பெ. ப. எண் 24

ஆவண காப்பகத்திலிருந்து நடவடிக்கைக்காக எடுக்கப்படும் கோப்பின் விவரம்.

1. தேவைப்படும் கோப்பின் எண்.
2. முடிக்கப்பட்ட நாள்.
3. எந்த நடப்பு கோப்புக்காக எடுக்கப்படுகின்றது.
4. எந்த உதவியாளரால்/இ.நி. உதவியாளரால் எடுக்கப் படுகின்றது.
5. பெற்றுக் கொள்பவரின் கையொப்பம்.
6. எடுத்தவிக்கும் பதிவுற்ற எழுத்தரின் கையொப்பம்.

Public Works (1896) Department.

Read
Print Enclosure

G.O., No. 1032-33. I.

DATED 5th December 1896.

[Despatch Abstract.]

Administration Report: Reviewing the — of the P. W. Department Irrigation Branch for 1895-96, and directing that copies of the report & of these Proceedings be forwarded to the — of India.

Administration Report: Forwarding Proceedings reviewing the — of the P. W. Department, Irrigation Branch for 1895-96.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following paper :—

Administration Report of the Public Works Department, Irrigation Branch, for 1895–96.

No. 216 I.

Submitted to Government.

The submission of the report, which was due with the Government of India on the 30th November 1896, was unavoidably delayed owing to the late receipt of the final accounts of the Examiner, Public Works Accounts, which reached this office only on the 21st idem.

CHEPÂK,
1st December 1896.

(Signed) F. J. WILSON,
for Chief Engineer for Irrigation.

ORDER—No. 1032 I., dated 5th December 1896.

The report deals with 10 "Major works" and 26 "Minor works" for which Capital and Revenue Accounts are kept, and numerous other irrigation and agricultural works individually small, for which such accounts are not kept. Nine of the "Major works" are classed as productive and one, the Rushikulya project, as protective. All the "Major works" except the Periyár project were in operation and the construction estimates of seven of these have been closed.

2. Of the 26 "Minor works" 22 are irrigation systems and 4 are tidal canals intended for purely navigation purposes. With the exception of the Munnyeru, Pondapad and Sagiléru projects and the Ganjám-Gopalpore tidal canal, the whole of the above are in operation, and of these the construction estimates have been closed except in the following three cases: the Buckingham canal, the Poiney and Lower Coleroon anicut systems.

3. The capital outlay incurred on the Major and Minor works during and up to the end of 1895–96 was as follows :—

—	Number of works.	During the year 1895–96.							Total direct and indirect charges to end of 1895–96.
		Works.	Establishment.	Tools and plant.	Less receipts on Capital account.	Total direct charges.	Indirect charges.	Total direct and indirect charges.	
1	2	3	4	5	6	7	8	9	10
Major Works.		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Protective Irrigation works (account head, 35)	1	1,92,432	38,392	— 3,595	752	2,26,477	27,727	2,54,204	42,65,088
Irrigation works not charged to Revenue (account head, 49) ..	9	10,69,393	2,38,789	36,915	2,389	13,42,708	45,965	13,88,673	6,44,10,822
Minor Works and Navigation.									
Works for which Capital and Revenue Accounts are kept (account head, 43)	(a) 24	4,88,422	1,05,908	11,564	1,392	6,04,502	25,739	6,30,241	1,66,68,830

(a) Exclusive of the Ganjám Minor works system and the Védáranniyam canal for which complete capital accounts up to end of 1895–96 have not yet been prepared.

4. Under Major works, the capital outlay was incurred chiefly on the Kistna delta, Periyár and Rushikulya systems.

On the Kistna delta system the capital outlay during the year amounted to Rs. 5,56,299 including indirect charges, and was incurred on various improvements to head works, canals, distributaries and drains. The piers of the new head sluice intended to replace the existing head sluice at Sitanagaram which was badly cracked were built up to springing level.

The capital outlay on the Periyár system was Rs. 7,51,403 including indirect charges. The main dam was completed with the exception of the tower on the right flank. The water-shed tunnel and the left bank escape were also finished. In the Madura division 108 miles of main and branch canals were completed to the end of the year under review. The Periyár works were formally opened on the 10th October 1895 by His Excellency Lord Wenlock, G.C.I.E., late Governor of Madras, but as the supply was not maintained continuously, no revenue has been credited to the project.

The capital outlay on the Rushikulya system was Rs. 2,54,204 including indirect charges. The progress of work was satisfactory, the Russellkonda reservoir together with its feeder—the Gulleri channel—the incomplete works of the Rushikulya canal and most of the distributaries having been completed.

Under Minor works, the principal outlay was incurred on the Munnyeru and Sagiléru projects and the Buckingham canal.

On the Munnyeru project the capital outlay was Rs. 1,22,132 including indirect charges. The anicut and under sluices were completed, the main channel, the head sluice and several other masonry works were in progress.

On the Sagiléru project the capital outlay was Rs. 1,31,226 including indirect charges. The anicut, head and scouring sluices and the supply channel and several minor masonry works were in progress.

On the Buckingham canal the capital outlay was Rs. 2,03,687 including indirect charges. Seven locks were completed and six locks and some improvements and diversions were in progress.

5. The following statement shows the revenue receipts and working expenses of each work in operation for which capital and revenue accounts are kept : —

Serial number.	Systems.	Capital outlay.	Gross revenue receipts, 1895–96. Working expenses. Irrigation revenue.	Direct.	Indirect.	Total.	Net actual revenue.	Deduct receipts less maintenance charges on account of old irrigation.	Net revenue attributable to outlay of Government capital.	Percentage of return.
			Miscellaneous receipts.							
1	2	3	4	5	6	7	8	9	10	11	12	13
	MAJOR WORKS.									
1	Gódávari	1,28,30,331	25,96,077	1,09,978	27,06,055	6,26,631	29,481	6,56,112	20,49,943	1,15,500	19,34,443	15·08
2	Kistna	1,21,81,403	22,38,791	64,279	22,93,070	6,93,303	28,489	7,21,792	15,71,278	66,100	15,05,178	12·36
3	Penniéru	18,89,783	2,84,906	709	2,85,615	54,854	4,934	59,818	2,25,797	87,000	1,38,797	7·34
4	Sangam	38,10,415	3,30,586	443	3,31,029	80,860	3,928	84,788	2,46,241	1,14,000	1,32,241	3·47
5	Kurnool	2,17,00,550	1,31,112	8,619	1,39,731	1,05,380	3,930	1,09,310	30,421	..	30,421	0·14
6	Barur	4,23,461	11,052	39	11,091	3,670	173	3,843	7,248	1,850	5,398	1·7
7	Cauvery	18,11,489	(a) 45,45,893	2,524	45,48,417	4,14,676	39,564	4,54,240	40,94,177	31,66,760	9,27,417	51·19
8	Srivaikuntam	14,62,798	1,58,543	1,110	1,59,653	37,931	1,972	39,903	1,19,750	66,500	53,250	3·64
10	Rushikulya	42,65,088	63,567	533	64,100	31,043	675	31,718	32,382	25,816	6,566	0·15
	Total, Major works, 1895–96 ..	6,03,75,268	1,03,60,527	1,78,234	1,05,38,761	20,48,878	1,13,146	21,61,524	83,77,237	36,43,626	47,33,711	7·84
	Total for 1894–95 ..	5,94,83,794	1,00,27,139	1,94,183	1,02,21,322	18,28,484	1,11,109	19,39,593	82,81,729	37,57,522	45,24,207	7·61
	MINOR WORKS.											
	I. Irrigation.											
11	Ganjám minor rivers	..	1,28,166	..	1,28,166	2,921	83	3,004	1,25,212	95,249	29,963	..
15	Cuddapah tank	..	41,433	..	41,433	1,470	24	1,494	39,939	30,001	9,938	15·95
16	Thadapalli channel ..	89	1,05,571	89	1,05,571	5,005	92	5,097	1,00,474	76,063	24,411	21·87
17	Arkenkoba do. ..	6	27,779	6	27,779	1,943	38	1,981	25,798	18,943	6,855	6·65
18	Kalingarayen channel ..	157	1,05,671	157	1,05,671	5,118	103	5,221	1,00,450	84,963	15,487	25·69
19	Pálár anicut	2,062	2,84,396	2,062	2,84,396	55,749	1,194	56,943	2,27,453	1,21,100	1,06,353	5·17
20	Poiney do.	226	86,589	226	86,589	25,440	736	26,176	60,413	40,514	19,899	8·58
21	Cheyáru anicut	258	94,391	258	94,391	30,603	736	31,339	63,052	44,391	18,761	4·68
22	Chembarambakam tank ..	140	36,931	140	36,931	4,407	90	4,497	32,434	9,100	23,334	3·13
23	Madras water-supply ..	10,103	31,085	10,103	31,085	6,284	266	6,550	24,535	6,200	18,335	1·04
24	Vallura anicut	21	9,469	21	9,469	699	13	712	8,757	5,259	3,498	5·48
25	Tirukkóyilúr anicut ..	378	95,481	378	95,481	20,018	482	20,500	74,981	59,914	15,067	5·92
26	Mehmattur do. ..	47	14,890	47	14,890	4,730	120	4,850	10,040	2,089	7,951	11·19
27	Vaiddachalam do. ..	130	23,837	130	23,837	6,379	148	6,527	17,310	8,400	8,910	17·91
28	Shatiatope do. ..	215	1,25,644	215	1,25,644	16,164	288	16,452	1,09,192	20,999	88,193	64·10
29	Pelandorai do. ..	105	33,054	105	33,054	5,990	118	6,108	26,926	2,850	24,076	5·30
30	Lower Coleroon anicut ..	994	4,43,372	994	4,43,372	33,260	489	33,749	4,09,623	1,49,424	2,60,199	42·47
31	Nandyar channel	..	15,550	..	15,550	622	6	628	14,922	16,345	— 1,423	— 2·83
32	Maradur anicut	197	1,79,497	197	1,79,497	19,543	424	19,967	1,59,530	1,10,412	49,118	112·78
	Total, I Irrigation ..	72,59,983	18,67,658	15,128	18,82,786	2,46,246	5,400	2,51,645	16,31,141	9,02,216	7,28,926	10·04
	II Navigation.											
33	Chilka Lake canal	31,027	..	..	..	371	10	381	— 381	..	— 381	— 1·22
34	Buckingham do.	86,83,601	1,08,374	1,08,374	1,08,374	92,537	3,486	96,023	12,351	..	12,351	0·14
35	Vedaraniom do.	..	1,136	1,136	1,136	4,227	124	4,351	— 3,215	..	— 3,215	..
36	Ganjám-Gopálpur canal ..	1,55,493	..	..	..	15	..	15	— 15	..	— 15	— 0·009
	Total, II Navigation ..	88,70,121	1,08,374	1,09,510	1,09,610	97,150	3,620	1,00,770	8,740	..	8,740	..
	Total, Minor works, 1895–96 ..	1,61,30,104	1,08,374	1,24,638	19,92,296	3,43,396	9,020	3,52,415	16,39,881	9,02,216	7,37,665	4·57
	Total for 1894–95 ..	1,57,72,920	1,03,60,527	1,29,022	18,37,899	3,55,924	10,850	3,66,774	14,71,125	7,94,739	6,76,386	4·22

(a) Inclusive of the revenue of the previous year, viz., Rs. 2,46,713, derived from the system in the Trichinopoly district.

6. The net revenue derived from Major Works was Rs. 2,09,504 more than during the preceding year, the gross revenue collected and the working expenses being greater by Rs. 3,17,439 and Rs. 2,21,931, respectively. The increase in net revenue occurred on all systems except the Sangam and Srivaikuntam anicut systems. The bulk of the increase of Rs. 1,79,577 in working expenses was incurred on the Kistna delta system which is chiefly due to the very heavy expenditure necessitated in closing breaches caused by the cyclonic storm in September 1895. The percentage of net revenue on capital outlay was 7·84 in 1895–96 against 7·61 in the previous year. The interest charges during the year amounted to Rs. 22,28,609 and up to the end of the year to Rs. 4,01,47,363. The surplus revenue, after deducting the interest charges, was Rs. 25,05,702 during the year, and amounted to Rs. 5,60,81,961 up to the end of the year.

7. On the Minor *Irrigation* Works for which Capital and Revenue Accounts are kept, the net revenue attributable to the outlay of Government capital was Rs. 57,094 more than during the previous year. There was a decrease in the working expenses of Rs. 9,121. The percentage of net revenue on capital outlay was 10·04 as against 9·45 in the previous year.

Of the four Minor *Navigation* Works the gross revenue derived from the Buckingham Canal exceeded the working expenses by Rs. 12,351 against Rs. 7,891 in the preceding year, while the income derived from the remaining works was insufficient to cover the working expenses, the net loss being Rs. 3,611 or Rs. 275 more than in the previous year.

8. The total irrigation receipts from the Major Works amounted to Rupees 1,03,60,527, of which Rs. 99,09,632 inclusive of the sum of Rs. 2,46,713, the revenue of the previous year of the Cauvery delta system brought into the accounts of 1895–96, represented the share of land revenue due to irrigation, and Rupees 4,50,895 was the share of enhanced land revenue due to the improvements.

9. The following statement compares the irrigation receipts with the areas under first and second crops charged as irrigated :—

System.	Revenue derived from irrigated lands.		Area charged as irrigated.		Rate per acre.	
	1895–96.	1894–95.	1895–96.	1894–95.	1895–96.	1894–95.
1	2	3	4	5	6	7
Major Works.	RS.	RS.	ACS.	ACS.	RS.	RS.
Gódávari	25,96,077	25,04,022	683,126	759,513	3·8	3·3
Kistna	22,38,791	20,36,154	481,375	519,976	4·6	3·9
Pennéru	2,84,906	2,83,118	70,128	70,559	4·0	4·0
Sangam	3,30,586	3,24,490	77,347	76,678	4·2	4·2
Kurnool	1,31,112	1,04 550	32,903	33,540	4·0	3·1
Barur	11,052	11,842	4,229	4,480	2·6	2·6
Cauvery	(a) 45,45,893	45,38,420	987,103	989,891	4·6	4·8
Srivaikuntam	1,58,543	1,77,383	33,962	38,573	4·6	4·6
Rushikulya	63,567	47,160	35,917	27,389	1·7	1·7
Total irrigation works not charged against Revenue, Minor Works	1,03,60,527	1,00,27,139	2,406,090	2,520,599	4·3	3·9
I. Irrigation Total ..	18,67,658	17,08,877	534,227	463,064	3·5	3·7
Grand Total ..	1,22,28,185	1,17,36,016	2,940,317	2,983,663	4·2	3·9

(a) Inclusive of the revenue of the previous year, viz., Rs. 2,46,713, derived from the system in the Trichinopoly district.

Under Major Works the area charged as irrigated was 114,509 acres less and the revenue derived Rs. 3,33,388 more than in the previous year. The decrease in the area occurred chiefly under the Gódávari and Kistna delta systems, owing to relinquishment of irrigation in consequence of enhancement of water-rate. The improvement under revenue represents the increase derived from the above systems owing to the enhancement of the water-rate from Rs. 4 to Rs. 5, and the increment of the settlement assessment of the Cauvery delta system falling due in the year.

10. The area irrigated and revenue derived from Minor Works were 71,163 acres and Rs. 1,58,781, respectively, more than in the previous year. There was a large decrease of Rs. 6,590 in the revenue derived from the Maradur anicut system, which was chiefly due to unusually heavy rain in December last, and consequent floods which silted up large areas of wet lands and necessitated the grant of remissions amounting to Rs. 6,160.

11. The following statement gives details of the average water-rate per acre for first and second crops under Major Works, excluding the areas irrigated free of charge:—

—	First crop.						Second crop.
	Government lands.		Zemindari lands.		Inam lands.		
	Wet crop.	Dry crop.	Wet crop.	Dry crop.	Wet crop.	Dry crop.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Gódávari delta	4·80	2·51	5 09	3·47	5·00	2·95	3·08
Kistna ,, ...	4·94	4·25	5·00	3·09	5·11	4·68	4·67
Pennéru anicut	4·52	2·93	..	..	4·00	3·21	2·71
Sangam ,, ...	4·58	3 20	..	..	4·00	3·20	2·87
Kurnool-Cuddapah canal	3 70	1·75	..	..	3·82	1·81	2·81
Barur tank	3·75	3·25	..	..	3·95	4·00	1·19
Cauvery delta	4·92	3·06	..	..	3·98	3·16	3·74
Srivaikuntam anicut	6·23	3 35	3·92	4·90	4·23	3·60	3·22
Rushikulya project	1·93	2·26	2·09	1·00	2·08	2·14	1·59

12. The area irrigated under first crop on Major Works was 2,159,135 acres and under second crop 243,944 acres, making a total of 2,403,079 acres. These figures are less than those shown in column 4 of the statement in paragraph 9, as the latter includes the extent of "waste charged."

Of the total area of 2,403,079 acres, 2,336,914 were irrigated by flow and 66,165 acres by lift, or about 97·25 per cent. and 2·75 per cent., respectively.

13. The following statement shows the details of the working expenses, including the old maintenance charges for each of the Major Works and for the Minor systems in the aggregate:—

Systems.	1895–96.					1894–95.
	New works and repairs.	Establishment.	Tools and plant.	Indirect charges.	Total.	Total.
Major Works.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Gódávari	2,49,046	3,34,130	43,455	29,481	6,56,112	6,48,501
Kistna	3,22,574	3,11,571	59,158	28,489	7,21,792	5,42,215
Pennéru	25,014	29,870	..	4,934	59,818	57,787
Sangam	43,394	37,466	..	3,928	84,788	72,209
Kurnool	72,423	31,883	1,074	3,930	1,09,310	1,09,680
Barur	2,075	1,595	..	173	3,843	4,862
Cauvery	80,564	3,32,696	1,416	39,564	4,54,240	4,52,354
Srivaikuntam	19,868	18,063	..	1,972	39,903	36,319
Rushikulya	20,781	6,708	3,554	675	31,718	15,666
Total, Major Works ..	8,35,739	11,03,982	1,08,657	1,18,146	21,61,524	19,39,593
Per acre irrigated	..	..	..	..	0·89	0·79
Minor Works and Irrigation ..	2,27,616	1,10,803	4,976	9,020	3,52,415	3,66,774
Grand Total ..	10,63,355	12,14,785	1,13,633	1,22,166	25,13,939	23,06,367

The cost of maintaining the Major Works during the year was 20·51 per cent. of the gross revenue derived from them against 19·00 per cent. in the previous year.

14. The charge for establishment in column 3 of the statement in the last paragraph is made up as follows:—

—		Major works.	Minor works and navigation.	Total.
		Rs.	Rs.	Rs.
Revenue management.	Direction and execution ..	6,08,569	12,477	6,21,046
	Collection charges ..	3,12,930	47,485	3,60,415
	Total ..	9,21,499	59,962	9,81,461
Maintenance of works		1,82,483	50,841	2,33,324
Grand Total ..		11,03,982	1,10,803	12,14,785

The cost of revenue management on major works was 8·7 per cent. of the gross revenue realized from them.

15. The report shows that there are now in actual operation 3,494 miles of canals, of which 990 miles are for irrigation and navigation, 2,200 miles for irrigation only, and 304 miles for navigation only. From the irrigation canals 6,792 miles of distributary channels are taken off. The total ultimate irrigable area under the canals is 3,153,666 acres, and the area irrigated during the year was 2,837,407 acres, the crops grown being valued at Rs. 6,15,35,310 or Rs. 53,65,474 less than in the previous year. The estimated outturn of the year compares with the corresponding figures of the previous year as shown below:—

	1895–96.	1894–95.
	Rs.	Rs.
Paddy	5,75,76,343	6,31,32,502
Ragi	3,32,816	4,07,319
Other crops	36,26,151	33,60,963
Total ...	6,15,35,310	6,69,00,784

16. The following table gives the details regarding navigation on the principal canals:—

—	Length of navigable canals.	Receipts.	Expenditure.	Value of goods.	Ton mileage.	Passengers.
	Miles.	Rs.	Rs.	Rs.		No.
Gódávari delta canals	493	87,043	77,270	2,24,77,993	7,535,231	241,150
Kistna delta canals	307	36,722	71,638	1,62,75,148	15,234,834	123,212
Kurnool-Cuddapah canal	190	1,302	10,791	3,51,563	148,638	33
Buckingham canal	232	1,08,382	62,059	2,57,97,068	28,375,467	101,262
Total for 1895–96 ..	1,252	2,33,449	2,21,758	6,49,01,772	51,294,170	465,657
Total for 1894–95 ..	1,252	2,50,355	2,19,169	5,31,20,783	50,678,811	467,806

17. The subjoined table gives details regarding works for which neither capital nor revenue accounts are kept:—

—	Area, first and second crops.	Irrigation revenue.	Rate per acre.	Outlay, direct and indirect, and collection charges.	Rate per acre.
	Acs.	Rs.	Rs.	Rs.	Rs.
I. Works under Public Works Department for which a continuous record of expenditure is kept individually	176,902	6,99,938	..	..	..
II. Other works under Public Works Department ..	1,405,833	40,81,061	..	..	..
III. Works under the Revenue Department	1,809,430	43,83,416	..	..	..
Total, 1895–96 ..	3,392,165	91,64,415	2·70	(a) 16,12,627	0·48
Total, 1894–95 ..	3,175,140	83,21,763	2·62	17,59,321	0·54

(a) Inclusive of Rs. 3,71,507, the outlay incurred by Civil Officers and not included in the accounts of the Examiner of Public Works Accounts.

The total area irrigated was made up of 2,538,935 acres of first crop and 853,230 acres of second crop, and the irrigation revenue was Rs. 8,42,652 more than in the previous year. The increase in revenue occurred in all the districts except Ganjám, Nellore, Kurnool and Trichinopoly. The decrease in the Ganjám district was small, that in Trichinopoly was due to the transfer of the irrigation under the Nandyar channel from "Minor works for which neither capital nor revenue accounts are kept" to Minor works for which such accounts are kept. The decrease in Nellore and Kurnool was due to the unfavourable character of the season.

18. The following statement exhibits the outlay on agricultural works :—

	Rs.	Rs.
Original works	1,11,292	
Repairs	3,13,998	
		4,25,290
Establishment		90,819
Tools and plant		6,108
Total ...		5,22,217

The receipts realized from the plantations along the river embankments amounted to Rs. 23,903 against Rs. 26,979 in the previous year.

19. Six investigating parties were employed on the Tank Restoration Scheme, the expenditure on which during and up to the end of the year was as follows :—

—	Expenditure during 1895–96.					Expenditure to end of 1895–96.
	Works.	Repairs.	Establishment.	Tools and plant.	Total.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Investigation	..	..	30,973	686	31,659	..
Execution	— 1,23,941	5,53,097	98,108	6,351	5,33,615	..
Total ..	— 1,23,941	5,53,097	1,29,081	7,037	5,65,274	..

Up to the end of the year 33,176 square miles had been completely investigated, and estimates for 4,662 works to the amount of Rs. 48,44,054 had been sanctioned.

20. The following figures relate to the discharge of some of the principal canals which are not supplied mostly from storage works, and the areas irrigated from them :—

—	Area actually irrigated, first crop.	Maximum discharge as designed.	Maximum discharge during the year.	Average discharge at head.	Acres irrigated per cubic foot per second of average discharge.
	ACRES.	CUBIC FEET.	CUBIC FEET.	CUBIC FEET.	FIRST CROP.
Gódávari	580,302	*8,516	13,176	6,155	94·28
Kistna	500,196	8,126	Not known.	4,000	125·05
Pennéru	64,898	2,306	1,547	300	216·33
Sangam	70,928	4,800	4,550	550	128·96
Kurnool	25,804	1,468	945	513	50·30
Cauvery	858,349	Not known.	23,920	13,858	61·94

* Previous to the construction of the extra vents built in 1887–88 to the Dowlaishweram head sluice.

21. During the year the investigations required for the preparation of the completion estimates for the Cauvery delta system were commenced. The re-investigation of the Annumalanka project in the Gódávari Western division was also undertaken. Plans and estimates for the Atmakúru, Manchikallu and Jangamaheswarapuram projects in the Kistna Northern division were under preparation.

22. From local irrigation cess fund an outlay of Rs. 27,415 was incurred on improving and repairing the Cauvery channels in the Salem district, in clearing silt in the Utramerur channel in the Chingleput district, and in improving the Ponneri No. 1 branch channel in the Trichinopoly district.

23. A sum of Rs. 10,235 was also spent on irrigation works in the estates under the Court of Wards.

24. A descriptive note on the Sangam anicut system illustrated by photographic prints and the annual diagrams of the principal rivers connected with Major works have been appended to the report.

25. Ordered that forty copies of the Administration Report and of these Proceedings be forwarded to the Government of India.

[Here enter No. 1033 I., dated 5th December 1896.]

(True Extract.)

(Signed) W. HUGHES,
Joint Secy. to Government,
Irrigation Branch.

To the Chief Engineer for Irrigation.
„ all Superintending Engineers.
„ the Consulting Engineer for Railways.
„ the Examiner, Public Works Accounts.
„ the Revenue Department.
„ the Public Department.

Endorsement—No. 1033 I., dated 5th December 1896.

Forwarded.

(By order.)

Joint Secretary to Government,
Irrigation Branch.

Exd. C. Rajagopal.

Print emergents

Public Works (1896) Department.

CURRENT No. 11031

11

Order

From The Chief Engineer for Irrigation

No. 216 I

Dated 1st December 1896

Received 4.12.96

Enclosures 1 (not read) 4.12.96

Spare copies

SUBJECT.

Administration Report of the P. W. D. Irrigation Branch for 1895-96. Notes submitting — with the remark that the submission of the report was delayed owing to the late receipt of the final accounts of the Examiner of P. W. Accounts.

H.C. P.W.S.
The report is under going correction & will be handed over to you in the course of the day. Please have the P.W.S. urgently printed & issued
10/12
4/12

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

Special

No 216 I

18

ADMINISTRATION REPORT OF THE P.W.D. IRRIGATION BRANCH :-

FOR 1895 - 1896.

Submitted to Government.

D&H 2.1296

2. The submission of the report, which was due with ---

the Government of India on the 30th November 1896, was unvoid-

-ably delayed owing to the late receipt of the final accounts

of the Examiner P.W. Accounts, which reached this Office only--

on the 21st Idem.

H Thiem 1/12

For Chief Engineer for Irrigation .

Chepauk

1st December 1896.

To,

The Joint Secretary to Govt: P.W.D. Irrigation Branch.

1cls 1/12

No 1032 Irg 5.12.96 P.W. Dept
Order Nil

HE
The Hon'ble Min
The Hon'ble Mr Pos...
30 NOV 1996

Special

A.S.H
2.12.96

BS
3/12/96

JS
3/12/96

Issue

4/12/96

D.I.

3-12-96

The report deals with 10 "Major works" & 26 "Minor works" for which Capital & Revn accounts are kept, & numerous other irrigation & agricultural works individually small, for which such accounts are not kept. Nine of the "Major works" are classed as productive, & one, the Rushikulya Project, as protective. All the "Major works" except the Periyar Project were in operation & the construction estimates of seven of these have been closed.

2. Of the 26 "Minor works" 22 are irrigation systems & 4 are tidal

canals intended for purely navigation purposes. With the exception of the Munnyeru, Dondapad & Saglern Projects & the Ganjam - Gopalpore tidal canal, the whole of the above are in operation, & of these the construction estimates have been closed except in the following three cases: the Buckingham Canal, the Poiney & Lower Coleroon anicut systems.

3. The capital outlay incurred on the Major & Minor works during & upto the end of 1895-96 was as follows:—

	Number of Works	During the year 1895-96. Works	Establishment	Tools & Plant	Less Recd. on Capital Account	Total direct charges	Indirect charges	Total direct & indirect charges	Total direct & indirect charges to end of 1895-96.
1	2	3	4	5	6	7	8	9	10
		Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs
Major Works.									
Protective Irrigation Works (account head 35).	1	1,92,432	38,392	-3,595	752	2,26,477	27,727	2,54,204	42,65,088
Irrigation Works not charged to Rev. (account head 49)	9	10,69,393	2,38,789	36,915	2,389	13,42,708	45,965	13,88,673	64,44,822
Minor Works & Navigation Works for which Capital & Rev. Accounts are kept (account head 43)	[a] 24	4,88,422	1,05,908	11,564	1,392	6,04,502	25,739	6,30,241	16,68,830

[a] Exclusive of the Ganjam Minor Works System & the Vedaranniem Canal for which complete capital accounts upto end of 1895-96 have not yet been prepared.

4. Under Major works, the capital outlay was incurred chiefly on the Kistna delta, Periyar & Rushikulya systems.

On the Kistna delta system the capital outlay during the year amounted to Rs 5,56,299, including indirect charges, & was incurred

canals intended for

on various improvements to headworks, canals, distributaries & drains. The piers of the new head sluice intended to replace the existing head sluice at Sitanagaram which was badly cracked were built up to springing level.

The capital outlay on the Periyar system was Rs 7,51,403, including indirect charges. The main dam was completed with the exception of the tower on the right flank. The water-shed tunnel & the left bank escape were also finished. In the Madura division 108 miles of main & branch Canals ~~170 5/4 miles of~~ distributaries were completed to the end of the year under review.

The Periyar works were formally opened on the 10th Oct/95 by His Excellency Lord Wenlock, G.C.I.E., late Governor of Madras, but as the supply was not ~~there was no irrigation~~ maintained continuously no ~~under the project during~~ revenue has been credited to ~~the~~ the Project.

The capital outlay on the Rushikulya system was Rs 2,54,204, including indirect charges. The progress of work was satisfactory, the Russel-Konda Reservoir together with its feeder — the Gulleri channel — the incomplete works of the Rushikulya Canal & most of the distributaries having been completed.

Under Minor Works, the principal outlay was incurred on the Munnyeru & Sagileru projects & the Buckingham Canal.

On the Mannyaru project the capital outlay was Rs 122,132 including indirect charges. The anicut & under sluices were completed, the main channel, the head sluice & several other masonry works were in progress.

On the Sagilem project the capital outlay was Rs 131,226 including indirect charges. The anicut, head & scouring sluices & the supply channel & several minor masonry works were in progress.

On the Buckingham Canal, the capital outlay was Rs 2,03,687 including indirect charges. Seven locks were completed & six locks & some improvements & diversions were in progress.

the yr under review.

5. The following statement shows the revenue receipts & working expenses of each work in operation for which capital & revenue accounts are kept:—

Systems	Capital outlay	Gross revenue 1895-96	
		Irrigation revenue	Miscellaneous receipts
2	3	4	5
Major Works.	Rs	Rs	Rs
Godavari	128.30331	25.96077	109.978
Kistna	121.81.403	22.38791	54279
Pennes	18.89.733	284906	709
Sangam	38.10.415	330586	443
Kurnool	217.00.530	1.31.112	8.619
Barur	4.23.461	11.052	39
Cauvery	18.11.489	4545893	2524
Trionikenkaun	1462798	1.58.543	1.110
Rushikulya	42.65088	63.567	533
Total Major Works, 1895-96	603.75.268	103.60.527	1.78.234
Total for 1894-95	594.83.794	100.27.139	1.94.183
Minor Works.			
I. Irrigation.			
Gunjam minor rivers	..	128.166	..
Cumbum tank	62.271	41.433	..
Madupalli channel	1.11.570	1.05.482	89
Arkenkota do	102.964	27.773	6
Kalingroyen do	60278	1.05.514	157
Palar Anicut	20.55.988	282334	2.062
Poiney do	231.779	86.363	226
Cheyaru do	400147	94133	258
Chembrambakam tank	744038	36791	140
Madras water supply	17.54.045	20982	10.103
Valluru Anicut	63805	9448	21
Tirukkoyilur do	254470	95.103	378
Mehnathur do	71.047	14843	47
Vriddachalam do	49737	23.707	130
Shatiabpu do	1.37.579	125.429	215
Pelandorai do	453.931	32.929	105
Lower Coleroon do	6.12.531	442.378	994
Nandyar channel	50.254	15.550	..
Maradur anicut	43.549	179.300	197
Total, I. Irrigation	72.59.983	18.67.658	15.128
II. Navigation			
Chilka lake canal	31.027	-	-
Buckingham do	8683.601	.	108374
Vedaranium do	-	-	1136
Gunjam-Gopalpore do	155.493	-	.
Total, II Navigation	88.70.121	.	1.09510
Total Minor Works 1895-96	161.30.104	1867.658	1.24.638
Total for 1894-95	157.72.920	17.08.877	1.29.022

Inclusive of the revenue of the previous year, viz Rs 24,673, derived from the system in the Trichinopoly District.

Receipts	Working Expenses			Net actual revenue	Deduct receipts less maintenance charges on account of old irrigation	Net revenue attributable to outlay of Govt Capital	Percentage of return
Total	Direct	Indirect	Total				
6	7	8	9	10	11	12	13
Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs
2706.053	626631	29481	656112	2049943	1.15.500	1934443	15.08
2293070	693303	28489	721792	1571278	66.100	1505178	12.36
285615	54884	4934	59818	225797	87000	138797	7.34
331029	80860	3928	84788	246241	1.14000	132241	3.47
139731	105380	3930	109310	30421	.	30421	0.14
11091	3670	173	3843	7248	1850	5398	1.27
4548.417	414676	39564	454240	4094177	3166760	927417	51.19
159.653	37931	1972	39903	119750	66.500	53250	3.64
64100	31043	675	31718	32382	25816	6566	0.15
10538761	2048378	113146	2161524	8377237	3643526	4733711	7.84
10221322	1828484	111109	1939593	8281729	3757522	4524207	7.61
128166	2921	33	2954	125212	95249	29963	..
41433	1470	24	1494	39939	30001	9938	15.95
105571	5005	92	5097	100474	76063	24411	21.87
27779	1943	38	1981	25798	18943	6855	6.65
105671	5118	103	5221	100450	84963	15487	25.69
284396	55749	1194	56943	227453	121100	106353	5.17
86589	25440	736	26176	60413	40514	19899	8.58
94391	30503	736	31239	63152	44391	18761	4.68
36931	4407	90	4497	32434	9100	23334	3.13
31085	6284	266	6550	24535	6200	18335	1.04
9469	699	13	712	8757	5259	3498	5.48
95481	20018	482	20500	74981	59914	15067	5.92
14890	4730	120	4850	10040	2089	7951	11.19
23837	6379	148	6527	17310	8400	8910	17.91
125644	16164	288	16452	109192	20999	88193	64.10
33034	5990	118	6108	26926	2850	24076	5.30
443372	33260	489	33749	409623	149424	260199	42.47
15550	622	6	628	14922	16345	-1423	- 2.83
179497	19543	424	19967	159530	110412	49118	112.78
1882786	246245	5400	251645	1631141	902216	728925	10.04
-	371	10	381	-381	.	-381	-1.22
108374	92537	3486	96023	12351	.	12351	0.14
1136	4227	124	4351	-3215	.	-3215	.
.	15	.	15	-15	.	-15	-0.009
109510	97150	3620	100770	8740	..	8740	
1992296	343395	9020	352415	1639881	902216	737665	4.57
1837899	355924	10850	366774	1471125	794739	676386	4.22

6. The net revenue derived from Major works was Rs 209,504 more than during the preceding year, the gross revenue collected & the working expenses being greater by Rs 317,439 & Rs 221,931 respectively. The increased net revenue secured on all systems except the Sangam & Srivaikuntam ancient systems. The bulk of the increase of Rs 179,577 in working expenses was incurred on the Kistna delta system which is chiefly due to the very heavy expenditure necessitated in closing breaches caused by the cyclonic storm in Sept: 95. The percentage of net revenue

(2) Exclusive of the Revenue of the Periyar system in the Trichinopoly District.

on capital outlay was 7.84 in 1895-96 against 7.61 in the previous year. The interest charges during the year amounted to Rs 22,28,009 & up to the end of the year to Rs 4,01,47,363. The surplus revenue, after deducting the interest charges, was Rs 25,05,702 during the year & amounted to Rs 5,60,81,961 up to the end of the year.

7. On the Minor irrigation works for which capital & revenue accounts are kept the net revenue attributable to the outlay of Govt capital was Rs 57,094 more than during the previous year. There was a decrease in the working expenses of Rs 9,121. The percentage of net revenue

on capital outlay was 10.04 as against 9.45 in the previous year.

Of the four Minor navigation works the gross revenue derived from the Buckingham canal exceeded the working expenses by Rs 12,351 against Rs 7,891 in the preceding year, while the income derived from the remaining works was insufficient to cover the working expenses, the net loss being Rs 3,611 or Rs 275 more than in the previous year.

8. The total irrigation receipts from the Major works amounted to Rs 1,03,60,527 of which Rs 99,09,632 inclusive of the sum of Rs 2,46,713, the revenue of the previous year of the Cauvery delta system brought into the accounts of 1895-96, represented the share of land revenue due to irrigation & Rs 4,50,895 was the share of enhanced land revenue due to the improvements.

9. The following statement compares the irrigation receipts with the areas under first & second crops charged as irrigated:—

System	Revenue derived from irrigated lands		Area charged as irrigated		Rate per acre	
	1895-96	1894-95	1895-96	1894-95	1895-96	1894-95
	2	3	4	5	6	7
Major Works.	Rs	Rs	acs	acs	Rs	Rs
Godavari	25,96,077	25,04,022	683,126	759,513	3·8	3·3
Kistna	22,38,791	20,36,154	481,375	519,976	4·6	3·9
Pennar	2,84,906	2,83,118	70,128	70,559	4·0	4·0
Sangam	3,30,586	3,24,490	77,347	76,678	4·2	4·2
Kurnool	1,31,112	1,04,550	32,903	33,540	4·0	3·1
Berar	11,052	11,842	4,229	4,480	2·6	2·6
Cauvery	[a] 45,45,893	45,38,420	987,103	989,891	4·6	4·8
Sivaganga	1,58,543	1,77,383	33,962	38,573	4·6	4·6
Rushikulya	63,567	47,160	35,917	27,389	1·7	1·7
Total irrigation works not charged against Revenue	103,60,527	100,27,139	2,406,090	2,520,599	4·3	3·9
Minor Works.						
I. Irrigation. Total	18,67,658	17,08,877	534,227	463,064	3·5	3·7
Grand Total	122,28,185	117,36,016	2,940,317	2,983,663	4·2	3·9

[a] Inclusive of the revenue of the previous year, viz Rs 2,46,713, derived from the system in the Trichinopoly Dt.

Under Major works the area charged as irrigated was 114,609 acres less & the revenue derived Rs 2,33,388 more than in the previous year. The decrease in the area occurred chiefly under the Godavari & Kistna delta systems owing to relinquishment of irrigation in consequence of enhancement of water-rate. The improvement under revenue represents the increase derived from the above systems owing to the enhancement of the water-rate from Rs 4 to Rs 6 & the increment of the settlement assessment of the Cauvery delta system falling due in the year.

10. The area irrigated & revenue derived from Minor works were 71,163 acres & Rs 1,58,781, respectively more than in the previous year. There was a large decrease of Rs 6,570 in the revenue derived from the Maradur anicut system which was chiefly due to unusually heavy rain in Dec. last & consequent floods which silted up large areas of wetlands & necessitated the grant of remissions amtg. to Rs 6,160.

11. The following statement gives details of the average water-rate per acre for first & second crops under Major works, excluding the areas irrigated free of charge:—

	First Crop						Second crop
	Govt lands		Zamindari lands		Inam lands		
	Wet crop	Dry crop	Wet crop	Dry crop	Wet crop	Dry crop	
	Rs	Rs	Rs	Rs	Rs	Rs	Rs
Godavari delta	4·80 ✓	2·51 ✓	5·09 ✓	3·47 ✓	5·00 ✓	2·95 ✓	3·08 ✓
Kistna "	4·94 ✓	4·25 ✓	5·00 ✓	3·09 ✓	5·11 ✓	4·68 ✓	4·67 ✓
Penner anicut	4·52 ✓	2·93 ✓	"	"	4·00 ✓	3·21 ✓	2·71 ✓
Sangam	4·58 ✓	3·20 ✓	"	"	4·00 ✓	3·20 ✓	2·87 ✓
Kurnool-Cuddapah Canal	3·70 ✓	1·75 ✓	"	"	3·82 ✓	1·81 ✓	2·81 ✓
Barur tank	3·75 ✓	3·25 ✓	"	"	3·95 ✓	4·00 ✓	1·19 ✓
Cauvery delta	4·92 ✓	3·06 ✓	"	"	3·98 ✓	3·16 ✓	3·74 ✓
Srivaikuntham Anicut	6·23 ✓	3·35 ✓	3·92 ✓	4·90 ✓	4·23 ✓	3·60 ✓	3·22 ✓
Rushikulya project	1·93 ✓	2·26 ✓	2·09 ✓	1·00 ✓	2·08 ✓	2·14 ✓	1·59 ✓

12. The area irrigated under first crop on Major works was 2,157,135 acres & under second crop 243,944 acres, making a total of 2,403,079 acres. These figures are less than those in column 4 of the statement in paragraph 9, as the latter includes the extent of "waste charged". Of the total area of 2,403,079 acres, 2,336,914 were irrigated by flow & 66,165 acres by lift, or about 97.25 per cent & 2.75 per cent respectively.

13. The following statement shows the details of the working expenses, including the old maintenance charges for each of the Major works & for the Minor systems in the aggregate:—

Systems	1895-96					1894-95
	New Works & Repairs	Establishment	Tools & Plant	Indirect charges	Total	Total
	Rs	Rs	Rs	Rs	Rs	Rs
Major works.						
Godavari	2,49,046	3,34,130	43,455	29,481	6,56,112	6,48,501
Kistna	3,22,574	3,11,571	59,158	28,489	7,21,792	5,42,215
Penner.	25,014	29,870	"	4934	59,818	57,787
Sangam	43,394	37,466	"	3928	84,788	72,209
Kurnool	72,423	31,883	1074	3930	109,310	109,680
Barur	2,075	1595	"	173	3843	4862
Cauvery	80,564	3,32,696	1416	39,364	4,54,240	4,52,354
Srivaikuntham	19,868	18,063	"	1972	39,903	36,319
Rushikulya	20,781	6,708	3554	675	31,718	15,666
Total, Major works.	8,35,739	11,03,982	1,08,657	113,146	21,61,524	19,39,593
Per acre irrigated	"	"	"	"	0·89	0·79
Minor works & Navigation	2,27,616	1,10,803	4976	9020	3,52,415	3,66,774
Grand Total	10,63,355	12,14,785	113633	122166	25,13,939	23,06,367

The cost of maintaining the Major works

during the year was 20.67 per cent of the gross revenue derived from them against 19.00 per cent in the previous year.

14. The charge for establishment in column 3 of the statement in the last paragraph is made up as follows:—

		Major works	Minor work, navigation	Total
		Rs	Rs	Rs
Revenue management	Direction & executive	6,08,569	12,477	6,21,046
	Collection charges	3,12,930	47,485	3,60,415
Total		9,21,499	59,962	9,81,461
Maintenance of works		182,483	50,841	2,33,324
Grand Total		11,03,982	1,10,803	12,14,785

The cost of revenue management on Major works was 8.7 per cent of the gross revenue realised from them.

15. The report shows

of the

that there are now in actual operation 3,494 miles of canals, of which 990 miles are for irrigation & navigation, 2,200 miles for irrigation only & 304 miles for navigation only. From the irrigation canals 6,792 miles of distributary channels are taken off. The total ultimate irrigable area under the canals is 3,15,3666 acres, & the area irrigated during the year was 2,837,407 acres, the crops grown being valued at Rs 6,75,35,310 or Rs 53,65,474 less than in the previous year. The estimated outturn of the year compares with the corresponding figures of the previous year as shown below:—

	1895-96	1894-95
	Rs	Rs
Paddy	5,75,76,343	6,31,32,502
Ragi	3,32,816	4,07,319
Other crops	36,26,151	33,60,963
Total.	6,15,35,310	6,69,00,784

16. The following table gives the details regarding navigation on the principal canals:—

	Length of navigable canals	Receipts	Expenditure	Value of Goods	Ton miles	Passengers
	miles	Rs	Rs	Rs		
Godavari delta canals	493	87,043	77,270	2,24,77,993	73,35,231	241,150
Kistna delta canals	307	36,722	71,638	1,62,75,148	15,234,834	123,212
Kurnool-Cuddapah Canal	190	1302	10,791	3,51,563	148,638	33
Buckingham Canal	262	108,382	62,059	2,54,97,068	28,375,167	101,262
Total for 1895-96	1,252	2,33,449	2,21,758	6,49,01,772	51,294,170	465,657
Total for 1894-95	1,252	2,50,355	2,19,169	5,31,20,783	50,678,811	467,806

17. The subjoined table gives details regarding works for which either capital nor revenue accounts are kept:—

	Area first & second crops	Irrigation Revenue	Rate per acre	Outlay direct & indirect & collection charges	Rate per ac
	Acs	Rs	Rs	Rs	Rs
I. Works under Public Works Dept for which a continuous record of expenditure is kept individually	176,902	6,99,938	"	"	"
II. Other works under Public Works Dept	1,405,833	4,081,061	"	"	"
III. Works under the Revenue Dept.	1,809,430	4,383,416	"	"	"
Total, 1895-96	3,392,165	9,164,415	2·70	16,12,627 [a]	0·48
Total 1894-95	3,175,140	8,321,763	2·62	17,59,321	0·54

[a] Inclusive of Rs 371,507 the outlay incurred by Civil Officers but included in the accounts of the Examiner of P. W. A.

The total area irrigated was made up of 2,538,935 acres of first crop + 853,230 acres of second crop, & the irrigation revenue was Rs 8,42,652 more than in the previous year. The increase in revenue occurred in all the districts except Ganjam, Nellore, Kurnool & Trichinopoly. The decrease in the Ganjam district was small that in Trichinopoly was due to the transfer

dur- irrigation under
20- Pandyan channel
g- on "Minor Works for which
printed Capital and Rev.
Accounts are kept" to
Minor Works for which
such accounts are kept.
The decrease in Kurnool and Kurnool was due to
the unfavourable character
of the season.

18. The following statement exhibits the outlay on Agricultural Works:—

	Rs	Rs
Original works	1,11,292	
Repairs	3,13,998	4,25,290
Establishment		90,819
Tools & plant		6,108
Total		5,22,217

The receipts realized from the plantations along the river embankments amounted to Rs 23,903 against Rs 26,979 in the previous year.

19. Six investigating parties were employed

irrigated from them:—

	Area actually irrigated first crop	Maximum discharge as disposed	Maximum discharge during the year	Average discharge at head	Acres irrigated per cubic foot per second of average discharge
	Acs	cub ft	cub ft	cub ft	First crop
Godavari	580,302	+ 8,516	13,176	6,155	94·28
Kistna	500,196	8,126	Not known	4,000	125·05
Pennes	64,898	2,306	1,547	300	216·33
Sangam	70,928	4,800	4,550	550	128·96
Kurnool	25,806	1,468	945	513	50·30
Cauvery.	858,349	Not known	23,920	13,858	61·94

+ Previous to the construction of the extra vents built in 1887-88 to the Dowlaishweram head sluices.

21. During the year the investigations required for the preparation of the completion estimates for the Cauvery delta system were commenced. The re-investigation of the Annamalanka project in the Godavari Western Dn was also undertaken. Plans & estimates for the Atmakur, Manchikalla & Jangama-

on the Tank Restoration scheme, the expenditure on which during 1895-96 to the end of the year was as follows:—

	Expenditure during 1895-96					Expenditure to end of 1895-96
	Works	Repairs	Establishment	Tools & plant	Total	
	Rs	Rs	Rs	Rs	Rs	Rs
Investigation . .	-[illegible]	5[illegible]	30973	686	31659	
Execution . . .	-123941	553097	98108	6351	533615	
Total	-123941	553097	129081	7037	565274	

Up to the end of the year 33176 square miles had been completely investigated & estimates for 4,662 works to the amount of Rs 4,844,054 had been sanctioned.

20. The following figures relate to the discharge of some of the principal canals which are not supplied mostly from storage works, & the areas

Veeraraghavapuram project in the Kistna Northern Dt were under preparation.

22. From local irrigation cess fund an outlay of Rs 27,415 was incurred on improving & repairing the Cauvery channels in the Salem Dt; in clearing silt in the Uttramerur channel in the Chingleput Dt & in improving the Ponneri No 1 branch channel in the Tinnevelly Dt.

23. A sum of Rs 10,235 was also spent on irrigation works in the Estates under the Court of Wards.

24. A descriptive note on the Sangam Anicut System illustrated by photo. prints & the annual diagrams of the principal rivers connected with Major works have been appended

do report.

Ordered that
forty copies of the
Administration Report
of these Prov: be
forwarded to the Govt
of India.

WH.
21/11

21/11
96

No 1033 Dated 5-12-96

Endorsement:—

Forwarded.

D 23/11/97

VCH
15/XI