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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. <u>2036</u>	Press Mis.
<u>421</u>	
Dated <u>17-7-</u>	<u>1865.</u>

Not to be folded or roughly handled

PUBLIC WORKS DEPARTMENT.
FORT SAINT GEORGE,
17th July 1865.

No. 421.

No. 2,036.

From

COLONEL C. A. ORR, R. E.,
Secretary to the Government of Fort Saint George, P. W. D.,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA, P. W. D.

SIR,

ACCOUNT, No. 54.

I am directed by His Excellency the Governor in Council to forward the Annual Progress Report of Public Works in the Madras Presidency for the year 1864-65.

I have the honor to be,

Sir,

Your most obedient servant,

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

Exd. S. T. Augustin.

ANNUAL PROGRESS REPORT.

OF PUBLIC WORKS

IN THE MADRAS PRESIDENCY, FOR THE YEAR 1864-65.

1. The sum allotted by the Government of India for Public Works in this Presidency for the year 1864-65 was Rupees 73,57,383, increased by private contributions to Rupees 73,90,965, which was distributed over the main budget heads in the following proportions:—

	RS.
New Works	32,32,550
Repairs	26,55,506
Tools and Stores	1,53,855
Unappropriated Reserve	2,492
Establishments including amount transferred from Local Funds	13,46,562

2. The following Statement exhibits, in one view, the amount assigned in each District for 1864-65, as compared with the outlay in that and the preceding years.

Districts.	Allotment for 1864-65, including private Contributions.	Expenditure in 1864-65.	Expenditure in 1863-64.
	RS.	RS.	RS.
Ganjam	1,31,802	1,30,557	1,41,091
Vizagapatam... ..	2,35,915	2,25,345	1,58,057
Godavery	7,25,971	6,92,778	6,36,341
Kistna	4,39,560	4,30,213	3,54,710
Nellore	1,75,322	1,73,785	1,69,373
Cuddapah	1,97,946	1,84,553	2,36,350
Kurnool	80,490	73,910	64,937
Bellary	2,22,434	2,23,586	2,19,045
Presidency	4,28,775	4,26,376	5,69,457
Madras	4,94,942	4,75,536	3,04,647
North Arcot... ..	2,91,784	2,62,052	1,89,931
South Arcot... ..	2,89,287	2,85,680	1,57,064
Salem... ..	1,53,531	1,42,796	1,29,132
Bangalore	1,80,039	1,72,618	1,41,655
Tanjore	2,73,534	2,46,510	2,04,059
Trichinopoly	2,86,778	2,67,705	1,97,574
Coimbatore	4,01,738	3,90,651	3,22,529
Malabar	4,14,740	3,96,274	2,55,024
South Canara	1,11,626	1,08,487	85,502
Madura	1,30,908	1,15,045	1,40,908
Tinnevely	1,85,037	1,61,535	1,49,027
Municipal Commissioners	35,897	35,897	35,897
Total	58,88,056	56,27,889	48,62,310

3. The outlay on works exceeded that in 1863-64 by Rupees 7,65,579 (Rupees 3,65,888 on New Works, and Rupees 3,99,691 on Repairs), but it fell short of the funds allotted by Rupees 2,60,167, owing, in some cases, to scarcity of labor and sickness amongst the working classes, and in others, to failures on the part of Contractors.

Expenditure on account of Tools and Stores.

Outlay on Establishments.

Expenditure under main budget heads in each District.

4. The expenditure under the head "Tools and Stores" has not yet been reported.

5. The outlay on Establishments will be entered in the appropriation and outlay account for 1864-65.

6. The following Statements show the actual expenditure in each District on New Works and Repairs respectively, under the main budget heads.

NEW WORKS.

Districts.	Military.	Civil Buildings.	Agricultural.	Communications.	Miscellaneous Public Improvement.	Total.
	RS.	RS.	RS.	RS.	RS.	RS.
Ganjam ...	.....	20,844	3,426	38,561	.....	62,831
Vizagapatam ...	3,171	49,213	6,535	1,05,802	.....	1,64,721
Godavery... ..	.....	86,381	3,48,232	35,716	3,182	4,73,511
Kistna	622	15,970	1,60,003	21,873	16,146	2,17,614
Nellore ... ..	.....	10,810	34,843	57,044	.....	1,02,697
Cuddapah... ..	.....	8,725	2,003	60,447	.....	71,235
Kurnool	4,391	6,057	161	10,141	.. ..	20,750
Bellary	82,044	11,655	1,517	3,147	.....	98,363
Presidency ...	1,19,240	2,22,985	350	1,414	5,579	3,49,368
Madras	80,880	57,733	45,422	23,915	2,882	2,10,841
North Arcot ...	.....	13,484	86,295	37,301	.....	1,37,080
South Arcot ...	.....	37,553	32,180	23,999	.....	92,732
Salem	120	34,797	2,601	17,745	.....	55,323
Bangalore... ..	1,58,560	1,000	.....	.....	.....	1,60,160
Tanjore ... ..	.....	1,373	31,523	21,206	.....	54,102
Trichinopoly ...	81,475	13,395	9,613	5,993	.....	1,10,506
Coimbatore ...	93,380	98,252	9,537	74,089	400	2,76,558
Malabar	93,175	21,858	.....	1,99,255	906	3,15,194
South Canara ...	.....	5,245	.....	56,006	.....	61,251
Madura ... ..	.....	1,307	1,500	19,512	3,559	25,878
Tinnevelly ...	295	3,806	1,978	32,126	.....	38,205
Total	7,17,362	7,23,043	7,77,869	8,48,192	32,454	30,98,920

REPAIRS.

Districts.	Military.	Civil Buildings.	Agricultural.	Communications.	Miscellaneous Public Improvement.	Total.
	RS.	RS.	RS.	RS.	RS.	RS.
Ganjam... ..	216	4,947	19,836	42,727	.....	67,726
Vizagapatam ...	5,897	7,955	10,633	34,797	1,342	60,624
Godavery	255	4,403	1,50,093	44,864	19,652	2,19,267
Kistna... ..	795	6,210	1,62,552	43,026	16	2,12,599
Nellore ... ..	.....	1,402	26,261	43,425	.....	71,088
Cuddapah	249	1,043	29,975	82,051	.....	1,13,318
Kurnool	199	1,763	15,124	36,074	.....	53,160
Bellary	27,635	3,327	38,551	55,710	.....	1,25,223
Presidency ...	33,174	25,998	7,659	6,764	3,413	77,008
Madras	22,232	11,248	99,347	1,31,868	.....	2,64,695
North Arcot ...	2,386	1,849	71,654	49,083	.....	1,24,972
South Arcot ...	.....	1,749	1,04,173	87,026	.....	1,92,948
Salem	288	2,410	24,049	60,726	.....	87,473
Bangalore	18,259	199	.....	.....	.....	18,458
Tanjore... ..	.....	8,953	1,16,821	64,292	2,342	1,92,408
Trichinopoly ...	5,627	1,779	93,079	56,714	.....	1,57,199
Coimbatore ...	7,973	5,019	44,247	55,953	901	1,14,093
Malabar	17,304	12,197	1,707	49,817	55	81,080
South Canara ..	781	3,579	.....	42,698	178	47,236
Madura ... ..	.....	1,490	33,590	54,054	33	89,167
Tinnevelly ...	2,271	5,005	52,305	62,483	1,266	1,23,330
Municipal Commrs. ...	.....	.....	.....	35,897	.....	35,897
Total... ..	1,45,541	1,12,525	11,01,656	11,40,049	29,198	25,28,969

Expenditure from Local Funds.

7. The expenditure from Income Tax, District Road, Port, and Educational Funds was Rupees 6,17,577, as particularized below:—

Districts.	Income Tax Fund.	District Road and Port Funds.	Educational Funds.	Total.
Ganjam	RS. 8,006	RS. 8,038	RS.	RS. 16,044
Vizagapatam... ..	11,498	.....	4,567	16,065
Godavery	19,942	18,486	3,947	42,375
Kistna... ..	10,656	11,889	.....	22,545
Nellore	12,237	20,323	.....	32,560
Cuddapah	10,846	1,057	40	11,943
Kurnool	8,225	7,771	122	16,118
Bellary	11,098	6,088	218	17,404
Presidency	44,904	994	18,995	64,893
Madras	23,720	4,606	.....	28,326
North Arcot... ..	14,002	34,980	.....	48,982
South Arcot... ..	2,842	63,962	.....	66,804
Salem... ..	10,243	25,008	.....	35,251
Tanjore ... ..	.....	2,973	.....	2,973
Trichinopoly... ..	8,033	1,946	.....	10,009
Coimbatore	13,377	17,882	116	31,375
Malabar	11,181	67,993	2,952	82,126
South Canara	8,947	15,156	.....	24,103
Madura	12,545	9,535	.....	22,080
Tinnevely	8,327	17,264	.....	25,601
Total...	2,50,669	3,35,951	30,957	6,17,577

Progress of principal works.

8. The following is a brief account of the progress made upon the principal works undertaken during the year.

MILITARY.

Auxiliary buildings for the Artillery at Bellary.

9. BELLARY.—Auxiliary buildings for the Artillery at Bellary.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
1,43,449	42,301	22,086	35,541

The Library and Reading Rooms have been completed. The other works undertaken during the year are still unfinished.

Alterations to the Sea Face Batteries at the Presidency. 10. PRESIDENCY.—Alterations to the Sea Face Batteries.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
13,130	3,998	8,120 reduced to 5,720	5,756

The salient of the south-east Orillon Demi-Bastion of Fort Saint George has been rounded off and the parapets reformed. Three platforms with raised iron tracers have been fixed in position, and ten ordinary platforms have been laid down in the Fort Saint George, Clive's and Abercrombie's Batteries.

Expense Magazines and Ordnance Store Rooms at the Presidency. 11. PRESIDENCY.—Converting casemates in the north-east and south-east curtains into Expense Magazines, and the Flag Staff Redan into Ordnance Store Rooms.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
9,570	...	9,570 reduced to 8,172	8,124

The whole of these works have been completed.

Family Quarters in Fort Saint George. 12. PRESIDENCY.—Family Quarters in Fort Saint George.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
1,58,100	96,858	61,242 reduced to 48,110	45,642

The entire site for one building has been levelled, and good progress has been made in the excavation of that for another. The Workshops have been built and roofed in with corrugated iron; vertical and circular saws, and a planing machine have been set up, and a 4-H. P. engine has been erected to drive the fans of the smiths' forges. A tramway has been laid down from the brick-fields, and upwards of 25,00,000 bricks have been manufactured. One block of twenty Servants' houses has been completed. The brick work of another has been finished, and the wood work of the roof fixed in position. At the chunam works, a 4-H. P. engine has been set up, and a Mill-house has been erected. A lime kiln, and a shed roofed with iron to contain the lime, have been completed.

Infantry Barracks at Cannanore.

21. MALABAR.—Additions to the Infantry Barracks at Cannanore.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
1,78,881	43,549	65,234 reduced to 61,787	56,407

The work executed during the year was as follows:—

REGIMENTAL SCHOOL.—The pillars, exterior end walls, and the walls above roof of verandah, plastered. One and a half room floored; foundations and basement of privies laid.

RECREATION ROOM.—Finished, with the exception of the plastering of the walls and the flooring of the verandah and three rooms.

SERJEANTS' MESS-HOUSE.—Foundations and basement completed; stones collected for main building.

STAFF SERJEANT'S QUARTERS.—Main building, Cook-rooms and Bath-rooms completed.

MARRIED QUARTERS.—No. 6. block completed with the exception of the roof. Ten sets of out-houses nearly finished.

VERANDAH ON SOUTH FACE OF BARRACKS. }
Coffee-room } Completed.
Ration shed }

DRAINS AND CISTERNS IN BARRACKS.—All finished with the exception of the plastering of four small cisterns and the fixing of the shutters.

CIVIL BUILDINGS.

Berhampore Church.

22. GANJAM.—Constructing a Church at Berhampore.

Rupees 2,650, out of a sum of Rupees 3,500 contributed by private parties, were expended during the year.

Vizagapatam Zillah Jail.

23. VIZAGAPATAM.—Zillah Jail at Vizagapatam.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
23,372	6,673	10,350 reduced to 9,875	9,869

Two of the radial blocks, containing accommodation for about eighty convicts, have been completed. Two other wards are being roofed in, and a fifth ward has been prepared for its roof. At the sixth ward, the doors and windows have been fixed in position, and the walls raised six feet. One-half of the enclosure wall has also been built. Much difficulty was experienced in procuring timber for the work, but nearly the whole quantity required has now been collected.

Rajahmundry Central Jail.

24. GODAVERY.—Central Jail at Rajahmundry.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
2,05,748	55,548	80,000 reduced to 68,595	68,595

Three of the five radial blocks of cells have been finished; one has been half completed, and the other raised to the basement level. The walls of the cells for female convicts and for solitary confinement prisoners have been raised 5 feet, and the lower story of the central warder has been built. The erection of the Workshops has progressed satisfactorily; two of the sheds are being roofed in, and the walls of the remaining three are ready to be covered in. About one-third of the enclosure wall has been finished, and a large well, 22 feet in diameter, lined with cut-stone masonry, has been sunk to a depth of 72 feet.

Taluq Cutcherry at Ongole.

25. NELLORE.—Taluq Cutcherry at Ongole.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
10,534	.....	5,000 reduced to 3,800	3,799

The foundations and basement have been laid, and the doors and windows have been prepared.

Sub-Collector's Cutcherry at Madanapally.
Taluq Cutcherry at Pullampett.

26. CUDDAPAH.—Sub-Collector's Cutcherry at Madanapally.
Taluq Cutcherry at Pullampett.

Estimates.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
3,720	2,781	939	938
7,300	.....	3,300	2,243

The first of these works was completed in November last, and has since been occupied; the second is progressing rapidly.

Deputy Collector's Cutcherry at Paipally.

27. KURNOOL.—Deputy Collector's Cutcherry at Paipally.

Estimates.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
2,650	29	1,932	2,611

Completed during the year at a cost of Rupees 2,640.

Taluq Cutcherry at Hospett.

Head Assistant Collector's Cutcherry at Hospett.

28. BELLARY.—Taluq Cutcherry at Hospett.

Head Assistant Collector's Cutcherry at Hospett.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
6,750	6,481	5,674 reduced to 177	606
2,745	496	1,410 increased to 2,189	2,176

The first of these works has been finished and handed over to the Revenue authorities ; the second is nearly completed.

Stamp Office at the Presidency.

29. PRESIDENCY.—New Stamp Office.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
28,880	.....	28,880 reduced to 23,880	23,213

The work is being carried out on contract, and will probably be completed in July 1865.

Madras Salt Cotaurs.

30. PRESIDENCY.—Additional storage room at the Madras Salt Cotaurs.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
61,300	8,242	30,000 reduced to 27,000	27,037

The platform has been nearly completed ; considerable difficulty was experienced in obtaining earth, except at great distances.

Central Museum at the Presidency.

31. PRESIDENCY.—Additions to the Government Central Museum.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
35,750	28,144	7,600 increased to 8,900	9,529

The additions were completed during the year at a total cost of Rupees 37,673.

General Hospital at Madras.

32. PRESIDENCY.—New wing to the General Hospital.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
2,19,500	1,62,459	57,000 reduced to 52,000	51,645

The two north and two south wards of the lower story in the east wing have been finished, with the exception of the painting, plastering, and flooring. The other works executed during the year were as follows:—

East centre block, lower story. Two eastern and two western wards nearly completed.

Centre block of do.—All the wards completed, with the exception of the flooring and plastering, and the painting of the woodwork.

East wing, upper story.—All four wards completed.

East centre block of do.—Finished, with the exception of the painting of the woodwork.

Centre block of do.—Completed, except plastering, painting, and flooring.

The walls of the Bath Rooms and Privies of the east wing have been raised 5 feet, and the doors and window frames are being fixed.

West centre block and west wing completed and given over to the Barrack Master.

Laying out the ground round the General Hospital at the Presidency.

33. PRESIDENCY.—Laying out the ground round the General Hospital.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
10,350	.....	10,350 reduced to 3,960	4,064

The whole of the south side of the Hospital has been laid out in flower gardens and walks, and the plants have been regularly watered.

Public Works Store, and Workshop at the Presidency.

34. PRESIDENCY.—General Store and Workshop for the Public Works Department.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
80,360		50,000 increased to 54,070	55,023

Rapid progress has been made in the construction of these buildings, and it is expected that they will be completed in a few months.

Deputy Collector's Cutcherry at the Madras Salt Cotaurs.

35. PRESIDENCY.—Deputy Collector's Cutcherry at the Salt Cotaurs.

Taluq Cutcherry at Madranticum.

MADRAS.—Taluq Cutcherry at Madranticum.

Estimates.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
6,460 11,300		6,460 6,000 increased to 10,458	6,473 10,458

The first of these works has been completed, and so has the second, with the exception of the plastering.

Court House at Cuddalore.

36. SOUTH ARCOT.—Court House at Cuddalore.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
44,000	10,117	30,000 reduced to 26,364	26,165

The progress of this work has been retarded by the failure of the Contractor to supply the quantity of timber required. The building was being roofed in at the end of the year, and will probably be completed in September next.

Upper story to Salem Jail.

37. SALEM.—Constructing an upper story to the Salem Jail.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
40,500	19,539	20,200	23,194

One large and one small block were completed during the year and handed over to the Prison authorities. Another large block is nearly finished, and the last block (a small one) is under construction.

38. TRICHINOPOLY.—Converting the old Jail in the Fort at Trichinopoly into a Lunatic Asylum.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
11,980	1,999	9,980 reduced to 8,949	8,565

Completed with the exception of the formation of the garden (to be undertaken by Convicts) and some minor improvements to the drainage.

39. COIMBATORE.—Central Jail at Coimbatore.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
1,80,800	30,660	60,000 increased to 75,459	75,923

The following works have been carried out:—

OUTER WALL.—Three sides completed to full height of sixteen feet, three sides raised twelve feet, and two sides built four feet high.

INNER WALL.—Foundations and basement of four sides laid.

RADIAL CELLS AND WORKSHOPS.—Eleven blocks.

No. III. Radial wall built eight feet, masonry of shop completed, six trusses for roof prepared.

No. IV. Foundations excavated for radial cells.

No. V. Workshop and radial wall completed.

No. VI. Radial cells built, and doors and windows put up.

No. VII. Masonry of workshop and radial wall completed, and the timber for the roof prepared.

No. VIII. Masonry of radial cells built four feet, and the doors and windows prepared.

No. IX. Radial wall and workshop nearly completed.

No. X. Foundations and basement of radial cells laid.

No. XI. Foundations and basement of workshop completed.

CENTRE WARDER'S HOUSE.—Foundations and basement laid, and doors and windows prepared.

OUTSIDE JAILER'S QUARTERS.—Walls built nine feet high; doors, windows, and timber for roof prepared.

AGRICULTURAL.

Raising Godavery Anicut.

40. GODAVERY.—Raising the Godavery Anicut.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
3,00,000	1,48,255	70,000 reduced to 68,400	68,401

On the Vizeisweram, Muddoor and Rally branches, the raising of the Anicut and the construction of an additional apron has been completed. On the Dowlaishweram branch, the crown of the Anicut has been faced with cutstone (4 yards in width) throughout a length of 1,300 yards, and nearly all the additional stone apron has been packed in.

Ellore Canal.

41. GODAVERY.—Ellore High Level Canal from Perikeed to Nundamoor, via Dendaloor.

Estimates.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
2,57,650	1,95,873	3,798 increased to 14,917	11,277
66,132	.....	17,500	13,552

The tail race of the aqueduct across the Toomelair was completed in September last. The progress of the work has been checked by sickness among the workmen and other causes, but measures have been taken to expedite its completion.

Akeed Canal.

42. GODAVERY.—Improvements to the Akeed Canal.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
80,120	10,176	15,000 reduced to 8,824	11,824

The grant for the year having been small, very little progress was made on this work.

Locks and Calingulahs in Mundapetta Canal.

43. GODAVERY.—Constructing Locks and Calingulahs in the Mundapetta Canal.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
41,960	28,262	10,000 increased to 13,348	11,989

Completed with the exception of a part of the stone revetment of the Pasalapooddy Lock, and a little earthwork.

44. KISTNA.—Channel from Peddavudlapudi to Nizampatam.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
2,90,214	2,60,743	29,861 reduced to 16,000	15,299

The Canal was opened out to its full length in February last, but some of the banks still require raising to proper section. The Calingulah to regulate the supply of the last reach is nearly completed, and the tidal lock, the construction of which was much delayed by the cyclone in November 1864, will shortly be opened. It is expected that the entire work will be finished in 1865-66.

45. KISTNA.—Channel from Wullabapooram to tide water, branch channels &c.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
1,46,479	51,938	32,000	29,897

The widening of this channel has progressed fairly; the side channels between Kollur and Rapilly have been completed; the Vellatur side channel head sluice and the Kollur sluice have been constructed; and materials have been collected for the commencement of the Kollur and Batteprole calingulahs.

Channel from Pullairu to canal basin at Masulipatam.

46. KISTNA.—Channel from Pullairu near Weyoor to the canal basin at Masulipatam.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
2,59,826	2,63,255	2,000 reduced to 900	894

The channel has been completed, but it sustained considerable damage by the cyclone in November last.

Enlargement of head of channel from Sectanagram to Dúggeralla.

47. KISTNA.—Enlargement of head of main channel from Seetanagram to Dúggeralla, &c.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
2,61,344	1,28,364	25,000 reduced to 24,100	21,583

This work has been continued; but, owing to scarcity of labor, it has not made as much progress as was expected.

Widening the Pullairú channel.

48. KISTNA.—Widening the lower portion of the Pulliarú channel.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
98,710	44,909	25,000 increased to 26,000	26,943

The lock and bridge over the calingulah at Cowtaram and the Polerazukodú combination have been completed. The Cheguracottah channel is nearly finished; the Pamarrú channel has been two-thirds completed, and about four-fifths of the work on the Chitrum channel has been carried out.

Cummamoor channel.

49. KISTNA.—Continuation of the Cummamoor channel from Inkole to Chinna Ganjam.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
1,85,460	.....	30,000 increased to 32,000	33,113

The embankments for ten miles have been made in a substantial manner; seven and a quarter miles of channel have been dug to full section, and two and a half miles to full width with a depth of one yard; two and a half miles of channel, previously made, have been enlarged, and an escape at the terminus of the channel has been constructed.

Eastern embankment of the Kistna.

50. KISTNA.—Improving and strengthening the eastern embankment of the Kistna, from Yanamalacuduru to Mope-davy.

Two and a half miles of the embankment were raised during the year to full height with an outlay of Rupees 2,053 from *Income Tax Funds*. Total expenditure Rupees 28,391, against an estimate of Rupees 56,910.

51. NELLORE.—New cut from Jaffer Sahib's to Survapully channel.

Improving the Edur Kodur branch of Jaffer Sahib's channel.

Irrigation Channels in the Nellore District.

Estimates.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
92,630	78,652	13,530 reduced to 8,683	8,689
27,100	19,737	7,248 reduced to 2,489	2,453

Nearly completed; a small balance remains to be expended on irrigation sluices, &c.

Palar Project, Madras District.

52. MADRAS DISTRICT.—Palar Project.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
2,13,273	1,84,360	26,210 reduced to 20,210	20,211

The allotment for the year was laid out in restoring and improving several of the numerous tanks connected with this project.

Raising body of Palar Anicut.

53. NORTH ARCOT.—Raising the body of the Palar Anicut.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
7,700	.....	7,700	7,700

The anicut has been raised from 5 to 7 feet in height, and the work, which was completed just before the North East monsoons, proved most serviceable, almost all the tanks north and south of the river having received a full supply.

54. NORTH ARCOT.—Chuckramelloor Channel.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
8,300	.....	8,300	8,130

A new channel has been excavated to supply the Chuckramelloor and twelve other tanks on the south side of the Palar river. The head sluice of the channel

has been formed by adapting the southernmost under-sluices of the anicut to the purpose.

Channels under Mahindravady tank.

55. NORTH ARCOT.—Extension of channels under the Mahindravady tank.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
Rs.	Rs.	RS.	RS.
15,000	.....	15,000	14,059

About twelve miles of channel have been cut to utilize the waters of the overflow of the Mahindravady tank, and they have proved very useful in filling the lower tanks.

Channel from Lalpet to Surpentangle.

56. NORTH ARCOT.—Cutting channel from Lalpet to Surpentangle and improving the Amoor tank calingulah.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
19,300	16,874	2,426	2,426

Completed—the work is expected to prove highly remunerative.

Cheyaur Anicut.

57. NORTH ARCOT.—Extending the system of irrigation under the Cheyaur Anicut.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
29,700	.....	10,000	9,589

The anicut has been raised, and the channel and its subsidiary works have been widened.

Trivady, Vanamadavy and Trivandipuram Anicuts.

58. SOUTH ARCOT.—Trivady Anicut.

Vanamadavy Anicut.
Trivandipuram Anicut.

Estimates.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
9,040	.....	8,300 reduced to 6,276	6,546
2,505	.....	2,000 increased to 2,505	2,305
12,791	.....	9,770 increased to 10,322	10,497

These works were very seriously damaged by the extraordinary floods of October 1864. Good progress has been made in the re-construction of such parts of them as had been destroyed, and it is expected that the work will be completed within a few months.

Coleroon Anicut.

59. TANJORE.—Re-building the fallen portions of the south branch of the Lower Coleroon Anicut.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
63,000	.....	20,000 reduced to 14,000	19,743

The foundations of the front retaining wall have been re-built across the breach, and satisfactory progress has been made towards filling up the gaps in the foundations of the body and of the rear retaining wall.

COMMUNICATIONS.

Road from Mojagoda to Sunkerakole.

60. GANJAM.—Road from Mojagoda to Sunkerakole.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
49,700	31,624	13,000 reduced to 3,000	2,999

The earthwork of twenty-one miles, with masonry works up to the top of the Kalingia Ghat, has been completed. Gravel has been spread for six miles, and the side slopes turfed for a distance of nine miles.

Aska and Ganjam road.

61. GANJAM.—Road from Aska to Ganjam.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
62,700	.....	23,309 reduced to 21,000	22,500

The earthwork of the entire length (30 miles) has been completed, and the bridges on five miles constructed. Material to the value of Rupees 7,100 has been collected for the remaining portion of the work.

Aska and Russelcondah road.

62. GANJAM.—Road from Aska to Russelcondah.

The estimate amounts to Rupees 44,640, of which Rupees 3,682 were expended up to 30th April 1864, and Rupees 3,299 from *Income Tax Funds* in 1864-65. The earthwork of seven and a half miles has been completed; six timber platform bridges, three tunnels, and three road dams have been built, and three other timber bridges are under construction.

Road from Bullipudra to Kurcholy.

63. GANJAM.—Road from Bullipudra to Kurcholy, estimate Rupees 22,470.

This work has been carried on from *Income Tax Funds*. The total amount expended is Rupees 8,683, whereof Rupees 4,707 was the outlay during the past official year. The earthwork of eight miles and three tunnels have been completed; 9,060 running yards of jungle have been cut and four bridges are under execution.

Vizagapatam and Kassipore road.

64. VIZAGAPATAM.—Road from Vizagapatam to Kassipore.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
1,15,000	13,493	25,000 reduced to 23,897	23,897

Twenty-nine tunnels, eighteen sluices, and three road dams have been built; six bridges, two tunnels, and two road dams are under construction, and a large quantity of earthwork, metalling and gravelling at various places between the 3rd and 21st miles has been completed.

Road from Vizianagram to Chepurpilly.

65. VIZAGAPATAM.—Road from Vizianagram to Chepurpilly, estimate Rupees 20,430.

Twelve miles of earthwork, nine miles of metalling with gravel, and thirty-five bridges have been completed with an expenditure of Rupees 18,714, of which Rupees 10,091 were laid out during the past year from *Income Tax Funds*.

Vizianagram and Jeypore road.

66. VIZAGAPATAM.—Road from Vizianagram to Jeypore.

Rupees 13,246 were expended in 1864-65 from the amount (Rupees 50,000) contributed by the Rajah of Vizianagram.

Iron girder bridge at Cocanada, Godavery District.

67. GODAVERY.—Iron girder bridge at Cocanada.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
75,000	23,994	6,000 increased to 16,000	16,060

Both abutments have been built. Of the eighteen girders required for the bridge, sixteen have been manufactured at the Dowlaishweram Workshop, and the cast iron cylinders for the piers have been despatched from England by the Contractor.

Road from Seetanagarum to Guntoor.

68. KISTNA.—Trunk Road No. 6 from Seetanagarum to Guntoor.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
26,077	11,676	5,000 increased to 7,000	6,342

Ten miles of road have been completed and opened for traffic, and eight masonry dams have been constructed.

Bridge across Commamoor Channel.

69. KISTNA.—Bridge across the Commamoor channel near Chabrole.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
11,900	420	5,000 reduced to 4,762	5,588

The foundations have been laid and the piers and abutments are in progress.

Sultanagram bridge.

70. KISTNA.—Re-constructing Sultanagram bridge on the Masulipatam and Hyderabad road.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
14,100	.....	6,000 Increased to 9,400	9,056

The bridge constructed some years ago was completely destroyed during the late cyclone. The new bridge has been completed to within 18 inches of the springing of the arches.

Madras and Masulipatam Coast road.

71. KISTNA.—Improving the Madras and Masulipatam Coast road.

The earthwork of the road has been completed; one bridge has been built, and materials have been collected for other masonry works. Expenditure in 1864-65 from *Income Tax Funds* Rupees 3,537, against an estimate of Rupees 4,580.

Trunk Road No. 6.

72. NELLORE.—Trunk Road No. 6. Masonry works on Do. Portion of Trunk Road No. 6 passing over the Moosanoor valley.

Estimates.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
1,17,113	1,01,021	8,580 Increased to 13,302	10,289
1,02,350	60,837	8,000 Increased to 10,520	10,415
68,630	1,291	8,000 Increased to 10,000	10,067

About 1½ miles of the road embankment across the Moosanoor valley have been completed; about 600 yards remain to be done, and the bridges have yet to be constructed. A great deal of work has been done near Ongole, but two miles of bad portions have still to be improved. With these exceptions, the road throughout the Nellore District is in good order.

Nellore and Dorenal road.

73. NELLORE.—Nellore and Dorenal road.

Rupees 9,637 were expended from *Income Tax Funds* during the past official outlay, and Rupees 49,530 are still available upon the sanctioned estimate of Rupees 1,01,000. Fourteen and a half miles of road have been completed; twenty-two miles of side drains have been excavated and two tunnels built.

Famine Roads in Cuddapah District.

74. CUDDAPAH.—Famine roads in the Kadiri Taluq.

In May 1864, Rupees 15,000 were allotted for expenditure on roads in the Kadiri Taluq in order to afford relief to its inhabitants who continued to suffer great distress consequent on the total failure of the monsoon of 1863. This amount was judiciously laid out in the formation of eighty miles of road, the whole of which is now practicable for carts.

Bridges on Trunk Road No. 11.

75. CUDDAPAH.—Bridges on Trunk Road No. XI.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
86,198	61,918	10,000	9,997

The Soodamalla and Ethalcherroo bridges (4 arches, 36 feet span), another bridge of 12 feet span and six tunnels were completed during the year.

Railway feeders in the Cuddapah District.

76. CUDDAPAH.—Road from the Madras and Cuddapah high road to the Codoor Railway station.

Road from Rajampett to the Rajampett Railway station.

Road from the Madras road at Nundalore to the Nundalore Railway station.

Estimates.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
2,865		2,865	2,865
2,695		2,695	633
		Reduced to 1,695	
7,312		7,312	1,762
		Reduced to 1,312	

The first of these Railway feeders has been completed and opened for traffic. Good progress has been made on the second, and it is expected that the road will be finished in July next. Work on the third has been much delayed in consequence of the road being carried through wet lands already cultivated.

CUDDAPAH.—Road from Cuddapah to the Nellore frontier, estimate Rs. 54,300.

The work executed during the year was as follows:—

2 bridges completed.

3,255 cubic yards earthwork sectioned.

4,768 Running yards metalled.

6,995 Do. gravel spread.

5,281 cubic yards do. dug.

460 Parahs of metal collected.

1,790 Running yards of tamping completed.

The total expenditure up to 30th April 1865 was Rupees 26,850, of which Rupees 7,000 were laid out in 1864-65 from *Income Tax Funds*.

Cuddapah and Kurnool road.

77. CUDDAPAH AND KURNOOL.—Road from Cuddapah to Nundial.

Estimates.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
	RS.	RS.	RS.
Cuddapah portion, Rs. 62,000.	43,253	10,000	9,518
Kurnool portion, Rs. 60,000.	31,583	Imperial funds Rs. 8,779, reduced to Rs. 6,279.	Imperial funds Rs. 5,991. Income Tax Funds Rs. 3,336.
		Income Tax Funds Rs. 8,349.	

The work performed during the year was as follows:—

IN CUDDAPAH.—Earth-work completed for six miles; metalling laid for two-thirds of this distance.

IN KURNOOL.—Earth-work completed for five miles, gravel carted and spread over seventeen miles, eight road dams and ten tunnels built.

Owing to the great demand for labor for the works of the Madras Irrigation and Canal Company, and to the very high rates allowed by the Company's officers, the progress of this road has been much retarded.

Cuddapah and Bellary road.

78. CUDDAPAH AND BELLARY.—Road from Cuddapah to Bellary.

Estimates.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
	RS.		
Cuddapah portion Rs. 1,06,431	58,534	Imperial funds Rs. 20,000.	Imperial funds Rs. 20,000.
		Income Tax funds, Rs. 3,760.	Income Tax funds, Rs. 3,770.
Bellary portion Rs. 1,02,200	83,788	Income Tax funds, Rs. 10,000	Income Tax funds, Rs. 10,000

Several miles of the road in the Cuddapah District have been metalled and gravelled, and a number of tunnels and road dams have been built. The work executed in the Bellary District consisted of the formation of three miles of road, the metalling of thirteen miles, and the construction of thirteen tunnels and three road dams.

Nundy Kanama Ghát.

79. KURNOOL.—Nundy Kanama Ghát.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
54,540	51,386	3,123	2,998

The approaches and a portion of the wing walls of the viaduct remain to be done to complete this work.

Bridging road from Kurnool to Bellary.

80. KURNOOL.—Bridging the road from Kurnool to Bellary.

The outlay during the year from *Income Tax Funds* amounted to Rupees 4,889, the total expenditure being Rupees 23,612, against an estimate of Rupees 23,370. Five bridges have been completed.

Elephant gate bridge.

81. PRESIDENCY.—Widening the Elephant gate bridge.

This work, which has proved a great boon to the public, was carried out during the year from *Income Tax Funds* at a cost of Rupees 7,280, or Rupees 420 less than the sanctioned estimate.

Mylapoor and Conatoor road.

82. MADRAS DISTRICT.—Road from Mylapoor to Conatoor.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
27,100	13,439	13,661	12,465

Six miles of this road were opened for traffic in 1863-64, the remaining distance (about $4\frac{1}{2}$ miles) has since been nearly completed.

Road from Satgur to the Mailputty Railway Station.

83. NORTH ARCOT.—Road from Satgur to the Mailputty Railway Station.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
4,700	.....	4,700	4,700

This useful Railway Feeder has been completed and opened for traffic.

Arcot and Arnee road, Railway Feeder.

84. NORTH ARCOT.—Road from Arcot to Arnee, Estimate Rs. 32,600.

The sum expended is Rupees 30,444, (Rupees 17,143 up to 30th April 1864, and Rupees 13,301 from *Income Tax Funds* in 1864-65,) and the work executed during the past year was as follows:—

194	Cubic yards of earth-work.
9 $\frac{1}{2}$	Do. of brick-in-chunam.
377	Do. of gravelling.
1,035	Running yards of metalling.
676	Square yards of turfing.
6,496	Do. of levelling.

Bridge over the Guddilum river at Cuddalore.

85. SOUTH ARCOT.—Bridge over the Guddilum river at Cuddalore.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
12,000	.....	12,000 reduced to 8,400	8,240

Ten arches of this bridge were carried away by the floods of October last. Six of the arches have been re-built, and it is expected that the bridge will be re-opened for traffic in August next.

Road from Sooramungalum to Taramungalum.

86. SALEM.—Road from Sooramungalum (Salem Railway Station) to Taramungalum on Trunk Road No. 5.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
11,300	4,461	1,840	1,840

Three miles of this Railway feeder were completed during the year. Five miles in all are now ready for use, and other portions are in progress.

Bridges on the Salem and Cuddalore road and on Trunk Road No. 5, near Darampury.

87. SALEM.—Two bridges, each of three arches of thirty feet span, have been built, one on the Salem and Cuddalore road, and the other on Trunk Road No. 5, near Darampury. The total outlay on these works is Rupees 2,442 and 6,059 respectively, as shewn below.

Estimates.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
3,450	932	2,150	1,510
7,255	721	{ 5,060 increased to 6,535 }	5,338

Cart road between Palakode and Morapur.

88. SALEM.—Constructing a cart track, between Palakode and Morapur, estimate Rupees 18,200.

Rupees 4,676 were expended during the year from *Income Tax Funds*. The total outlay has been Rupees 11,535, for which sum $19\frac{1}{2}$ miles of the track, of which $6\frac{1}{2}$ were undertaken in 1864-65, have been completed.

Bridge near Attur on Salem and Cuddalore road.

89. SALEM.—Bridge of nine arches of 30 feet span near Attur on the Salem and Cuddalore road, estimate Rupees 14,300.

The arches have been completed with the exception of the plastering, which is in progress. The total amount expended on the work from *Income Tax Funds* is Rupees 7,288, whereof Rupees 2,103 were laid out during the past year.

Road from Negapatam to Nagore.

90. TANJORE.—Road from Negapatam to Nagore.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
25,730	12,886	8,456	8,477

Five miles of this Railway feeder have been completed, one mile remains to be metalled.

Railway feeder from Keevalore to the Station of that name.

91. TANJORE.—Road from the Keevalore Railway Station to the Town of Keevalore.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
3,690	152	3,539	2,894

The earthwork and masonry culverts have been completed and the metalling is in progress.

Vedarniem Canal.

92. TANJORE.—Canal from the Vedarniem Salt pans to the Adapaur river.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
13,000	11,373	1,621	1,209

The excavations throughout the entire length of the canal have been completed.

Extension of Vedarniem Canal.

93. TANJORE.—Junction canal from Negapatam to Teroopoondy.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
22,565	6,194	8,065	8,626

The excavations on this canal have also been completed, and good progress has been made in the construction of the masonry works.

New Coonoor Ghát.

94. COIMBATORE.—New Coonoor Ghát.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
.....	8,549	42,434	40,781

The total length of the Ghát is $16\frac{1}{4}$ miles, of which $9\frac{3}{4}$ miles were completed in 1863-64. During the past official year $5\frac{1}{2}$ miles were opened out, and several nullahs bridged. The present state of the work is as follows:—

6 Miles opened to a width of 18 feet.
 5 do. " 12 do.
 $4\frac{1}{4}$ do. as a bridle path
 1 do. untouched.

New Tambracherry Ghát.

95. MALABAR.—New Tambracherry Ghát.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
1,47,550	.....	50,000 Reduced to 37,340	34,553

The earthwork and all the culverts below the Ghát between Poodapady and the Pinjery nullah, as well as the abutments of the Stony river bridge and one of the abutments of the Pinjery bridge have been completed. The earthwork on to the foot of the Ghát has also been completed, but two small bridges remain to be built. Of the actual ascent, 4 miles, of various widths, are now used by carts; at no part is the road less than 12 feet wide, and in places where no rock is met with, it is considerably wider.

Kulpatty bridge.

96. MALABAR.—Kulpatty bridge.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
30,000	.....	20,000 increased to 24,410	24,735

This is a wooden trussed bridge of 4 bays of 64 feet span. The wing walls, abutments, and piers have been built; and are ready for the girders. The earth-work of the approaches has been completed; part of the side slopes has been turfed, and the metal for the surface collected.

Bridges on the road below the Charmady Ghát.

97. SOUTH CANARA.—Bridging the road below the Charmady Ghát.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
40,140	11,478	17,420 increased to 26,036	26,016

The following bridges have been in progress.

MANY HULLAH BRIDGE.—Piers and abutments completed; arches turned, and wing walls raised to a height of 17 feet.

BELTHANGADY BRIDGE.—Piers and abutments completed; beams, sleepers and struts laid, and planking of first span nearly finished.

NEDIGAL BRIDGE.—Piers and abutments completed ; fair progress made with the wood-work.

MOONDAJEH BRIDGE.—Piers and abutments completed ; beams, sleepers and struts fixed, and the planking commenced.

Bridges below the Munzerabad Ghát.

98. SOUTH CANARA.—Bridges below the Munzerabad Ghát.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
15,882	5,077	10,109 reduced to 9,002	9,419

The work executed has been as follows.

CUBBINHALLA BRIDGE.—Masonry work completed with the exception of the stone facing of one pier ; beams laid across two of the spans.

BRIDGE NO. III, NEAR 22ND MILE.—Masonry work finished.

CADAMBALLA BRIDGE.—Completed with the exception of heavy cuttings in the western approach.

WALTAJEH BRIDGE.—Arch built, and wing walls raised to a height of 7½ feet.

WALLALA BRIDGE.—Foundations of bridge completed.

Terroomungalum and Coimbatore Road.

99. MADURA.—Improving the road from Terroomungalum to the Coimbatore boundary.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
1,65,000	.....	2,655 from Imperial, and Rs. 10,000 from Income Tax Funds.	2,633 from Imperial, and Rupees 8,433 from Income Tax Funds.

Three platform bridges have been completed, and several others are in progress. The worst portions of the road are being placed in good repair.

Shunmooganuddee Bridge.

100. MADURA.—Bridge over the Shunmooganuddee river.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
30,169	5,609	10,000 increased to 13,000	11,336

The foundations of the abutments and piers have been laid, and materials for the superstructure are being collected.

Palamcottah and Tuticorin Road.

101. TINNEVELLY.—Road from Palamcottah to Tuticorin.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
1,30,000	19,021	20,000 increased to 21,966	21,594

Eleven miles of the road were completed during the year ; altogether 18 miles are now open for traffic.

Sattur Bridge.

102. TINNEVELLY.—Sattur Bridge.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
22,000	17,966	4,034	3,848

The restoration of this bridge (of 9 arches) was successfully accomplished during the year. The roadway over the bridge, and the approaches to it have been thoroughly repaired, and the impediment to traffic hitherto caused by the Sattur river no longer exists.

Road from Madura to Arambooly.

103. TINNEVELLY.—Rupees 8,337 were expended from *Income Tax Funds* in the improvement of the road from Madura to Arambooly via Tinnevelly.

MISCELLANEOUS PUBLIC IMPROVEMENT

Channel from the Aukumuroo Lock to Sultanagram bridge.

104. KISTNA.—Channel from the Aukumuroo Lock to the Sultanagram bridge.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
14,000	.....	9,000	8,442

This work was begun after the late Cyclone, its object being to convey a supply of good water into Masulipatam. The earth-work has been completed.

Goodwater Channel from Sultanagram bridge to Robertson's Pettah.

105. KISTNA.—Good water channel from the Sultanagram Bridge to Robertson's Pettah.

Estimate.	Expenditure up to 30th April 1864.	Allotment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
.....	.....	4,800 reduced to 3,000	2,524

As a temporary measure, an open earthen channel has been made terminating in a tank about three-fourths of a mile from the bridge. The work has been of the greatest utility in preserving the health of the town.

People's Park.

Enclosing Fort Esplanades.

Municipal Commissioners respectively, in carrying out various improvements to the Park, and in enclosing the Fort Esplanades with wire fencing.

Quay at Mangalore.

107. SOUTH CANARA.—Extension of the Quay at Mangalore. The estimate amounts to Rupees 10,713, of which Rupees 867 were expended in 1863-64, and Rupees 1,640 in 1864-65 from Income Tax Funds. The first portion of the Quay, 192 feet in length, has been completed.

Paumbem Channel.

108. MADURA.—Improving the Paumbem channel :—

Estimate.	Expenditure up to 30th April 1864.	Alloiment for 1864-65.	Expenditure in 1864-65.
RS.	RS.	RS.	RS.
43,340	19,743	15,000, reduced to 4,500	3,559

During the year 143 cubic yards of stone were removed, besides a large quantity of debris resulting from the blasting operations of 1863-64. In March and April last, 317 successful blasts were effected.

LOCAL FUNDS.

Works undertaken from Local Funds.

109. The principal works undertaken during the year from District Road,

Educational and other Funds were as follows :—

District.	Work.	Expenditure in 1864-65.	Remarks.
		RS.	
Ganjam ...	Road from Jugganathpoor to Poorshotapoor... ..	5,045	Earth-work completed for 12 miles; almost the entire distance; 40 masonry works constructed, and 3,600 cubic yards of gravel spread.
Vizagapatam.	Constructing Normal School at Vizagapatam... ..	4,526	
Godavery ...	Road from Pennagonda to Juggannathgery... ..	2,930	Two abutments completed, and iron girder bridge being put up.
Do. ...	Constructing an iron girder bridge over the Yellairoo... ..	2,693	26 wells sunk, 18 cubic yards of masonry built, 1 abutment in progress, and 1,266 cubic yards of earth-work completed.
Do. ...	Road from Ambajepetta to Amalpoor... ..	2,897	Sanding of road in progress, advance made to Workshop for bridges.
Do. ...	Constructing Zillah School at Rajahmundry... ..	3,947	Completed.
Nellore ...	Road from Alloor to Iskapully... ..	3,335	One mile completed, and five tunnels built.
Do. ...	Road from Kanigery to Singaroycondah to the coast of Oolapolliem... ..	8,254	Seventeen miles of road completed, with the exception of masonry works.
Kurnool ...	Road from Nundicothoor to Bailooty... ..	5,472	Two miles of road made.
Presidency ...	Erecting a Presidency College... ..	18,822	
North Arcot...	Road from Palmanair to Venkatagerry Kotah... ..	2,996	Completed.
Do. ...	Road from Thellaur to Conjeveram... ..	3,113	5,808 cubic yards of earth-work, 8,396 Rg. yards of cutting side channel, 195 cubic yards of gravelling, 4,108 square yards of turfing, 20,041 square yards of levelling, and sundry other works completed.
South Arcot ...	Road from the Boodengoodi road to join the Bhonagiri road near Keerapalayem... ..	4,000	Completed.
Do. ...	Road from Coolen's Choultry to the Teagavelly Salt pans... ..	2,550	Repairs completed.
Do. ..	Road from Kellanur to join the road from Mylum to Pondicherry... ..	4,840	
Salem ...	Market shed at Salem... ..	1,725	Completed.
Coimbatore ...	Road from Ootacamund to Coimbatore Railway Station... ..	7,972	Road maintained in repair.
Malabar ...	Constructing a truss bridge across the Toota river.... ..	6,991	The north and south abutments and wing walls, and the first, third, and fourth piers have been raised the required height, the second pier has been raised 18 feet high, and the trusses for three bays completed.
Do. ...	Re-building the Pyolly Lock... ..	4,208	Masonry work and gates nearly finished.

District.	Work.	Expenditure in 1864-65.	Remarks.
		RS.	
Malabar ...	Re-building the Annacayen bridge ...	2,788	One pier raised nearly the full height; the other is in progress.
Do. ...	Re-building the Kakadicadavoo bridge ...	3,454	The planking of the bridge is being put on.
Do. ...	Road from Palghat to Wuddakencherry ...	14,362	Work almost completed.
Do. ...	Coast road from Cannanore to Mahe bridge ...	2,746	Completed.
Do. ...	Road from Puttamby Railway Station to Angadepooram. ...	2,851	Nearly completed.
Do. ...	Road from Wuddakencherry to the limits of the District ...	3,300	Do.
Do. ...	Provincial School at Calicut ...	2,252	Completed.
South Canara.	Road from Moodbiddy to Beltangadi ...	3,058	9 miles of road opened.
Do. ...	Road from Beltangadi to Pootoor. ...	2,510	5 do. do.
Do. ...	Road from Jalsoor to Cassergode. ...	2,535	Improvements effected where the original gradients were too heavy.
Madura ...	Madura Town Water Project ...	8,402	Under-tunnel and syphon sluice completed; revetments of aqueduct raised, greater portion of earth-work finished. The expenditure includes Rupees 4,112 from Income Tax Funds.
Tinnevely ...	Road from Srivilliputtur to Tinnevely. ...	5,060	In progress.

REPAIRS.

Works maintained in repair.

110. The total outlay on Repairs was Rupees 25,28,969. The works maintained in repair were as follows:—

- 509 Military buildings.
- 746 Civil buildings.
- 1,795 Tanks.
- 520 Dykes.
- 883 Channels.
- 106 Sluices.
- 49 Calingulahs.
- 60 Anicuts.
- 9 Locks.
- 70 Drainages.
- 2 Irrigation Dams.
- 1 Aqueduct.
- 7,691 Miles of Road or Canal.
- 5 Bridges.
- 190 Road tunnels.
- 58 Road dams.

Repairs requiring special mention.

111. The repairs requiring special mention are noted below:—

Expenditure.

Rs.

GODAVERY DISTRICT.—Godavery Anicut ...	26,931
Rough stone revetment and groynes for the protection of the river bank of eastern Delta ...	17,958
Dredging the Cocanada harbour ...	19,652
KISTNA DISTRICT.—Kistna Anicut ...	13,011
Masulipatam Canal and Branches ...	52,710
Ellore Canal and do. ...	9,756
Ryve's do. do. ...	3,499
Pullairu do. do. ...	12,640
Nizampatam do. do. ...	14,102
Western bank Channel ...	3,381
Commamoor Channel ...	6,754
BEHAR.—Toongabuddra Channels ...	14,743
MADRAS DISTRICT.—Deepening the Northern and Southern Canals ...	22,071
TANJORE.—Re-constructing wing walls of the South Raja Voikal Surplus Sluice of the Lower Coleroon Anicut ...	6,149

Crisp
Draft of
Annual Report
1864/65

Go
2036w
17.7.65

Letter sent
to Messrs
Ramsay & Co

37

To
2036
The Secretary to the Government of India

Sir.

I am directed by His Excellency the Governor in Council to forward the Annual Progress Report of Public Works in the Madras Presidency for the year 1864/65.

W. W. George
17th July 1865

A. B.

14

Sent 18th July 1865. With a copy of Annual Progress Report

7/8/74

S. 1/13 ✓

90/1865 Depo
Pro. of Govt. for July

No 2006
To Ld Secy to the
Govt of India
27 July/65

The Annual Report
for the year 1864/65
forwarded to the Govt
of India.

N: 431

July 1865 On 15th