

(1) Number of pages 24

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE.

Government of Madras.

Public Works

DEPARTMENT.

G.O. No. 401 (9) Press
Mis.

Dated 5. 2 1877.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
5th February 1877. No. 401.*

Read the following :—

No. 84 W.

No. 169. *Note by the Chief Engineer for Irrigation.*

The information called for in paragraph 5 of G.O., No. 1,819, of the 19th July last, will be found in the accompanying abstract lists :—

<i>Sanctioned Minor New Works.</i>				
Number of estimates sanctioned	...	...	...	540
Amount of estimates	...	...	Rupees	2,01,390
Expenditure up to end of 1875-76	...	...	"	46,541
Computed expenditure in 1876-77	...	...	"	1,49,744
Grants for do.	...	...	"	1,77,570

Minor New Works for which Estimates have been prepared but not sanctioned.

Number of estimates	...	...	...	436
Amount of do.	...	...	Rupees	1,73,731

Minor New Works ascertained to be necessary, but for which Estimates have yet to be prepared.

Surplus weirs	...	...	...	362
Sluices	...	...	...	381
Head sluices	...	...	...	49
Aqueducts	...	...	...	14
Miscellaneous works	...	...	...	66

872

These lists show that a good deal is being done to meet the great want of the old Irrigation works; that more rapid progress is needed in many districts; and that were the grant for the Presidency doubled, it ought to be easily worked out.

<i>North Arcot.</i>		No.	Amount.	Grant.
			RS.	RS.
Works sanctioned...	...	59	34,355}	63,160
" estimated for	...	69	28,805}	
" ascertained to be required	...	122	...	

<i>Chingleput.</i>		No.	Amount.	Grant.
Works sanctioned	...	106	24,350}	50,030
" estimated for	...	70	25,680}	
" ascertained to be required	...	...	...	

In the following districts there is a great deal to be done :—

<i>South Arcot.</i>		No.	Amount.	Grant.
Works sanctioned...	...	51	16,930}	23,041
" estimated for	...	16	6,111}	
" ascertained to be required	...	114	...	

<i>Nellore.</i>		No.	Amount.	Grant.
Works sanctioned...	...	15	4,686}	7,354
" estimated for	...	9	2,668}	
" ascertained to be required ..	...	71	...	

<i>Madura.</i>		No.	Amount.	Grant.
Works sanctioned...	...	37	10,320}	16,309
" estimated for	...	22	5,989}	
" ascertained to be required	...	53	...	

* No definite information.

Proceedings of the Madras Government, Public Works Department,
5th February 1877. No. 401.

		Tinnevely.		No.	Amount.	Grant.
					RS.	RS.
Works sanctioned...	...	...	...	44	8,847	34,362
" estimated for	...	...	...	77	25,515	13,340
" ascertained to be required	...	...	...	33	...	...
Cuddapah.						
Works sanctioned...	...	...	...	29	19,293	52,231
" estimated for	...	...	...	58	32,938	12,000
" ascertained to be required...	...	...	...	66	...	...
Salem.						
Works sanctioned...	...	...	...	67	22,891	33,276
" estimated for	...	...	...	26	10,395	12,000
" ascertained to be required	...	...	...	122	...	...
Kurnool.						
Works sanctioned...	...	...	...	5	3,155	11,905
" estimated for	...	...	...	16	8,750	10,250
" ascertained to be required	...	...	...	46	...	...
Coimbatore.						
Works sanctioned...	...	...	...	30	13,480	20,197
" estimated for	...	...	...	43	6,717	9,000
" ascertained to be required	...	...	...	18	...	...

District Engineers should give special attention to the provision of minor masonry works suited to the circumstances of tanks, &c., in a manner to secure economy. Masonry weirs are by no means always essential, and pavements of dry stone with wing revetments are often a cheap and efficient substitute. In the flat country near the coast levelled ground planted with tank grass may often do very well by allowing double the length for discharge that would be needed with a free waterway.

(Signed) JOHN MULLINS, Lt.-Col., R.E.,
Chief Engineer for Irrigation.

To the Secretary to Government, Public Works Department.

ABSTRACT.

List of Sanctioned Minor New Works showing expenditure in 1875-76 and 1876-77.

Districts.	Description of Works.	Amount of Estimate.	Expenditure up to 31st March 1876.	Expenditure in 1876-77.	Grant.
		RS.	RS.	RS.	RS.
Ganjam	7 Weirs or escapes	2,148	263	1,885	
	7 Irrigation sluices	1,097	...	1,097	
	1 Aqueduct	470	...	470	
	5 Miscellaneous	1,316	113	1,203	
	20 Total	5,031	376	4,655	3,000
Vizagapatam	Nil	...	...	...	
Godavery	3 Weirs or escapes	1,835	...	1,835	2,000
	17 Irrigation sluices	5,088	172	4,916	
	2 Head sluices	870	...	870	
	1 Miscellaneous	200	...	200	
	23 Total	7,993	172	7,821	13,000

Proceedings of the Madras Government, Public Works Department,
5th February 1877. No. 401.

List of Sanctioned Minor New Works showing expenditure in 1875-76 and 1876-77—(Contd.)

Districts.	Description of Works.	Amount of Estimate.	Expenditure up to 31st March 1876.	Expenditure in 1876-77.	Grant.
		RS.	RS.	RS.	RS.
Kistna	1 Weirs or escapes	499	...	499	
	11 Irrigation sluices	1,732	...	1,732	
	1 Miscellaneous	720	553	167	
	13 Total	2,951	553	2,398	5,480
Nellore	10 Irrigation sluices	2,477	...	2,477	
	5 Miscellaneous	2,209	1,772	437	
	15 Total	4,686	1,772	2,914	4,000
Cuddapah	13 Weirs or escapes	10,795	2,434	8,344	
	10 Irrigation sluices	1,788	936	852	
	2 Head sluices	1,870	...	1,870	
	2 Aqueducts	240	...	240	
	2 Miscellaneous	4,600	350	4,250	
	29 Total	19,293	3,720	15,556	12,000
Kurnool	3 Weirs or escapes	1,985	...	1,515	
	1 Irrigation sluices	720	...	720	
	1 Miscellaneous	450	...	450	
	5 Total	3,155	...	2,685	10,250
Bellary	6 Weirs or escapes	5,385	1,741	3,326	
	2 Irrigation sluices	1,770	265	1,505	
	4 Head sluices	2,217	679	1,538	
	4 Miscellaneous	1,573	765	808	
	16 Total	10,945	3,450	7,177	8,000
Chingleput	53 Weirs or escapes	11,834	2,273	9,716	
	34 Irrigation sluices	6,372	1,498	4,874	
	1 Surplus sluice	135	...	135	
	4 Head sluices	3,003	2,546	457	
	1 Aqueduct	80	...	80	
	13 Miscellaneous	2,926	988	1,875	
	106 Total	24,350	7,305	17,137	20,000
North Arcot	40 Weirs or escapes	27,340	5,763	20,581	
	5 Irrigation sluices	1,325	...	995	
	7 Head sluices	2,305	...	2,305	
	2 Aqueducts	1,050	...	1,050	
	5 Miscellaneous	2,335	1,390	944	
	59 Total	34,355	7,153	25,975	20,000
South Arcot	2 Weirs or escapes	914	398	516	
	41 Irrigation sluices	9,835	1,032	8,786	
	1 Head sluice	1,100	459	681	
	2 Aqueducts	1,045	...	1,045	
	5 Miscellaneous	3,976	2,355	1,621	
	51 Total	16,930	4,245	12,649	20,000

Proceedings of the Madras Government, Public Works Department,
5th February 1877. No. 401.

List of Sanctioned Minor New Works showing expenditure in 1875-76 and 1876-77 - Total

Districts	Description of Works	Amount of Estimate	Expenditure in 1875-76	Expenditure in 1876-77	Total
Salem	40 Weirs or escapes	11,000	...	...	...
	22 Irrigation sluices	4,500	...	...	...
	2 Surplus channels	1,000	...	...	...
	3 Miscellaneous	1,500	...	...	...
	67	1,800	...	...	...
	Total	20,800	4,400	14,400	15,000
Coimbatore	4 Weirs or escapes	2,500	...	...	...
	6 Irrigation sluices	2,500	...	...	...
	20 Miscellaneous	6,000	...	...	...
	30	3,500	...	...	...
	Total	14,500	8,400	7,400	9,000
Tanjore	1 Weir or escape	...	...	...	...
	1 Irrigation sluice	...	...	...	...
	3 Surplus weirs	...	...	...	...
	2 Miscellaneous	...	...	...	...
	7	...	...	...	...
	Total	4,500	2,700	2,000	3,000
Trichinopoly	4 Weirs or escapes	4,000	...	...	...
	6 Irrigation sluices	2,100	...	...	...
	3 Head sluices	1,100	...	...	...
	1 Surplus sluice	2,500	...	...	...
	1 Aqueduct	200	...	...	...
	3 Miscellaneous	1,100	...	...	...
	18	...	...	...	...
	Total	11,200	815	8,947	13,340
Madura	10 Weirs or escapes	3,500	...	...	...
	19 Irrigation sluices	4,181	...	...	...
	1 Aqueduct	639	...	...	...
	1 Surplus channel	600	...	...	...
	6 Miscellaneous	1,254	...	...	...
	37	...	...	...	...
	Total	10,320	2,963	6,912	4,000
Tinnevelly	14 Weirs or escapes	4,305	...	...	...
	20 Irrigation sluices	3,169	...	...	...
	10 Miscellaneous	1,283	...	...	...
	44	...	...	...	...
	Total	8,847	749	5,672	15,000
Malabar	Nil	...	...	...	...
	201 Weirs or escapes	93,787	...	...	...
	212 Irrigation sluices	50,658	...	...	...
	23 Head sluices	12,525	...	...	...
	5 Surplus sluices	4,125	...	...	...
	3 Surplus channels	1,070	...	...	...
	10 Aqueducts	3,784	...	...	...
	86 Miscellaneous	34,841	...	...	...
	540	...	...	...	...
	Total	2,01,300	46,541	1,49,744	1,77,370*
	Budget grant	Rs. 1,63,500			
	Subsequent grant	37,870			
		1,77,370			

* Budget grant
Subsequent grant

Proceedings of the Madras Government, Public Works Department,
5th February 1877. No. 401.

Abstract.
List of Minor New Works for which estimates have been prepared but not sanctioned.

SURPLUS WEIRS.	SLUICES.		HEAD SLUICES.		AQUEDUCTS.		MISCELLANEOUS.		TOTAL.		Expected Outlay during 1876-77.
	No.	Amount of Esti- mate.	No.	Amount of Esti- mate.	No.	Amount of Esti- mate.	No.	Amount of Esti- mate.	No.	Amount of Esti- mate.	
...	...	Rs.	...	Rs.	...	Rs.	...	Rs.	...	Rs.	Rs.
Ganjam	...	...	1	210	2	592	...	...	3	802	802
Vizagapatnam	...	...	5	1,036	...	...	...	...	5	1,036	1,036
Godavery	...	3,940	...	...	...	...	...	...	3	3,940	Not given.
Kistna...	...	...	9	2,402	...	...	...	...	9	2,402	2,402
Nellore	...	1,222	3	1,446	...	...	...	...	9	2,668	1,334
Cuddapah	...	19,806	21	6,456	7	5,156	...	...	58	32,938	Not given.
Kurnool	...	4,880	10	3,870	...	...	...	...	16	8,750	...
Bellary	...	3,096	2	2,443	1	247	...	...	5	5,786	2,590
Chingleput	...	14,639	27	4,662	4	4,639	...	...	70	25,680	Not given.
North Arcot	...	9,783	17	4,532	3	3,560	1	820	69	28,805	2,080
South Arcot	...	2,009	7	1,543	1	350	...	...	16	6,111	Not given.
Salem	...	5,707	10	1,177	3	1,930	...	...	26	10,385	...
Coimbatore	...	2,240	3	1,250	...	...	...	...	43	6,717	...
Tanjore	...	1,780	1	250	1	42	...	...	5	2,682	1,392
Trichinopoly	...	1,050	*	1,505	...	...	...	...	*	3,525	...
Madura	...	4,073	10	1,916	...	...	...	...	22	5,989	...
Tinnevelly	...	13,997	21	6,184	...	...	...	...	77	25,515	3,060
Total ...	202	88,172	147	40,882	22	16,516	4	2,852	61	25,309	1,73,731

* Number not shown by the District Engineer.

Proceedings of the Madras Government, Public Works Department,
5th February 1877. No. 401.

ABSTRACT.

List of Minor New Works ascertained to be necessary, but for which estimates have yet to be prepared

	NUMBER OF					Expected Expendi- ture in 1876-77.
	Surplus Weirs.	Sluices.	Head Sluices.	Aque- ducts.	Miscel- laneous.	
Ganjam	8	9	7	...	...	...
Vizagapatam	4	12	...	...	...	...
Godavery	...	1	...	...	...	1,550
Kistna	9	8	...	...	...	...
Nellore	45	20	...	1	5	...
Cuddapah	31	14	12	3	6	...
Kurnool	26	20	...	...	...	...
Bellary	1	2	5	...	...	...
Chingleput	...	...	...	...	...	...
North Arcot	78	19	11	3	11	...
South Arcot	26	66	7	5	10	...
Salem	54	66	1	...	1	...
Coimbatore	1	13	3	1	...	...
Tanjore	1	1	3	...	8	...
Trichinopoly	37	93	...	...	18	...
Madura	28	25	...	...	...	...
Tinnevely	13	12	...	1	7	...
Total ...	362	381	49	14	66	1,550

No list received
from Dindigul
Range.

Proceedings of the Madras Government, Public Works Department,
5th February 1877. No. 401.

ABSTRACT.
List of Sanctioned Minor New Works.

Districts.	WEIRS OR ESCAPES.		IRRIGATION SLUICES.		HEAD SLUICES.		SURPLUS SLUICES.		SURPLUS CHANNELS.		AQUEDUCTS.		MISCELLA- NEOUS.		TOTAL.		Grants.
	No.	Amount of Esti- mate.	No.	Amount of Esti- mate.	No.	Amount of Esti- mate.	No.	Amount of Esti- mate.	No.	Amount of Esti- mate.	No.	Amount of Esti- mate.	No.	Amount of Esti- mate.	No.	Amount of Esti- mate.	
Ganjam	7	2,148	7	1,097	...	...	...	...	...	...	1	470	5	1,316	20	5,031	Rs. 3,000
Vizagapatam	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Rs. 2,000
Godavery	...	1,835	17	5,088	...	870	...	...	...	...	...	...	...	...	...	...	Rs. 13,000
Kistna	...	1,499	11	1,732	...	...	...	...	...	...	...	...	...	...	...	...	Rs. 5,480
Nellore	...	...	10	2,477	...	...	...	...	...	...	...	...	...	...	...	...	Rs. 4,000
Cuddapah	...	10,795	10	1,788	2	1,870	...	...	...	...	2	240	2	4,600	29	19,293	Rs. 12,000
Kurnool	...	1,985	1	720	...	...	...	...	...	...	...	...	...	...	...	...	Rs. 10,250
Bellary	6	5,385	2	1,770	4	2,217	...	...	...	...	...	...	...	...	...	...	Rs. 8,000
Chingleput	53	11,834	34	6,572	4	3,003	1	135	...	...	1	80	13	2,926	106	24,350	Rs. 29,000
North Arcot	40	27,340	5	1,325	7	2,305	...	...	...	...	2	1,050	5	2,335	59	34,355	Rs. 20,000
South Arcot	2	914	41	9,835	1	1,160	...	...	...	...	2	1,045	5	3,976	51	16,930	Rs. 20,000
Salem	40	15,046	22	4,994	...	...	...	...	...	...	...	...	...	...	67	22,891	Rs. 15,000
Coimbatore	4	3,285	6	3,865	...	...	...	...	...	...	...	...	...	...	30	13,480	Rs. 9,000
Tanjore	1	340	1	145	...	...	...	...	...	...	...	...	...	...	7	4,843	Rs. 3,000
Trichinopoly	4	4,400	6	2,100	3	1,100	...	...	...	...	...	...	...	...	18	11,320	Rs. 13,340
Madura	10	3,586	19	4,181	...	...	...	...	...	...	1	639	6	1,254	37	10,320	Rs. 4,000
Tinnevely	14	4,395	20	3,169	...	...	...	...	...	...	...	...	...	...	44	8,847	Rs. 15,000
Malabar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Rs. 500
Total ...	201	93,787	212	50,658	23	2,525	5	4,125	3	1,670	10	3,784	86	34,841	540	2,01,390	Rs. 1,77,570

JOHN MULLINS, Lt.-Col., R.E.,
Chief Engineer for Irrigation.

(Signed)

For St. George,
29th January 1877.

10945 3450 7177 8000

Abstract.

List of sanctioned Minor New works showing expenditure as 1875-76 93 4
and 1876-77.

Districts	Description of works	Amount expended if estimate correct 1876	Expenditure to 31 st Dec in 1876	Expenditure to 31 st Dec in 1877	Grant.
Ganjam	7 Weirs or escapes	2148	263	1885	
	7 Irrigation sluices	1097	"	1097	
	1 Aqueduct	470	"	470	
	5 Miscellaneous	1316	113	1203	
	<u>20</u> Total	<u>5031</u>	<u>376</u>	<u>4655</u>	3000
Vizagapatam	Kil				2000
Godavery	3 Weirs or escapes	1835	"	1835	
	17 Irrigation sluices	5088	172	4916	
	2 Head sluices	870	"	870	
	1 Miscellaneous	200	"	200	
	<u>23</u> Total	<u>7993</u>	<u>172</u>	<u>7821</u>	13,000
Krishna	1 Weirs or escapes	499	"	499	
	11 Irrigation sluices	1732	"	1732	
	1 Miscellaneous	720	553	167	
	<u>13</u> Total	<u>2951</u>	<u>553</u>	<u>2398</u>	5480
Kellore	10 Irrigation sluices	2477	"	2477	
	5 Miscellaneous	2209	1772	437	
	<u>15</u> Total	<u>4686</u>	<u>1772</u>	<u>2914</u>	4000
Madolapah	13 Weirs or Escapes	10795	2434	8344	
	10 Irrigation sluices	1788	936	852	
	2 Head sluices	1870	"	1870	
	2 Aqueducts	240	"	240	
	2 Miscellaneous	4600	350	4250	
	<u>29</u> Total	<u>19293</u>	<u>3720</u>	<u>15556</u>	12,000
Turnool	3 Weirs or Escapes	1985	"	1515	
	1 Irrigation sluices	720	"	720	
	1 Miscellaneous	450	"	450	
	<u>5</u> Total	<u>3155</u>	"	<u>2685</u>	10,250
Bellary	6 Weirs or escapes	5385	1741	3326	
	2 Irrigation sluices	1770	265	1505	
	4 Head sluices	6217	679	1538	
	4 Miscellaneous	1573	765	808	
	<u>16</u> Total	<u>14945</u>	<u>3450</u>	<u>7177</u>	8,000

Number 4

No list received
from District Range

Wentworth Lieut. Col. R. I.
Chief Insp. for Oregon

Street of Brown's house for which testimony I have been prepared but not summoned.
 I have been summoned.

x 20. Not shown by the
Pitt. fragment.

Clinton
Clinton

P.W.D.

1877

1109

1

169.70

No. 84 W

Note by the Chief Engineer for Irrigation

Encls. 11

The information called for in para. 5 of G. O. No. 1819 of the 19th July last will be found in the accompanying abstract lists.

Sanctioned Minor New Works.

Number of estimates sanctioned - 540.

Amount of estimates Rupees 2,01,390.

Expenditure up to end of 1875-76 - 46,540.

Computed expenditure in 1876-77 - 1,49,744

Grants for _____ do. - 1,77,570

Minor New Works for which estimates have been prepared but not sanctioned

Number of estimates - 436

Amount of do. - Rupees 1,73,731.

Minor New Works ascertained to be necessary, but for which estimates have yet to be prepared:

Surplus weirs - 362

Sluices - 381

Head sluices - 49

Aqueducts - 14

Miscellaneous Works - 66

872

These lists show that a good deal is being done to meet the great want of the old irrigation works, that more rapid progress is needed in many Districts, and that were the grant for the Presidency doubled it ought to be easily worked out.

North Arcot.

	No.	Amount	Grant.
Works sanctioned	59	34,355	63,160 - 20,000
" estimated for	69	28,805	
" ascertained to be required	122	—	

Chingleput

Works sanctioned	106	24,350	50,030 - 20,000
" estimated for	70	25,680	
" ascertained to be required	*	—	

* No definite information.

In the following Districts there is a great deal to be done.

South Arcot

Works sanctioned	51	16,930	23,041 - 20,000
" estimated for	16	6,111	
" ascertained to be required	114	—	

Nellore

Nellore

	No.	Amount.	Grant
Works sanctioned	15	4,686	7,354 - 4,000
" estimated for	9	2,668	
" ascertained to be required	71	—	

Madura

Works sanctioned	37	10,320	16,309 - 4,000
" estimated for	22	5,989	
" ascertained to be required	53	—	

Tinnevely

Works sanctioned	44	8,847	34,362 - 10,340
" estimated for	77	25,515	
" ascertained to be required	33	—	

Cuddalore

Works sanctioned	29	19,293	52,231 - 12,000
" estimated for	58	32,938	
" ascertained to be required	66	—	

Salem.

Works sanctioned	67	22,891	33,276 - 12,000
" estimated for	26	10,395	
" ascertained to be required	122	—	

Tirumool.

Works sanctioned	5	3,155	11,905 - 10,250
" estimated for	16	8,750	
" ascertained to be required	46	—	

Coimbatore

Coimbatore

	No.	Amount	Grant.
Works sanctioned —	30	13,480	20,197-9000
— " — estimated for —	43	6,717	
— " — ascertained to be required —	18	—	

District Engineers should give special attention to the provision of minor masonry works suited to the circumstances of Tanks ~~and~~ in a manner to secure economy. Masonry weirs are by no means always essential, and pavements of dry stone with wing revetments are often a cheap and efficient substitute. In the flat country near the coast levelled grounds planted with tank grass may often do very well by allowing double the length for discharge that would be needed with a free water-way.

Whimlinbinn
Lieut. Col. R.E.
Chief Engineer for Irrigation

To, The Secretary to Government
Sd/- W.D.

GA No 1819-8-19-7-78

Form No. 13.

P.W.D.
9 FEB 77
No. 1109

From
The Chief Engineer for Irrigation,

To
The Secretary to Government,
Public Works Department.

Dated 29 Jan'y.
Despatched 2 Feb'y. } 1877.
Received

ENCLOSURE 4.

No. 84-W

Subject.

Expenditure on Repairs & Minor
New Works. Agricultural. Re
submitting information in con-
nection with the statement of
called for in G.O. No 1819 of 19 Feb 1877.

N-104-

Bin - 2-2-77

1. Form No. 22.

No 401

Public Works Department.

PROCEEDINGS of the MADRAS GOVERNMENT.

UNDER date the 5 Feb 77

Read the following:—

From the Chief Engineer for Irrigation
Briefly 3 H.E. No 84 W of 29 Jan'y 77

Recorded. The information given in these abstracts will be made use of in reviewing the operations of the year. Government are glad to find that generally more than sufficient estimates have been prepared to ensure the expenditure of the grants.

Pls. ✓
Chk. for Irig. ✓

28-2-77

My 31/1

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GOVT. of 1877 Madras.
PUBLIC WORKS.

To District Engineers

Dated

Received

Recd.

Encl.

G. O. 5th Feb 1877, No. 401

No. 169-70

Expenditure in Repairs & Renewals
of the Chief Works for Irrigation
including Abstracts of
of — containing the information
called for in G. O. No. 1819 of 1877
July 1876, recorded with remarks.

For the District Engineer