from "Provincial" funds which thus at times have had to bear disproportionately heavy charges.]

~~24~~ ²⁷ The system is a purely artificial one, and quite untrue in fact, as from there being no separation of duties among the members of the Dept. work of all classes, whether Imperial, Provincial, ~~and~~ ^{or} Local (now only very few), is, and has always been, carried out by one and the same Establishment.

~~25~~ ²⁸ This being the case it has been considered advisable to set aside the

119 98
artificial element in the above table, and by lumping together works under all heads of service to shew the true percentage rateably distributed over all equally.

~~26~~ ²⁹ It will be observed that without taking into account any deductions which have to be made the highest percentage charge in the five years, including "Direction," "Construction," and "Accounts," has been 42.0 and the lowest 29.4.

~~27~~ ³⁰ In the matter of deductions discussions with the Govt. of India have continued now over some years, and have as yet been only partially con-

cluded.

28.31 As a provisional arrangement the Govt of India has ruled that ten per cent of direct revenue of all kinds claimable by the Department may be shown as a contribution towards the cost of Establishment, also that six per cent may similarly be credited on the indirect revenue of Productive & Irrigation works.

29.32 There has been no difficulty in deciding on the amounts of direct & revenues for the years dealt with: but as regards the indirect revenue the matter has been otherwise. Here from the different systems of land tenure

PP 11
99

prevailing in this Presidency from that in Northern India it has only been found possible after long enquiry by a specially qualified Civil Officer (Mr. W. Wilson) to decide, yet as to what portions of the total revenue collection could fairly be considered as the profits or increase of revenue due to the several Productive works carried out by the Dept., and 2nd the share of enhanced land revenue apart from the value of the water also due to them.

30.33 - Mr. Wilson has only ^{quite fairly} ~~been~~ been enabled definitely to settle under both the above heads the

amount of profits claim-
able by the Godavari, Krishna, Cauvery,
Permaini, Sriakuntur,
Sallandoori, Palar, and
Chembambaukum works,
~~but has not as yet decided~~

~~on the amounts due to~~
~~share of the Cauvery Bill~~
and

~~Column 10 in the~~
Table gives the total figures
~~as ascertained for the sys-~~
~~tems mentioned in the~~
~~Cauvery. Something more~~
~~therefore remains to be claimed~~
~~on account of the latter~~

32. ³⁴ This Govt. has also
claimed that three per
cent should for analogous
reasons be credited on
account of the indirect
revenue due to Imperial
works of Navigation and
Irrigation not classed as
Productive, but as

11

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as yet the Government of
India have not been enabled
to convey their aspect owing
chiefly to the difficulties ex-
perienced in deciding on the
precise amount of the revenue
involved. It is not understood
that any difference of opinion ex-
ists as to the propriety of
the contribution but merely
as to its amount. The
Local Revenue ^a Authorities are
unable to give the precise
figures but from all the
available evidence the amount
cannot it is thought be
approximately fixed at
less than 70 Lakhs per annum
which is accordingly the
figure adopted provisionally
in the table as that on
which the three per cent
may fairly be calculated
as a credit towards the

cost of the W. Establish-
ments engaged in main-
tenance of the works.

35

35. Making the deductions
above adverted to it will
be observed that the maximum
percentage cost of Establish-
ment in the 5 years has
been ^{34.5} ~~35.2~~ and the minimum
~~19.6~~ 19.6

36

36. It must not be supposed
that the deductions as above
claimed have been realized
in the accounts of the several
years to which they relate.

As a fact they have not been
so, and the figures given there-
fore merely indicate (excepting
in the last official year,
when a small instalment

has been adjusted) how under
a more ^{transparent} ~~equitable~~ ^{transparent} system the
accounts should have stood

DP 12

and that in defect of this
Provincial has lost and
Imperial gained several
lakhs of rupees in the period
comprised.

37 ~~35~~ Again it must not be
thought that such adjustments
and deductions
are in any way exceptional

or unrecognized in the
other provinces of the Empire.
The reverse is in fact the
case. Not only have such
contributions been admitted
and brought to account
in the provinces of Northern
India but to a very much
greater extent than has ever
been even claimed in Madras.

38. From the following statement
supplied by the late
Inspector General of Prigitation
it appears that on average
of the years 1875-76 to 1879-80

there has yearly been charged off against the revenue of the following works the sums below mentioned in addition to the 25 per cent on works charged in the M. W. Dept for Establishment

Names of canals struck in figures

Averages for years 1875-76 to 1879-80 inclusive

Canals	Outlay on Works	Establishment		Revenue	Amount of Col. charges to Govt	Amount of Col. charges to Govt + 25% of charges to Govt
		25 per cent on Works	Remainder			
Permanent	3,94,011	98,503	5,12,446	31,36,781	16.3	155.0
Ganges Canal	59,520	14,880	95,946	9,15,380	10.5	132.2
East India Canal	1,38,163	34,541	2,19,631	13,47,306	17.0	191.3
Barak Doab	2,47,562	60,391	1,99,783	9,00,259	22.2	107.7
Upper Sutlej Canal	49,268	12,317	30,684	1,08,817	28.2	87.1
Standards	1,53,126	38,781	54,359	1,92,964	38.2	60.0

The last column in the above table which I have added to the calculations given by General Crompton will show how the results under the selected work compare with those of this Presidency, and prove (1) how a really high percentage charge for Establishment is demanded in other provinces; and (2) quantum valent that Madras charges are very much less, instead of being more as has been asserted. It is true that the table charges in the Ganges Canal and some others include cost of apportionment though not of collection; but of the canal charges in the Ganges Canal are very high and in this

was before brought under the notice of the Govt of India, but this Government was not favourably with any reply

40 To setting aside this however

it may be remarked that had an amount equivalent to that debited to the revenue of say the Ganges Canal as above shown (viz 16.3) been thus shown as a contribution to Establishment in the Madras Accounts the annual relief on this amount alone would have averaged

about 6 1/2 lakhs to which adding the deduction claimable

Colo (9) and (13) averaging (say Rs 2,60,000 per annum)

the total relief afforded to Provincial in Madras would not have been less than

Rs 9,10,000 per annum. The

Cost of Establishment estimated

to be charged in current

by a corresponding reduction in year would be

only Rs 125,319

~~and the~~ and the
general average as against
work to ~~20.7~~ 20.7

41 On the whole it will
not be too much to assume
that were the Madras

Establishment placed on
precisely the same footing
as the corresponding Establs
of Northern India, and

were all the cost of officers
and subordinates engaged

Exclusively ^{investigation of projects for} ~~and projects for~~

famine work, struck out of
the account, the actual

charge as against "work"
^{fall below} would ~~not reach~~ 20 per

cent including all heads viz:

"Construction," "Direction" and

"Accounts"

Att

19/9/82

Appendix E

Appendix F

Statement showing probable loss of Revenue (N.B. All areas & values are expressed in Lakhs)

	1863.64	1864.65	1865.66	1866.67	1867.68	1868.69	1869.70	
	Extent	Appx.	Extent	Appx.	Extent	Appx.	Extent	Appx.
	in aq.	in aq.	in aq.	in aq.	in aq.	in aq.	in aq.	in aq.
	Super	Super	Super	Super	Super	Super	Super	Super
(a) Entire cultivable wet area in the Presidency —	52.6	244.9	52.6	244.9	52.6	244.9	51.1	237.1
(b) Deduct Inam wet —	8.3	38.9	8.3	38.9	8.3	38.9	9.1	41.5
Cultivable wet area belong- ing to Government —	44.3	206.0	44.3	206.0	44.3	206.0	42.0	195.6
Wet area under occupa- tion according to Sama- bandy statements —	34.9	173.0	32.8	165.0	35.8	174.5	32.1	173.0
(c) Land not brought under cultivation apparently in want of supply of Irrigation —	9.4	33.0	11.5	41.0	8.5	31.5	6.0	22.6
Of the lands occupied, i.e. all submissions granted owing to bad seasons or deficient supply of water —	14.9	17.9	18.6	9.5	34.3	24.6	12.5	
Total loss —	47.9	58.9	50.1	32.1	69.1	44.9	55.6	

Remarks

(a) Possibly some of the land thus
classified as "wet" would require
considerable outlay being covered
with stones, etc.

(b) The whole of this must not
be eliminated as on the erection
of improved facilities of water
supply some of the inam lands
may become liable to water
tax

(c) most of this land will
probably be brought under irri-
gation when proper facilities are
supplied

Lakhs of Rupees

Att

19/5/92

Remarks

(a) Possibly some of the land thus
Classed as "wet" would require
considerable outlay being covered
with some "net" etc.

(b) The whole of this must not
be eliminated as in the creation
of improved facilities of water
supply some of the inland tanks
may become liable to water
tax

(c) most of this land will
probably be brought under irri-
gation when proper facilities are
supplied

Lakhs of Rupees

In lakhs and decimals.

Remarks

(c) most of this land will probably be brought under irrigation when proper facilities are supplied.

18/5/82

75

80

85

20

<u>Districts</u>	<u>Area in Sq. Miles.</u>
Canjam	5643
Vizagapatam	5640
Godavari	7124
Kistna	8431
Nellore	7481
Bellary	6092
Anantapur	4361
Tiruvool	7037
Guddapah	8030
Chingoleput	2871
North Arcot	7345
South Arcot	4936
Tanjore	3739
Trichinopoly	4331
Madura	9071
Tinnevely	3383
Coimbatore	7996
Salem	7604
Nilgiri	1909
South Canara	2433
Malabar	5104
Presidency	27
Bangalore City	11

RESIDENCY

DOMINIONS
NIZAM'S

KURNOOL DISTRICT

DOMINIONS

KISTNA DISTRICT

CODAVERY

NAGPORE

TERRITORY

JEYPORE

ZEMINDARI

BENGAL PRESIDENCY

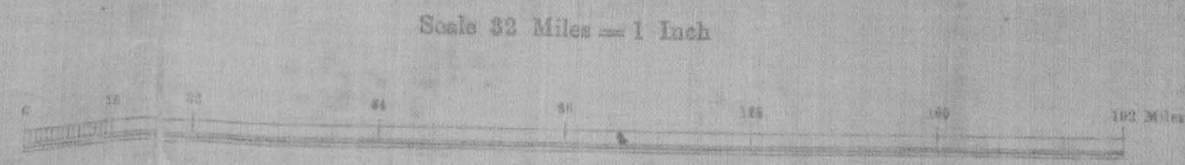
CANJAM DIST

VIZAGAPATAN

DISTRICT



SKELETON MAP
of the
MADRAS PRESIDENCY
Shewing Districts.



Survey Office
Madras
5th December 1876

Chief Engineer's Office,
Chennai
Sept 1882

Colonel, R.E.
Secretary to Government, P.W.D.
Superintendent Madras Survey.

Abstract of Statement showing the numbers and pay of and percentage charge under "Construction" arrangement Staff

Engineer Establishment Upper Subordinate Establish. Petty
-ment office
Executive Assist. and En-
gineer-ginier Total Subinger Supervisor Overseer Total Engineer
-gineer -gineer

No Amount No Amount No Amount No Amount No Amount No Amount No Amount No Amount No Amount No Amount

No. I Circle	2	17,400	5	27,000	7	44,400	4	12,000	8	172,322	19	520,240	49	562	65,530	130,300
No. II Circle	4	33,840	8	38,400	12	72,240	5	12,000	5	112,322	23	24,578	33	52,760	63,958	189,958
No. III Circle	1	16,200	-	-	1	16,200	2	9,600	5	10,200	14	13,944	21	33,794	46,472	96,450
No. IV Circle	5	40,000	3	13,800	8	23,800	4	15,200	5	10,700	19	21,108	28	47,944	60,710	162,104
No. V Circle	3	40,200	4	20,400	7	60,600	10	47,316	7	16,572	23	27,180	43	91,008	89,378	240,986
No. VI Circle	5	122,760	6	28,800	11	71,076	4	16,880	12	250,322	23	220,800	39	61,992	76,234	209,302
Architect	1	14,940	-	-	1	14,940	1	5,400	1	2,280	-	-	2	7,020	11,334	31,194

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Staff, numbers and cost of works in each S. W. Division paid according to Supt. Engineers Circles Works Imperial Provincial

Military Other Services

New Works Repairs Total New Works Repairs Total New Works Repairs Total

No Amount No Amount No Amount No Amount No Amount No Amount No Amount No Amount No Amount No Amount

No. I Circle	35,68	4,130	7,690	4,583	53,531	-	-	35,68	4,130	7,690	4,583	53,531	-	-	35,68	4,130	7,690	4,583	53,531
No. II Circle	-	4,130	4,130	4,583	49,963	-	-	35,68	4,130	7,690	4,583	53,531	-	-	35,68	4,130	7,690	4,583	53,531
No. III Circle	47,310	4,130	51,440	4,583	97,273	-	-	35,68	4,130	7,690	4,583	53,531	-	-	35,68	4,130	7,690	4,583	53,531
No. IV Circle	38,288	4,130	42,418	4,583	88,251	1	13,524	35,68	4,130	7,690	4,583	53,531	1	13,524	35,68	4,130	7,690	4,583	53,531
No. V Circle	18,575	4,130	22,705	4,583	27,288	3	17,340	35,68	4,130	7,690	4,583	53,531	3	17,340	35,68	4,130	7,690	4,583	53,531
No. VI Circle	-	4,130	4,130	4,583	49,963	1	3,000	35,68	4,130	7,690	4,583	53,531	1	3,000	35,68	4,130	7,690	4,583	53,531
Architect	-	-	-	-	-	2	18,100	-	-	-	-	-	2	18,100	-	-	-	-	-

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Irrigation Productive Public Works

Capital Account Revenue Account Total
Extension and Maintenance Works Improvement and Repairs Works Repairs

No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
No. I Circle	18	16,405	2	23,000	1,25	26,225	100,000	2833	162,833	21	185,630	162,833	34		
No. II Circle	15	128,120	3	13,000	1,20	14,210	112,000	2833	145,833	16	164,368	145,833	77		
No. III Circle					1,20	12,25		2833	2833		12,25	2833			
No. IV Circle					1,20	12,25		2833	2833		12,25	2833			
No. V Circle					1,20	12,25		2833	2833		12,25	2833			
No. VI Circle					1,20	12,25		2833	2833		12,25	2833			
No. VII Circle					1,20	12,25		2833	2833		12,25	2833			
No. VIII Circle	2	30,470	4	30,000	1,20	31,235	15,000	2835	77,835	6	61,710	77,835	139		
Subtotal															

Total 33 877,006 10 66,007 7303 733,60 87,900 17,000 294,000 13 900,366 395,000 109,536

Works

Irrigation and Navigation & Agricultural Ordinary

Irrigation and Navigation

Agricultural Works

Works for which Capital and Revenue Accounts are kept				Works for which neither Capital nor Revenue Accounts are kept				Works for which neither Revenue nor Capital Accounts are kept			
Capital	Revenue	Works	Repairs	Capital	Revenue	Works	Repairs	Capital	Revenue	Works	Repairs
No. Amount	No. Amount	No. Amount	No. Amount	No. Amount	No. Amount	No. Amount	No. Amount	No. Amount	No. Amount	No. Amount	No. Amount
16											
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(Continued)

Irrigation
Totals

Provincial
Navigation Works

Excluded local
Original Works

Canal
and
Ferry

Totals

Percentage
of
Estab-
lishment

Totals		Capital	Revenue	Total	Port	Other	Total	Local	Total	Works	of	Repairs	Cost	Interest
		Revenue	Capital	Total	Revenue	Capital	Total	Revenue	Capital	Works	of	Repairs	Cost	Interest
Works		Repairs	Total	Works	Repairs	Total	Works	Repairs	Total	Works	of	Repairs	Cost	Interest
No	Amount	Revenue	Total	Amount	Total	No	Amount	Revenue	Total	Amount	Revenue	Total	Amount	Revenue
No I Circle	8	76426	39913	116339	123899	239438	"	"	"	"	"	"	"	"
No II Circle	2	61673	39913	101586	105999	207585	"	"	"	"	"	"	"	"
No III Circle	2	23000	39913	62913	121599	184512	"	"	"	"	"	"	"	"
No IV Circle	4	45680	39913	85593	227999	313592	"	"	"	"	"	"	"	"
No V Circle	5	66138	39913	106051	147099	253150	1	160443	68635	229078	1085	2523	3721	6304
No VI Circle	10	166051	39914	205965	347305	552270	"	"	"	"	"	"	"	"
Architect	"	"	"	"	"	"	"	"	"	"	"	"	"	"

Total 31 438968 239479 678447 1122700 1801147 1 160443 68635 229078 1570 16140 208330 37830 12900 50730 40 2021208 938212 2037618 5584080 19.56

Apples

(at home)

1871

P. W. 17 October 1871

Statement showing the Numbers and Pay of Staff, Numbers and Cost of Works in each Public Works Division, and Percentage Charge under "Construction" arranged according to Superintending Engineers' Circles—cont.

Statement showing the Numbers and Pay of Staff, Numbers and Cost of Works in each Public Works Division, and Percentage Charge under "Construction."																								
WORKS—cont.										GRAND TOTALS.														
IRRIGATION AND NAVIGATION AND AGRICULTURE ORDINARY—cont.					PROVINCIAL—			EXCLUDED LOCAL.			INCORPORATED LOCAL.											Percentage of Establishment	Remarks.	
Totals.					Navigation Works.			Original Works.			Original Works.													
					Capital.	Revenue.	Total.																	
Works.					Repairs.	Total.	Works.	Repairs.	Total.	Port Fund.	Extra-Municipal.	Total.	Local Funds.	Canal and Ferry.	Totals.	Repairs, Local Funds.	Totals.	New Works.	Rateable share of Reserve.	Repairs.	Grand Total, Works, Repairs.			
No.	Amount.	Reserve.	Total.	Amount.	Total.	No.	Amount.	Amount.	Amount.	Amount.	Amount.	Amount.	Amount.	Amount.	Amount.	Amount.	No.	Amount.	Amount.	Amount.	Amount.			Amount.
33				34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51			
<i>First Circle.</i>																								
Ganjam ..	..	..	9,978	9,978	34,149	..	..	..	271	330	901	645	930	1,575	537	2,112	1	2,170	38,967	53,247	95,384	26.82	Full Divisional Staff here needed, as the district is a great Province. Irrigation Project has been started for execution. Improved communications in all the eight parts of this district greatly needed. Full Divisional Staff necessary. Owing to the enhanced work due to the late sanction for the completion of the Delta Works, proposal for a third Executive (the Central Government of India) has been submitted to the Government of India.	
Vizagapatam ..	..	..	9,978	9,978	22,619	..	..	..	272	331	905	646	931	1,579	539	2,118	2	79,928	38,971	41,744	1,40,840	31.74		
Godavari Eastern ..	6	57,000	9,979	66,979	49,152	1,07,131	..	..	..	271	330	901	645	930	1,575	537	2,112	26	2,94,697	38,965	1,51,245	4,27,907		12.07
Do. Western ..	2	19,426	9,978	29,404	26,149	65,553	..	..	..	1,085	1,321	3,608	2,583	3,793	6,304	2,150	8,154	9	75,876	38,968	1,10,342	2,25,081		14.21
Total ..	8	76,426	39,913	1,16,339	1,23,099	2,39,438	..	..	..	..	..	..	..	..	..	..	..	35	3,93,668	1,55,806	3,59,478	6,09,012	17.52	
<i>Second Circle.</i>																								
Kistna Eastern ..	1	20,000	13,303	33,303	30,399	63,702	..	..	..	271	330	901	645	930	1,575	537	2,112	11	2,03,193	51,027	1,39,444	3,84,664	13.33	Owing to the enhanced work due to the late sanction for the completion of the Delta Works, proposal for a third Executive (the Central Government of India) has been submitted to the Government of India. Full Divisional Staff necessary for large irrigation works of the Panaji System. The Sivasagar Project now framing is in this division. Full Divisional Staff essential.
Do. Western ..	..	..	13,303	13,303	28,199	36,502	..	..	..	272	331	905	646	931	1,579	539	2,118	5	1,23,420	51,022	1,01,241	2,75,683	15.40	
Nellore ..	1	41,673	13,307	54,980	52,401	1,07,381	..	..	..	271	330	901	645	930	1,575	537	2,112	3	2,74,580	2,783	1,246	3,78,607	16.04	
Sangam Project ..	2	61,672	39,913	1,01,585	1,05,999	2,07,588	..	..	..	1,085	1,321	3,608	2,583	3,793	6,304	2,150	8,154	22	7,67,166	1,55,806	3,25,378	12,58,410	15.33	
Total ..	2	61,672	39,913	1,01,585	1,05,999	2,07,588	..	..	..	3,653	4,441	12,204	8,613	12,651	21,102	7,155	2,829	6	62,310	51,039	75,683	1,89,932	19.76	
<i>Third Circle.</i>																								
West Coast ..	..	..	9,978	9,978	17,149	27,127	..	..	..	271	330	901	645	930	1,575	537	2,112	10	1,13,553	38,971	58,244	1,94,103	20.69	In addition to the above, Government has sanctioned works, and the investigation of projects in the district. Full Staff necessary. Local Fund. Full Staff necessary. In addition to the above, Government has sanctioned works, and the investigation of projects in the district. Full Staff necessary. Local Fund. Full Staff necessary.
Coimbatore ..	1	10,000	9,978	19,978	85,149	1,05,127	..	..	..	271	330	901	645	930	1,575	537	2,112	2	15,300	38,963	1,01,242	1,56,505	19.68	
Salem ..	2	22,650	9,978	42,628	36,149	77,807	..	..	..	271	330	901	645	930	1,575	537	2,112	4	60,680	38,963	54,244	1,53,885	19.26	
North Arcot ..	1	3,000	9,979	12,979	90,152	1,03,131	..	..	..	271	330	901	645	930	1,575	537	2,112	1	28,550	38,965	1,00,342	1,77,061	29.82	
Total ..	4	45,650	39,913	85,563	2,27,599	3,13,192	..	..	..	1,085	1,321	3,608	2,583	3,793	6,304	2,150	8,454	20	2,24,775	1,55,806	2,03,978	6,83,619	29.79	
<i>Fifth Circle.</i>																								
South Arcot ..	3	17,118	13,307	30,425	1,11,201	1,41,626	..	..	..	361	441	1,222	841	1,041	2,102	716	2,818	7	54,326	51,012	36,562	2,42,602	28.20	Most important irrigation works in addition to ordinary duties claim constant attention. Full Staff necessary. Canal crosses the drainage of the country, to 750 miles in length and claims constant attention for maintenance. In addition to the above, Government has sanctioned works, and the investigation of projects in the district. Full Staff necessary. Local Fund. Full Staff necessary.
Chingleput ..	2	49,030	13,303	62,333	69,699	1,26,022	..	..	..	361	441	1,222	841	1,041	2,102	716	2,818	2	1,18,106	51,010	38,450	2,07,566	27.02	
Buckingham Canal ..	..	..	13,303	13,303	23,189	85,502	..	..	..	361	441	1,222	841	1,041	2,102	716	2,818	2	1,18,106	51,010	38,450	2,07,566	27.02	
Presidency ..	..	..	13,303	13,303	23,189	85,502	..	..	..	361	441	1,222	841	1,041	2,102	716	2,818	2	1,18,106	51,010	38,450	2,07,566	27.02	
Total ..	5	66,138	39,913	1,06,051	1,97,099	2,90,835	..	..	..	1,083	1,322	3,644	2,583	3,832	6,310	2,150	8,460	24	1,89,736	1,55,876	3,43,125	6,87,734	29.00	
<i>Sixth Circle.</i>																								
Trichinopoly ..	..	..	7,982	7,982	85,121	92,103	..	..	..	217	264	721	444	544	1,269	430	1,699	10	1,08,107	51,012	1,08,107	3,16,226	28.48	In addition to irrigation and other work, including military, the Local Food Works are likewise executed. The large irrigated tract, probably in India, is very strong. Full Staff essential. Besides the special works of Madras and ordinary work in the district, there are here a great number of tanks than elsewhere. Most important irrigation works under the Government of India. Full Staff necessary.
Tanjore ..	..	..	7,982	7,982	85,121	92,103	..	..	..	217	264	721	444	544	1,269	430	1,699	7	36,910	51,011	67,921	1,55,832	25.15	
Nagapattinam ..	..	..	7,982	7,982	85,121	92,103	..	..	..	217	264	721	444	544	1,269	430	1,699	7	36,910	51,011	67,921	1,55,832	25.15	
Madurai ..	..	..	7,982	7,982	85,121	92,103	..	..	..	217	264	721	444	544	1,269	430	1,699	7	36,910	51,011	67,921	1,55,832	25.15	
Total ..	..	..	7,982	7,982	85,121	92,103	..	..	..	868	1,056	2,884	1,776	2,176	5,076	1,720	6,796	42	1,81,917	1,53,034	1,35,949	3,71,900	26.81	
<i>Seventh Circle.</i>																								
Tanjore ..	..	..	7,982	7,982	85,121	92,103	..	..	..	434	528	1,442	888	1,088	2,538	860	3,398	22	1,81,917	1,53,034	1,35,949	3,71,900	26.81	In addition to irrigation and other work, including military, the Local Food Works are likewise executed. The large irrigated tract, probably in India, is very strong. Full Staff essential. Besides the special works of Madras and ordinary work in the district, there are here a great number of tanks than elsewhere. Most important irrigation works under the Government of India. Full Staff necessary.
Nagapattinam ..	..	..	7,982	7,982	85,121	92,103	..	..	..	434	528	1,442	888	1,088	2,538	860	3,398	22	1,81,917	1,53,034	1,35,949	3,71,900	26.81	
Madurai ..	..	..	7,982	7,982	85,121	92,103	..	..	..	434	528	1,442	888	1,088	2,538	860	3,398	22	1,81,917	1,53,034	1,35,949	3,71,900	26.81	
Total ..	..	..	7,982	7,982	85,121	92,103	..	..	..	868	1,056	2,884	1,776	2,176	5,076	1,720	6,796	44	3,63,834	3,06,068	2,71,898	7,41,800	26.81	

Reserve distributed Reserve has been assigned ratably to each division.

Ganjam-Gopaldrom
and Canal Project
Nagapattinam
Buckingham Canal
in this Division

West Coast
Irrigation

Madurai

Abstract of Statement showing the Numbers and Pay of Staff, Numbers and Cost of Works in each Public Works Division, and Percentage Charge under "Construction" arranged according to Superintending Engineers' Circles—cont.

IMMIGRATION AND NAVIGATION AND AGRICULTURAL										ORDINARY—cont.										WORKS—cont.									
Totals					Navigation Works					Proprietary					Excluded Local					Incorporated Local					Totals				
Totals		Capital		Revenue		Total		Port		Education		Total		Local		Canal and Ferry		Total		Repairs		Total		Ratable share of Reserve		Repairs		Total	
No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
31	4,38,968	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
10	1,66,051	39,914	2,05,965	6,78,447	11,22,700	18,01,147	1,60,443	68,635	2,29,078	6,610	16,140	21,650	15,500	22,330	37,830	12,900	60,730	148	26,21,208	9,35,212	20,27,618	56,84,038	18,30	18,30	18,30	18,30	18,30	18,30	
5	66,138	39,913	1,06,051	3,47,306	8,03,160	1,37,099	1,60,443	68,635	2,29,078	1,085	2,523	3,608	2,583	3,721	6,304	2,150	8,460	24	4,59,761	1,56,878	3,42,120	9,87,734	24-39	24-39	24-39	24-39	24-39	24-39	
4	45,680	39,913	85,593	2,27,699	3,13,192	1,84,512	1,60,443	68,635	2,29,078	1,085	2,523	3,608	2,583	3,721	6,304	2,150	8,460	24	4,59,761	1,56,878	3,42,120	9,87,734	24-39	24-39	24-39	24-39	24-39	24-39	
2	23,000	39,913	62,913	1,21,699	1,84,512	2,07,686	1,60,443	68,635	2,29,078	1,085	2,523	3,608	2,583	3,721	6,304	2,150	8,460	24	4,59,761	1,56,878	3,42,120	9,87,734	24-39	24-39	24-39	24-39	24-39	24-39	
2	61,673	39,913	1,01,586	1,06,999	2,07,686	2,39,438	1,60,443	68,635	2,29,078	1,085	2,523	3,608	2,583	3,721	6,304	2,150	8,460	24	4,59,761	1,56,878	3,42,120	9,87,734	24-39	24-39	24-39	24-39	24-39	24-39	
8	76,426	39,913	1,16,339	1,23,099	2,39,438	2,39,438	1,60,443	68,635	2,29,078	1,085	2,523	3,608	2,583	3,721	6,304	2,150	8,460	24	4,59,761	1,56,878	3,42,120	9,87,734	24-39	24-39	24-39	24-39	24-39	24-39	
1	1,60,443	..	..	..	..	..	1,60,443	68,635	2,29,078	6,610	16,140	21,650	15,500	22,330	37,830	12,900	60,730	148	26,21,208	9,35,212	20,27,618	56,84,038	18,30	18,30	18,30	18,30	18,30	18,30	
68,635	..	..	..	..	..	..	68,635	2,29,078	6,610	16,140	21,650	15,500	22,330	37,830	12,900	60,730	148	26,21,208	9,35,212	20,27,618	56,84,038	18,30	18,30	18,30	18,30	18,30	18,30	18,30	
6,610	..	..	..	..	..	..	6,610	2,29,078	6,610	16,140	21,650	15,500	22,330	37,830	12,900	60,730	148	26,21,208	9,35,212	20,27,618	56,84,038	18,30	18,30	18,30	18,30	18,30	18,30	18,30	
16,140	..	..	..	..	..	..	16,140	2,29,078	6,610	16,140	21,650	15,500	22,330	37,830	12,900	60,730	148	26,21,208	9,35,212	20,27,618	56,84,038	18,30	18,30	18,30	18,30	18,30	18,30	18,30	
21,650	..	..	..	..	..	..	21,650	2,29,078	6,610	16,140	21,650	15,500	22,330	37,830	12,900	60,730	148	26,21,208	9,35,212	20,27,618	56,84,038	18,30	18,30	18,30	18,30	18,30	18,30	18,30	
15,500	..	..	..	..	..	..	15,500	2,29,078	6,610	16,140	21,650	15,500	22,330	37,830	12,900	60,730	148	26,21,208	9,35,212	20,27,618	56,84,038	18,30	18,30	18,30	18,30	18,30	18,30	18,30	
22,330	..	..	..	..	..	..	22,330	2,29,078	6,610	16,140	21,650	15,500	22,330	37,830	12,900	60,730	148	26,21,208	9,35,212	20,27,618	56,84,038	18,30	18,30	18,30	18,30	18,30	18,30	18,30	
37,830	..	..	..	..	..	..	37,830	2,29,078	6,610	16,140	21,650	15,500	22,330	37,830	12,900	60,730	148	26,21,208	9,35,212	20,27,618	56,84,038	18,30	18,30	18,30	18,30	18,30	18,30	18,30	
12,900	..	..	..	..	..	..	12,900	2,29,078	6,610	16,140	21,650	15,500	22,330	37,830	12,900	60,730	148	26,21,208	9,35,212	20,27,618	56,84,038	18,30	18,30	18,30	18,30	18,30	18,30	18,30	
60,730	..	..	..	..	..	..	60,730	2,29,078	6,610	16,140	21,650	15,500	22,330	37,830	12,900	60,730	148	26,21,208	9,35,212	20,27,618	56,84,038	18,30	18,30	18,30	18,30	18,30	18,30	18,30	
148	..	..	..	..	..	..	148	2,29,078	6,610	16,140	21,650	15,500	22,330	37,830	12,900	60,730	148	26,21,208	9,35,212	20,27,618	56,84,038	18,30	18,30	18,30	18,30	18,30	18,30	18,30	
26,21,208	..	..	..	..	..	..	26,21,208	2,29,078	6,610	16,140	21,650	15,500	22,330	37,830	12,900	60,730	148	26,21,208	9,35,212	20,27,618	56,84,038	18,30	18,30	18,30	18,30	18,30	18,30	18,30	
9,35,212	..	..	..	..	..	..	9,35,212	2,29,078	6,610	16,140	21,650	15,500	22,330	37,830	12,900	60,730	148	26,21,208	9,35,212	20,27,618	56,84,038	18,30	18,30	18,30	18,30	18,30	18,30	18,30	
20,27,618	..	..	..	..	..	..	20,27,618	2,29,078	6,610	16,140	21,650	15,500	22,330	37,830	12,900	60,730	148	26,21,208	9,35,212	20,27,618	56,84,038	18,30	18,30	18,30	18,30	18,30	18,30	18,30	
56,84,038	..	..	..	..	..	..	56,84,038	2,29,078	6,610	16,140	21,650	15,500	22,330	37,830	12,900	60,730	148	26,21,208	9,35,212	20,27,618	56,84,038	18,30	18,30	18,30	18,30	18,30	18,30	18,30	
18,30	..	..	..	..	..	..	18,30	2,29,078	6,610	16,140	21,650	15,500	22,330	37,830	12,900	60,730	148	26,21,208	9,35,212	20,27,618	56,84,038	18,30	18,30	18,30	18,30	18,30	18,30	18,30	

At this table are shown
Estimated charges under "Ordinary"
for the year 1900-1901
and the year 1901-1902
for charges under "Works"
for the year 1900-1901
and the year 1901-1902

Per-centage of
Estab-lishment
Works
Remarks.

At this table all show the
 Estate's charge under "Construction"
 the heavy & substantial improvements
 and some of them have been carried
 for charge under all other heads
 see the general table in Appendix E

No 2695-11

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 16th Oct. 82

Read the following:

and cost of works in each S.W. Division and percentage attending Engineers Circles.

Statement showing the numbers and pay of staff, number charge under Construction arranged according to

Staff

Engineer Establish Local Officer Subordinate Establishment
Executive Assist. Engineer Engineer Subordinate Engineer Subordinate Engineer Subordinate

Imperial

Military

Other Services

Provincial

New Works

Repairs Total

New Works

Repairs Total

New Works

Repairs Total

No Amount Revenue Total Amount Revenue Total Amount Revenue Total Amount Revenue Total Amount Revenue Total Amount Revenue Total

Madras 1 6600 1 6600 1 3000 3 2400 4 5400 12636 24336

Vijayanpore 1 9600 1 4200 2 13800 2 6600 3 4320 5 4320 10 17416 19700 57916

Coimbatore 1 1800 2 10800 3 18000 4 8316 8 7680 12 15876 17200 51856

W. Coast 1 5200 1 5200 1 5000 1 2400 6 5280 8 10680 18904 51904

Total 2 17400 5 27000 7 44400 4 12600 8 17232 12 19520 24 49362 65550 159502

N.B.

The Staff is as it stood on the 1st July 1882. The Provincial and District Reserves has been assigned partially to each Division.

1034 1034 11459 12490 896 896 668 1564 1 5170 24271 27241 5725 33175

1032 1032 11458 12490 895 895 666 1561 2 7995 24276 26271 5724 109925

3568 1032 4600 11458 16058 895 895 666 1561 4 44724 24276 69000 5724 74724

1032 1032 11458 12490 895 895 666 1561 1 1452 24276 25726 5724 31450

3568 1032 4600 11458 16058 895 895 666 1561 8 12269 24276 226374 226374 249274

No 2695- W

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the 14th Oct. 18

Read the following:

Statement showing the numbers and pay of staff, under charge under Construction arranged according to

Staff

Engineer Echelle	Major	Upper Subordinate	Establishment	24000
Engineer Assistant	Sub	Engineer Superior	Amount	12000
Engineer Engineer	Sub	Engineer Superior	Amount	12000

and cost of works in each P.W. Division and percentage attending Engineers Circles.

Works

Imperial

Provincial

Military

Other Services

New Works	Repairs Total	New Works	Repairs Total	New Works	Repairs Total
-----------	---------------	-----------	---------------	-----------	---------------

No	Amount	Revenue	Total	Amount	Revenue	Total	No	Amount	Revenue	Total	Amount	Revenue	Total	Amount	Revenue	Total
----	--------	---------	-------	--------	---------	-------	----	--------	---------	-------	--------	---------	-------	--------	---------	-------

Christna Pashura	1	7400	3	13300	4	21600	1	5400	2	4400	5	4000	8	17900	17900
Co. Wulara	1	7400	2	9600	3	17400	1	2	4200	5	4500	7	9000	15700	15700
Nellore	1	7400	1	7400	2	6600	1	2300	4	5900	7	17500	15200	15200	15200
Tringun Project	1	10000	3	15300	4	25800	2	7000	1	12000	11	14000	16000	16000	16000

Total	4	33800	8	38400	12	72200	5	18000	5	11200	23	24500	33	53700	163000
-------	---	-------	---	-------	----	-------	---	-------	---	-------	----	-------	----	-------	--------

"	1370	1370	15277	16655	"	1190	1190	800	2001	2	21050	32368	52218	4632	16050
"	1376	1376	15277	16655	"	1193	1193	880	2001	1	14520	32368	46888	4632	52520
"	1376	1376	15279	16655	"	1193	1193	880	2001	1	11000	32369	43369	4633	51002
"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
"	4130	4130	45000	49960	"	3501	3501	2666	6207	4	47370	99105	146475	22007	167372

No 2695-11

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the 16th Oct. 18

Read the following:

Statement showing the numbers and pay of staff, number charge under Construction arranged according to

Staff

Engineer Echelle Local Upper Subordinate Echelle Local
Engineer Echelle Local Upper Subordinate Echelle Local
Engineer Echelle Local Upper Subordinate Echelle Local

and cost of works in each P.W. Division and percentage attending Engineers Circles.

Imperial

Provincial

Military

Other Services

New Works Repairs Total New Works Repairs Total

No Amount Revenue Total Amount Revenue Total Amount Revenue Total Amount Revenue Total

5	47,310	3,378	50,688	15,279	63,967	"	"	1195	1195	890	2085	"	"	32,369	32,369	7633	40,002
"	"	1376	1376	15,277	16,653	"	"	1193	1193	888	2081	"	"	32,368	32,368	7632	40,000
"	"	1376	1376	15,277	16,653	"	"	1193	1193	888	2081	"	"	32,368	32,368	7632	40,000

5 47,310 4,130 51,440 15,833 67,273 " " 3581 3581 2666 6247 1 30,000 97,105 12,410 109,515

Bellary	1	9600	"	1	9600	1	3100	2	4200	5	10048	13284	46664	37,356
Cuddalore	1	6600	"	1	6600	"	1800	5	4200	6	6000	10200	26,800	20,900
Thiruvallur	"	"	"	"	1	6600	2	4200	4	3600	4	14400	14,400	14,400

Total 2 16200 " 2 16200 2 9600 5 10200 14 13984 21 33784 26,564 96,656

No 2695-11

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 11th Oct. 18

Read the following:—

Statement showing the numbers and pay of staff, under charge under Construction arranged according to

Staff

Engineer Establishment Officer Subordinate Establishment
 Engineer Engineer Subordinate Engineer Subordinate
 Engineer Subordinate Engineer Subordinate

West Coast	2	16080	2	16080	3	12720	1	2326	7	8988	11	24024	19218	29322
Coimbatore	1	4600	1	4200	2	10800	1	2400	4	43200	5	4720	13458	20718
Salem	1	7000	1	7000	1	3000	1	1800	4	39600	6	8640	13200	25640
North Arcot	1	9600	2	9600	3	10200	2	4200	4	3960	6	8160	10830	22190

Total 5 40080 3 13800 8 52800 4 15720 5 10716 19 21120 19 21120 19 21120 19 21120 19 21120

and cost of works in each P.W. Division and percentage attending Engineers Circles.

Works

Imperial

Provincial

Military

Other Services

New Works Repairs Total New Works Repairs Total New Works Repairs Total

No	Amount	Revenue	Total	Amount	Revenue	Total	Amount	Revenue	Total	Amount	Revenue	Total	Amount	Revenue	Total	Amount	Revenue	Total
4	35208	1032	36240	11459	47981	1	13527	895	14422	448	15901	5	60870	21277	82147	5725	99872	
"	1032	1032	11458	11490	"	895	895	1161	1561	1	5360	21276	29636	5724	35060			
"	1032	1032	11458	11490	"	895	895	1161	1561	2	23000	21276	57276	5724	58000			
1	2800	1032	3832	11458	13290	"	895	895	1161	2	23050	21276	57276	5724	53050			
5	20788	4130	24918	45833	88257	1	13327	3581	17908	266	19774	10	106290	97105	223395	22421	246282	

No 2695-11

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 11th Oct. 18
Read the following:—

and cost of works in each P.W. Division and percentage
attending Engineers Circles.

Statement showing the numbers and pay of staff, under
charge under Construction arranged according to

Staff

Engineer	Establishment	Officer	Subordinate	Establishment	Staff
Executive Assist.	Sub.	Engineer	Inspector	Division	Staff
Engineer	Engineer	Staff	Engineer	Inspector	Division

Imperial		Other Services		Provincial	
Military					
New Works	Repairs Total	New Works	Repairs Total	New Works	Repairs Total
Amount	Revenue	Total	Amount	Revenue	Total

W. H. C. C. C.

South Arcot	1	10,000	3	10,000	4	20,000	2	20,000	2	20,000	11	11,000	20,000	10,000	10,000
Chingelput	1	6,000	1	6,000	2	6,000	2	6,000	6	30,000	10,000	10,000	10,000	10,000	10,000
Buckingham	1	10,000	1	10,000	3	30,000	1	10,000	7	70,000	10,000	10,000	10,000	10,000	10,000
Proddur	1	10,000	1	10,000	3	30,000	3	30,000	5	50,000	11	11,000	30,000	10,000	10,000

1	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
2	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
3	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
4	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
5	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
6	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
7	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
8	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
9	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
10	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000

Total 3, 10,000 4, 20,000 7, 30,000 10, 40,000 10, 50,000 10, 60,000 10, 70,000 10, 80,000 10, 90,000 10, 100,000

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 11th Oct. 18

Read the following:—

Statement showing the numbers and pay of staff, number charge under Construction arranged according to

Staff

Engineer	Establishment	Office	Subordinate	Establishment	Staff
Executive	Assistant	Sub	Engineer	Inspector	Assistant
Engineer	Inspector	Sub	Engineer	Inspector	Assistant

and cost of works in each P.W. Division and percentage attending Engineers Circles.

Imperial		Other Services		Provincial	
Military					
New Works	Repairs Total	New Works	Repairs Total	New Works	Repairs Total
Amount	Revenue	Total	Amount	Revenue	Total

Trichinopoly	1	11796	1	11796	1	3360	2	48000	5520	9	10680	8766	6120
Tanjore	1	6600	2	10800	3	17400	1	4800	3	6516	5280	9	10680
Mysore	1	2400	1	5400	2	11880	1	3360	2	36000	3120	6	10080
Madurai	1	6600	1	6600	1	3360	2	4716	5	4320	8	10080	10080
Tinnevely	1	7400	3	12600	4	20400	1	5200	4	3960	4	9240	15240

Total 5 122766 28800 11 41076 4 10800 12 25022 23 22080 39 61202 76236 22800

"	"	826	826	9169	9990	"	"	716	716	533	1249	2	28800	19421	45221	4579	52800
"	"	826	826	9169	9992	"	"	717	717	533	1250	6	106380	19421	125861	4579	130380
"	"	826	826	9169	9992	1	3000	716	3716	534	1250	"	19421	19421	4579	24000	
"	"	826	826	9169	9992	"	"	716	716	533	1249	7	55005	19421	74466	4581	77067
"	"	826	826	9169	9992	"	"	716	716	533	1249	1	30000	19421	69421	4579	74000
"	"	4130	4130	45833	49963	1	3000	3581	6581	2466	9247	16	210225	19421	237330	22897	360227

2695-11

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 16 Oct. 18

Read the following:—

Statement showing the numbers and pay of staff, and charge under Construction arranged according to

Staff

Engineer Estab. General Officer Subordinate Estab. Subordinate
 Engineer Assistant Engineer Subordinate Engineer Subordinate
 Engineer Subordinate Engineer Subordinate Engineer Subordinate

and cost of works in each P.W. Division and percentage attending Engineers Circles.

Works

Provincial

Imperial

Military

Other Services

New Works Repairs Total New Works Repairs Total

Amount Revenue Total Amount Revenue Total Amount Revenue Total Amount Revenue Total

16
 Bangalore 306 306 109 109 306 109
 Vijayapattanam 306 306 109 109 306 109
 Godavari Eastern 13 12,405 2 000 304 030 95,000 108 95,000 15 12,405 2 000 304 030 95,000
 Madani 5 10,000 1 15,000 306 10,306 65,000 108 65,000 6 10,306 65,000

Total 18 16,405 3 23,000 1225 24,226 160,000 2022 162,833 21 165,600 162,833

0728 0728 18,000 16,405 32,405 1250 1250 1000 691 1691
 0728 0728 7000 16,405 21,405 1250 1250 500 691 1191
 0729 0729 12,000 10,306 22,306 1250 1250 13,000 691 13,691
 0728 0728 5000 10,306 15,306 2 19,426 11,50 20,676 000 691 20,676

3493 3493 12,000 07,283 07,283 0 70,426 5000 07,426 22,500 27,66 25,216

No 2695-11

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the 16th Oct. 18
Read the following:-

Statement showing the numbers and pay of staff, and charge under Construction arranged according to

Staff

Engineer	1	155,000	1,000	307	6,307	15,000	700	15,700	116,300	131,300
Assistant Engineer	3	40,000	306	4,306	55,000	700	55,700	116,300	131,300	
Surveyor	1	5,000	306	5,306	15,000	700	15,700	116,300	131,300	
Inspector	3	34,000	306	34,306	15,000	700	35,000	116,300	131,300	

and cost of works in each P.W. Division and percentage attending Engineers Circles.

Imperial		Provincial	
Military	Other Services		
New Works	Repairs Total	New Works	Repairs Total
Amount	Revenue	Amount	Revenue
11637	11637	30000	19277
11637	11637	19277	19277
11637	11637	19277	19277
11637	11637	19277	19277
11637	11637	19277	19277
11637	11637	19277	19277
11637	11637	19277	19277
11637	11637	19277	19277
11637	11637	19277	19277
11637	11637	19277	19277
11637	11637	19277	19277
11637	11637	19277	19277
11637	11637	19277	19277
11637	11637	19277	19277
11637	11637	19277	19277
11637	11637	19277	19277
11637	11637	19277	19277
11637	11637	19277	19277
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No 2695. H

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 16th Oct. 18

Read the following:—

X

Works

Irrigation and Navigation and Agriculture Ordinary

Agricultural Works

Works for which Capital and Revenue Accounts are kept

Works for which neither Capital or Revenue Accounts are kept

Works for which neither Revenue or Capital Accounts are kept

Capital Account	Irrigation Productive Public Works		Revenue Account		Total
Works	Extension and Improvement	Maintenance and Repairs	Works	Repairs	Total

Capital	Revenue	Extension & Maintenance	Improvement	Repairs
---------	---------	-------------------------	-------------	---------

Works	Repairs
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Works	Repairs
-------	---------

Rs Amount Rs Amount Rs Amount Rs Amount Rs Amount Rs Amount

No. 200	Bellary	400	400	944	944	400	944	1352
	Uddapet	409	409	945	945	409	945	1354
	Shennoi	400	400	944	944	400	944	1352

Total	1229	1229	2833	2833	1229	2833	4058
-------	------	------	------	------	------	------	------

1	15000	11637	26637	30000	10277	49277	1666	1666	922
"	"	"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"	"	"

1	15000	34913	49913	60000	54833	114833	1	5000	5000	15000	1000	2766
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No 2695-11

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 11th Oct. 18

Read the following:—

X

Works

Irrigation and Navigation and Agriculture Ordinary

Agricultural Works

Irrigation and Navigation

Works for which Capital and Revenue A/c's are kept

Works for which neither Capital or Revenue Accounts are kept

Works for which neither Revenue nor Capital Accounts are kept

Capital Account	Irrigation	Productive Public Works	Revenue Account	Total
Works	Extension and Improvement	Maintenance and Repairs	Works	Repairs

Capital Revenue

Works Repairs

Works Repairs

Amount Rs. Amount Rs. Amount Rs. Total Rs. Amount Rs. Total Rs.

Amount Rs. Amount Rs. Amount Rs. Total Rs. Amount Rs. Total Rs.

M. H. L. L.

West Coast	506	506	700	700	506	700
Coimbatore	506	506	700	700	506	700
Salem	506	506	700	700	506	700
North Arcot	507	507	709	709	507	709
Total	2025	2025	2815	2815	2025	2815

	8728	8728	2000	10728	10728	1250	1250	691	691
1 10000	8728	18728	60000	104028	104028	1250	1250	10000	691 10691
2 32680	8728	41408	20000	104028	314028	1250	1250	691	691
1 3000 20000	8729	8729	50000	104028	694028	1250	1250	691	691
1 3000 20000 3	12680	34910	77000	134000	216000	5000	5000	10000	5766 12766

No 2695-11

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 11th Act. R.

Read the following:—

X

Capital Account	Irrigation Productive Public Works		Total
	Revenue Account		
Works	Extension and Improvement	Maintenance and Repairs	Works

Amount of Annual Revenue Total Annual Revenue Total

South Arcot	409	409	945	945	409	945
Chingleput	400	400	944	944	400	944
Buckingham Canal						
Proddur	400	400	944	944	400	944

Total	1225	1225	2833	2833	1225	2833
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Works

Irrigation and Navigation and Agriculture Ordinary

Agricultural Works

Irrigation and Navigation		Works for which neither Capital or Revenue Accounts are kept		Works for which neither Revenue nor Capital Accounts are kept	
Capital	Revenue	Capital	Revenue	Capital	Revenue
Works	Extension & Maintenance	Works	Repairs	Works	Repairs

Amount of Annual Revenue Total Annual Revenue Total

15648	1	1500	10000	11639	11639	15000	15000	922	16922
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1	500	2500	1	18520	11639	11639	15000	15000	922	16922
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15618	2	2000	12500	1	18520	36913	36913	15000	15000	922	16922
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PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 16th Oct. 1892

Read the following:—

X

Capital Account	Revenue Account	Total
Works	Extension and Maintenance and Improvement Repairs	Works

Trichinopoly	Tanjore	Nagapattinam	Madurai	Tirunelveli	Total
245 245	2 10,000 245 10,245 30,000	1 10,000 245 10,245 30,000	245 245	2 20,000 245 20,245 15,000	2 50,478 4 30,000 1228 31245 40,000
567 567	567 50,567 2 10,245 60,812	567 30,567 1 10,245 40,812	567 567	567 10,567 3 32,276 105,000	2 50,478 4 30,000 1228 31245 40,000
245	245	245	245	245	245

Works

Works for which Capital and Revenue Accts are kept	Works for which neither Capital or Revenue Accounts are kept	Works for which neither Revenue nor Capital Accounts are kept
Capital Revenue	Works Repairs	Works Repairs
Extension & Maintenance Improvements and Repairs		

6,982 6,982 50,000 11,567 61,567	1,000 1,000 12,000 554 13,554
1 8,720 6,982 15,702 10,000 11,567 21,567	1 75,000 1,000 76,000 41,500 554 42,054
6,982 6,982 11,200 11,567 22,767	1,000 1,000 26,000 554 26,554
6,982 6,982 40,000 11,567 51,567	1,000 1,000 554 554
6 44,057 6,982 51,043 70,000 11,567 81,567	2 38,274 1,000 39,274 5,000 554 43,828
7 52,777 34,914 87,691 121,200 57,835 139,035	3 113,274 5,000 118,274 105,500 2,770 108,270

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 16th Oct. 1902

Read the following:—

(continued)

Irrigation

Provincial

Navigation Works

Estimated Local

Original Works

Total

Works

Repairs Total

Works Repairs Total

The Government Reserve Total Amount Total The Government Reserve

Gangavari

Vijayapattinam

Kodavuri Pottam

Do

Total

Works

Incorporated Local

Grand Totals

Amount

Original Works

Subsidiary

Grand

Total

Remarks

Canal and
other works

Repairs

New Works

Share

Repairs

Grand

Total

Remarks

62.5	930	1575	537	2112	1	3170	38967	53247	90384	25.92	
64.8	931	1579	539	2118	2	79923	38971	41744	102640	31.74	
62.5	930	1575	537	2112	26	234697	38965	131245	427907	12.07	
62.5	930	1575	537	2112	9	75976	38963	110242	225081	14.21	

Full provincial staff here needed as the district is in urgent need of improved communications. The great Kuchikula irrigation project has been submitted for sanction. Improved communications in all the important portions of the district greatly needed. Full provincial staff necessary owing to the enhanced work due to the late sanction for the completion of the Delta works, a proposal for a third section (the Central Godavari) extension has been submitted to the Govt. of India.

62.5	930	1575	537	2112	38	37166	38966	153866	33979	909.012	17.52
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No 2695-11

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 11th Oct. 1912

Read the following:—

(continued)

Irrigation

Totals

Provincial
Navigation Works

Estimated Local
Original Works
Subsidy
Total

The amount Reserve Fund Government Fund for the year 1912-13

Madras Port Trust

Sea Works

Mylapore

Siriyam Project

Total

Works

Incorporated Local

Grand Totals

Percentage

Original Works

Refine
Local Totals
Funds

New Works

Subsidy
Share of
Revenue

Grand
Total
Works
Refine

Remarks

625	930	1575	537	2112	11	203193	51027	130244	384964	13.33
625	930	1575	537	2112	5	123120	51022	101241	275683	15.40
610	931	1579	539	2118	3	55673	51035	92448	199156	17.77
625	930	1575	537	2112	3	374580	2702	1248	378607	16.04

Going to the enhanced work due to the late sanction for the completion of the better work a proposal for a third Executive (the Central Division) opinion has been submitted to the full official staff necessary for large irrigation works of the Tamir system. The sum fully project now framing is in the Division full official staff expected

2582 3721 6204 2150 8454 22 487166 123866 328370 1238120 13.23

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the 14th Oct. 18

Read the following:—

(Continued)

Irrigation

Provincial

Excluded Local

Original Works

Total

Navigation Works

Capital River Total

Lock Sta-

Total

Totals

Works

Repairs Total

Works Repairs Total

No Account Reserve Total Amount Total No Account Reserve

West Coast

Coimbatore

Salem

North Arcot

Total

Works

Incorporated Local

Grand Totals

Grants

Original Works

Totals

Grand

Total

Remarks

Total

Repairs

New Works

Share

Repairs

Total

Grants

Total

Repairs

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Repairs

New Works

Share

Repairs

Total

No 2695. W

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 16 Oct. 18

Read the following:—

(Continued)

Irrigation

Provincial
Navigation Works

Scheduled Local
Original Works

Total

Totals

Works

Repairs Total

Capital

Works

Sub-Total

The Government Reserve Total Government Total The Government Reserve Total

Works

Incorporated Local

Grand Totals

Grants

Original Works

Canal
and
Sewer
Works

Repairs

New Works

Sub-Total

Grand

Total

Works

Repairs

Grants

Remarks

M.T. Cash	South Arcot	17118	13307	30425	14221	141426				241	241	170
	Chingapat	19220	13307	62323	62699	125022				261	261	170
	Buckingham Canal						14000	14000	22000			
	Presidency	13303	13307	26610	26502					263	263	170
	Total	66120	39921	102745	107022	303150	16000	60600	22000	1005	1005	510

241	170	2407	76	2412	7	54,320	57,600	136,920	242,600	20.00	Short important irrigation works in addition to ordinary duties claim constant attention - full staff necessary
261	170	2407	76	2412	7	118,105	57,600	175,705	257,074	12.75	
"	"	"	"	"	"	77,943	"	106,35	241,570	27.02	Canal crop, all the drainage of the country, the 150 miles in length and claim constant attention for full staff
263	170	2406	710	2424	14	144,360	52,656	197,016	245,600	29.00	In this are all the Mepitany buildings of Bangalore, and all buildings of Bangalore and all buildings of Bangalore very strong staff needed
2590	3725	6210	2150	8460	24	149,736	153,078	302,814	997,734	24.39	

No 2695-11

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the 11th Oct. 182

Read the following:—

continued)

Irrigation

Total

Totals

Works

Repairs

Total

Provincial Navigation Works

Capital

Revenue

Total

Subsidiary

Works

Repairs

Total

Excluded Local Original Works

Subsidiary

Works

Repairs

Total

The amount Reserve Total Amount Total The amount Reserve Total

Trichinopoly

Tanjore

Nagapattinam

Madurai

Tirunelveli

Total

Works

Incorporated Local

Original Works

Capital

Revenue

Total

Repairs

Subsidiary

Works

Repairs

Total

Grand Totals

Subsidiary

Works

Repairs

Total

Grand

Total

Subsidiary

Works

Repairs

Total

Remarks

In addition to irrigation and other works, including Military, the Land Revenue works are likewise executed

The largest irrigated tract probably in India. very strong stuff executed

Under the special works at Madurai and other parts in the district there are here a number of tanks the channels most important irrigation works under the Government and elsewhere. Full stuff executed

579	745	1264	430	1694	2	20800	31178	100899	160377	25.71
576	744	1260	430	1690	10	208107	31172	100896	160375	44.38
576	744	1260	430	1690	2	10800	31171	100897	160376	26.10
576	744	1260	430	1690	4	55045	31171	67398	150414	22.10
576	744	1260	430	1690	12	160800	31178	117396	212393	44.38
2603	8721	6204	2150	8054	33	160761	155870	149868	1124017	18.51

No 2695- W

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 11th Oct. 1892

Read the following:—

From the Govt of India H. L. 10829 of 21st Aug 1892
" " " " 10874 of 25th " "

P. G.

Ordered that
the following letter
be despatched to
the Govt of India

H. L. 10874

Cd

P. W. 17 Oct. 1892 for L. 1892

No. 2696 N. dated 15 October 1882

Government of Madras,

PUBLIC WORKS DEPARTMENT.

To

The Secretary to the
Government of India,
P.W. Department

1882

SIR,

N^o 1082 G. d/24th July 1882 }
" 1887 G. d/25th " }

In your letter marginally
noted the attention of this
Government is drawn to what
is held to be the extravagant
-ly large Establishment of
this Department as proved
by the percentage which its
cost bears to Works compared
with the results in other
Provinces.

2. Since the receipt of the
above communications proposals
have been made in my

Letter No.

for organizing the Establish-
ment of the three new

temporary divisions on a
basis which has been approved

{ Godavari - Central
Kistna do
Cannery Regulators

by the Government of India;

my present communication

will therefore I am desired

to say be confined to

dealing with the more important

question ^{above} adverted to.

3. The first point requiring

attention is that contained

in para 3 of your letter No.

1082 G calling for a review

of the distribution and

employment of the whole

of the Engineer Staff, and

observing that "no consideration

"of mere territorial occupation

"or traditional custom

"may be allowed to stand

"in the way of a stringent
"limitation of the use of
"the members of the Engineer
"Establishment."

4. To elucidate as far
as possible this portion
of the subject I am to
submit a reference to Ap-
pendices A, B. and C as also
to the annexed index map
showing the Civil Districts
of this Presidency and
their respective areas.

5. In appendix A will
be found the distribu-
tion of the Establish-
ment as existing on the
1st July 1882 (which is
the most convenient
date with reference to
the returns) the pro-
posed outlay on the

under all heads of
including the undistributed Reserve
Services for each division

in the current official
year and the percentage
"act of Establishment"
is thus shown under "Con-
struction"

b. So admit of an opi-
nion being formed as to
the actual duties perform-
ed by the Divisional Staff

Appendix B must also
be consulted. The ~~last~~^{first}
~~shows~~ as far as possible
the irrigation works under

(a) Large ~~Systems~~^{of}
"Productive works"

(b) Smaller Systems - Con-
sisting mainly of tanks
and channels irri-
gating over 200 acres
each, and provisionally

classified as "Imperial"
and Appendix C,
other irrigation
works irrigating
each less than

200 acres. ~~The latter~~
~~are only at present for~~
~~general irrigation for~~
~~the whole district.~~

7. Broadly speaking
all works (a) and (b)
fall to the charge of the
officers of this Department,
who have likewise to
maintain all tanks, whether
great or small, composing
the chains or series crossed
by lines of railway. They
have moreover the duty imposed
on them of grouping all
reservoirs irrespective of
their size & a work of considerable
labor.

The minor irrigation works
not having in all cases been
grouped

8. The returns do not at
present admit of giving
accuracy in detail the
numbers, acreage and revenue of work
in all cases dependent for
maintenance on the

~~Work and Civil Officers~~

the following figures may be taken as affording a fair general view of the distribution of the works and of the interests involved.

as falling within the charge of the several P.W. Divisions under the management of last year it has not been found practicable to give the figures according to the Civil Divisions

Department	No. of works	Acreage	Revenue	Interest
<u>I. Under P.W. Officers</u>				
(a) Productive Works	8	17,88,960	84,06,000	
(b) Navigation & Irrigation other than Productive	3533	14,29,800	73,49,766	
Total P.W. Officers	3540	32,18,760	157,55,766	
<u>II. Under Civil Officers</u>				
(c) Agriculture Works	19277	1,20,87,222	55,36,600	
Works				
Grand Total under both Departments	23457	50,95,682	212,90,410	

9. The vast amount of work involved in the proper maintenance of these works and their enormous importance will be more clearly recognised from

the following to be substituted in table at end of para 8

Description	No. of Works	Acreage	Net Revenues Rupees
<u>I. Under Public Works Officers (See Appendix B)</u>			
Productive Works (See Appendix B) (Six Irrigation Systems)	1315	1,781,336	79,33,254
Navigation and Irrigation Works other than Productive	3724	1,505,993	73,48,103
Total P.W. Officers	5039	3,287,329	152,81,357
<u>II. Under Civil Officers (See Appendix C)</u>			
Minor Irrigation Works	19,897	1,936,684	50,29,402
Grand Total under both Departments	24,936	5,224,013	203,10,759

on them

10. It may however be doubted whether in the absence

~~the Civil Service~~
~~the following~~
However may be taken as
affording a fair general
view of the distribution of
the works and of the interests

as falling within the
charge of the several
Divisions under the man-
agement of last year
and therefore been for-
warded to the Civil
Service

9. The vast amount of
work involved in the
proper maintenance of these
works and their enormous
importance will be more
clearly recognized from
remarks which will be
found further on; but here
it may suffice to observe
that in order to estimate
even approximately the
duties devolving on the
several Divisional Officers
weight must be given
to the area over which
the works are spread, to
their numbers, and to
the revenue dependent
on them.

10. It may however be
doubted whether in the
absence

the absence of special
local acquaintance with
the works any really
correct idea of the duties
involved in their main-
tenance can be formed,
as it is needless to say
that nothing even approach-
ing to a comparison with
the system of water storage
in Southern India can be
found in any other part
of the world; deductions
and experiences drawn
from other provinces are
in fact wholly inapplicable
to the case.

11. It will subsequently
be shown that far from
being in adequate strength,
the department is

altogether undermanned if
due consideration be given
to the interests of the Irriga-
tion works.

12. Regarding the observa-
tions as to the undesirability
of allowing considerations
of "territorial occupation or
traditional custom" to weigh
in deciding the distribution
of the Establishment, I am
to request a reference to
Appendix D which affords
detailed explanations on
this point.

13. No such considerations
as those supposed were al-
lowed to weigh in deciding
on the arrangement of dis-
visions under the last cen-
sused Normal scale, and
there is not I am to observe
any desire on the part of
this Govt to permit the
perpetuation of any ar-
rangement not wholly
regulated by the require-
ments of the works.

14. Whatever advantages may
have been derived from
a territorial arrangement of

of Divisions so long as the Local Fund works were executed by this Department have now in nearly all instances ceased to exist, owing to the disconnection with the works which followed on the reduction of Establishment in 1879-80.

15. The second point calling for attention is that adverted to in para 2 of your letter No 10879. Where it is observed that a comparison of the percentage of Establishment to works in some of the large Provinces shews that the existing Establishment in Madras is by far the most expensive, adding that "the Secretary of State has on more than one occasion commented on the extravagance of the P.M. Establishment in Madras".

16. Before dealing with the percentage charge I am desirous to submit in reference to the above

proposition that this Govt ^{provisionally to the receipt of your letter under reply} had ~~not~~ only on one occasion been made aware of

No 4 of 2nd June.

of the Secretary of State's opinion and this as will immediately be shewn was based on a misconception of the facts of the case.

17. In a Despatch of 1877 His Lordship observed that an examination of the figures of the P.M. Budget shewed a percentage charge of 84.4 on works, but in the reply of this Government (Despatch No 41 of 16 July 1878) it was pointed out that had the full and correct figures been before His Lordship he would have seen that the percentage was about 47, and that even this apparently high rate was due, not so much to excessive numbers as to the undue curtailment of grants for works for this Presidency, to the great area over which works have to be supervised, and to the system adopted in Madras for debiting the charges which

at corresponds with that followed in other Provinces under the Govt. of India.

4. As no rejoinder has been received from the Secretary of State either to this Despatch, or to another connected with the same subject No ⁵⁰/₂₀₇ to d/17 August 1887, it is only reasonable

to conclude that his Lordship was satisfied with the explanations afforded.

Both Despatches were communicated to the Govt. of India, and special attention was drawn to the subject in my letter

2473 to d/ 8th October/87.

The Rt. Honorable the Governor in Council is therefore obliged to conclude that the allusion to the opinion of the Secretary of State has been made in oversight of the correspondence which took place, and of explanations which have already been more than

once afforded.

19. In turning now to the point on which the Govt. of India lay most stress viz. the high percentage ^{charges} for the establishment, I am desirous to invite attention to Appendix **E** which has been drawn up by the Chief Engineer for the information of this Government.

that in cogent reasons the force of which has been admitted

20. As the Govt. of India are aware it has never been found practicable to establish separate branches for the Establishment, viz. for Immigration, Military Works, General and Local, the result being that artificial arrangements connected with the method of shewing the Establishment charges have for convenience in the matter of Accounts been adopted under sanction of the Govt. of India. To avoid the complications inseparable from this method of dealing with the question, and to which previous misapprehensions may readily be traced, the

Establishment and work charges are now treated for five years including that now current as if no separate branches of the Department existed. The work as a whole is taken as having been carried out by our undivided Establishment, an assumption which in the case of this Presidency corresponds in every way with the facts. Any other method would be artificial and quite untrue.

The highest Centage in any of the five years mentioned has been found to be 42.0 without deductions of any kind and the lowest 27.4. Taking however into account the contributions already conceded by the Govt. of India and those which will in all probability be eventually granted on account of percentage due to indirect revenues of Irrigation and Navigation works, not classed as Productive, the percentage

are found to be reduced to ~~44.5~~^{44.5} and ~~27.4~~^{27.4} respectively. It were precisely the same terms as regards contributions on account of the indirect revenues of the irrigation works conceded to this Presidency as is understood to prevail in Northern India, and further were the charges for Establishments wholly engaged on the prosecution of famine works struck out of the accounts, as the individuals concerned have no Executive duties chargeable to works, &c. the Governor in Council sees no reason to doubt the correctness of the conclusion arrived at by the Chief Engineer that the charge for the Establishment would as against "works" not exceed 50 per Cent.

23. Considering the much more scattered character of the works in Southern India than elsewhere the percentages as thus worked out

out would appear to com-
pare ^{not} unfavorably with
those of other Provinces
so far as Ruins, but as
the Govt. is satisfied
that as a test of this
description must prove
falsacious and misleading
and as only serving to
divert attention from the
real requirements of this
Presidency, which have
been too long neglected,
they now desire to place
before the Govt of India
the following observations
bearing upon this vital
point

Mr. Mithers I am to ob-
serve the facts upon
which the strength of
the Establishment of this
Department has been
decided have mainly
been (1) the sums which,
after meeting the supposed
exigencies of other provinces
could be conveniently
spared to Madras (2)
the percentage charge
which under experience

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derived from other Pro-
vinces it was held would
suffice for an Establishment
to expend the sums thus
placed at disposal.

Mr. Gellenaq in Council
after a careful review of
the Finance and Revenue
accounts of India has been
convinced in the general
conclusions submitted for
the consideration of the Govt
of India in his letter No
337 W, as to the want measure
of justice meted out to
Madras in the matter of
assignments from the Im-
perial Revenue as com-
pared with those conceded
to other more favored
provinces, and while
quite prepared to admit
that there may have been
at times political reasons
of sufficient weight to
justify the occasional de-
parture from what might
appear to be a strictly
equitable distribution
of

of the general funds at the disposal of the Govt of India, he felt it incumbent on him to submit that such re-

sons no longer exist, and that the time has arrived for coming to this Pre-

sidency its fair share.

26. His Excellency is fully persuaded that the Govt.

of India will on considera-

tion be prepared to admit the justice of a

demand of this charac-

ter for which there are moreover very special

reasons connected with the peculiar circumstances

of this Presidency to which I am now to invite at-

tention.

27. The first and chief of these is the well re-

cognized fact that Madras has from times immemo-

rial suffered in a great degree from destructive

famines than any other part of India, while unlike the northern Pro-

vinces it has been deprived

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by nature the advantages of internal water communi-
cations afforded by such rivers as the Indus, Ganges and Brahmaputra with their navigable tributaries.

28. The facts in this connection are however too well known

and recognized to call for further remark, and I am

therefore now to submit as the second special reason

for consideration the follow-

ing remarks as to the actual condition of the

ancient ~~system~~ systems of Irriga-

-tion works on the proper maintenance of which the

validity of the land re-

-venue, and indeed the prosperity of the Presidency

mainly depends.

29. In the ~~present~~ towns which H.E. the Governor

since his arrival has been enabled to

has lately made through various parts of the Presi-

dency no subject has more constantly been brought to notice in the addresses presented to him than the

of want of greater outlay and
de attention in regard to the
he Minor Irrigation works, a
to pieces of the evidence pre-
-con-vincingly taken on the sub-
the fact and other information
of a specific character
-G will it is hoped ere long
26 be submitted with definite
proposals to the Govt of
of India, but in the mean-
at-while I am to solicit
as attention to Appendix F
de which shows in ~~very~~ Con-
-li-cia form the entire cul-
-ri-tivable area of the
re Presidency, and the losses
which have been sustain-
ed in the form of re-
-missions of Revenue from
the year 1863-64 to 1880-81 both
27 inclusive.
of 30 has to overburthen the
statement, areas and
assessment are expressed
in Lakhs of acres and
rupees respectively. All
the lands as shown in the
statement has at one
time or another been
Classed

F

Classed
means of Irrigation of-
-funded, but as will be ob-
-served from the remarks doing
appended to the statement of ef-
reasons exist in some cases under
for supposing that the clas-
-sification is not strictly but they
accurate: making however of-
all derivable reductions in con-
on this account the factors re-
-vealed are almost startlingly
It here it will be seen that in ab-
year after year enormous
areas of land which were
the works in order, should
be under Irrigation and
bear wet assessment, and
shown to have been thrown
out of cultivation from
the neglected condition
of the tanks and chan-
-nals. The aggregate losses
each year in the opinion
of the Revenue officers
of Government amount
to not less than 40 lakhs
The statement gives the
aggregate loss in the 18
years recorded at 807 lakhs

32. From the statements before
Government, the following
was the reported condition
of the irrigation works in
the Presidency in 1899.

	In repair	Out of Repair	Total No.
Tanks.	29,200	6826	36,026
River Channels }	10,160	801	10,961
Spring - do.	5,893	1008	6,901
Aqueducts	1836	515	2,351
Wells.	378,236	58,918	437,154

33- It is impossible to test
in all cases the accuracy of the returns
on which such statements
are compiled; but it may
generally be assumed that
a very large proportion
of the works are out
of repair. And in regard
to this it is necessary to
bear in mind that even
where in no order of repair

but very few banks or channels are really doing at all the amount of effective work which under proper scientific investigation and management they should be capable of. The Board of Revenue considered that ^{on} ^{the} "In repair" merely meant that the works "were not in an absolutely useless state." 34- And this leads to ^{the} third point for special consideration as to the claims of this Presidency viz. the construction of new, and Extension of the area commanded by old Irrigation works, were an adequate Engineering staff, and enhanced funds placed at the disposal of Govt.

35-The following table taken from page 106 of Sir John and Genl. R. Macleay's late work on the Finance & Public Works of India amply proves the truth of

Provinces	Capital	Est. Revenue	Interest at 4 1/2 per cent	Surplus	Excess charge
Bangal	£ 4,700,000	£ 18,000	£ 120,000	£ -	£ 100,000
North west Provinces	£ 5,346,000	269,000	287,000	32,000	-
Punjab	£ 3,544,000	170,000	155,000	15,000	-
Madras	1720,000	427,000	77,000	350,000	-
Bombay	1,338,000	10,000	59,000	-	49,000
Total	16,933,000	894,000	748,000	446,000	-

The table however only

results either as paying schemes,
or as safeguards against
famine.

37. From information in pos-
session of the Irrigation Branch
there are the best grounds
to conclude that the irri-
gated area of the Presidency
might be increased by
1,500,000 acres were the
wantful means afforded,
and with every prospect
of returns which if not quite
on a par with those de-
rived from the productive
works constructed at an
earlier period, would
in all probability prove
much more remunerative
than works of a corre-
sponding class in other
parts of India.

38. With a thoroughly trained
and sufficiently strong
Establishment there is thus
a well founded hope
that much of the suffer-
ing due to famine might
in future be counteracted,
that 40 lakhs of animals

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remissions of revenue might
be saved, and that some
1 1/2 millions of acres with
a revenue value of 60 lakhs
per annum might be added
to the irrigated area.

39. There are other objects of
a special character of hard-
ly less importance to be at-
tained if the Govt is to
fulfil in any adequate sense
the duties imposed on it by
the revenues of a shrilly
provincial character raised
within the limits of the
Presidency.

40. Chief among these stands
the want of works of
water supply and drain-
age for certain large con-
tains of population which
are quite beyond the
local means to execute.
In reference to this the
Secretary of State has
lately at the instance
of the Army Sanitary Com-
mission pressed on the
serious attention of His
Government the necessity

of coming to the aid
of the Madras Municipal
ity which is unable to com-
plete from its own resources
the needful works. The
condition of matters at the
Presidency Town is little
short of a disgrace to
any civilized Government,
and matters in other large
Centres are if anything in
a worse condition. As the
papers in connection ^{with medical} will
ere long be submitted through
the Government of India
for the information of the
Secretary of State, His
Excellency the Governor in
General in Council will
be enabled to see how
very pressing is the need
for action.

41. If it be enquired how
sufficient ways and means
are to be provided for
meeting all the demands
as above set forth for
this Presidency I am to
state that nothing fur-
ther is needed ^{in the opinion of H.E. in C.} than a
readjustment of the

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of the Imperial charges
as will throw upon
Madras only its fair
ratable share - from the
Finance and Revenue Accounts
1863-64 to 1879-80 it can
be shown that this Presidency
has hitherto contributed
more than 20 per cent
of the Imperial charges
a disproportion so marked
whether judged from the
stand point of Provincial
receipts, Land Revenue
or population, as to consti-
tute a manifest injustice.
42. That such is also
clear from the apportionments
made under the late
decentralization scheme

it has only to be stated
that whereas 38.48 of the
Land Revenue has been
assigned to Bengal, 43.29
to the Punjab, 48.46 to
the Central Provinces,
49.82 to Assam, 33.61
to British Burma, and
no less than 58.55 to
Bombay only 26.88 per
cent has been granted to
this Presidency.

43. Were all receipts and
charges provincialized
including Productive Public
Works (but excluding Protection)
it would no longer, as is
now the case, be felt

* The percentage is in fact very much higher as from the manner
in which income lands are included in the Bombay Land Revenue,
these in the last 17 years have been swelled by a fictitious
asset of no less than 745.7 Lakhs or on an average of 43.8 Lakhs
per annum. The true amount assigned to Bombay is much more
nearly 15.5 of its Land Revenue.

that the local revenues
contributed to produce outlay
in other provinces, and
towards swelling the profits
of works in which Madras
has no direct interest.

44. If the inequalities
in the incidence of the
public burdens which have
hitherto obtained and
which in the opinion of
His Excellency the Governor
in Council there is no
reason in equity for continuing,
and further if powers be
granted for the needful
increase of provincial
establishments adequate
for the growing demands
there should apparently
be no difficulty in future

in providing for all the
most pressing wants of
the Presidency.

~~Abb~~

2/19/84

Draft copy to
J. P. Kennedy
in connection
with the
Society of Friends

Traps on the
1 map -
20/10.

Cont. of (1882) 39 adms
PUBLIC WORKS

Wright

12/15/87

Calder

Nos.

Public Works Subb.
of the Mexican Presidency

Regarding the Seal
the

Genl. of (1882) 3rd Div.

PUBLIC WORKS.

1884 11/19

6/19

Dated

Encl.

1884 N. 2695

Nos.

By Robert Madison

President

Ordered that the
subject of the
the sale of the