(1) பக்கங்களின் எண்ணிக்கை 56

(2) புதுக்கித் திருப்பிய நாள் 8/90

(3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம்

தமிழ்நாடு ஆவணக் காப்பகம்.

16

தமிழ்நாடு அரசு

P. W. D. துறை

அரசாணை எண்.
மு. கோப்புத் தாள் எண். 2798

அச்சகம்
பலவகை

நாள் : 24-10-1891 19

மடிக்கவோ கண்டபடி கையாளவோ கூடாது

28 Sheets 25+1 Statement 2 maps.

ஆவண. கா-1—18,006—15-6-87.

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CHIEF SECRETARY
7 SEP 91
GOVERNMENT OF MADRAS

ADMINISTRATION REPORT

OF THE

TRUSTEES OF THE MADRAS HARBOUR FOR THE YEAR 1890-91.

The Trustees have the honor to submit their report on the administration of the Madras Harbour Board for the official year 1890-91.

2. The Board consisted of the following ten members during this period.

Constitution of the Board during the year 1890-1891.

Elected by the Chamber of Commerce.
1. Honorable Mr. J. A. Boyson.
2. Mr. C. E. P. VansAgnew.
3. Mr. S. R. Turnbull; resigned in June, and was succeeded by Mr. C. Slater.

Elected by the Trades, Association.
1. Mr. C. Seton, proceeded to England in June, and was succeeded by Mr. W. H. Oakes, who vacated his seat in February 1891 on Mr. Seton's return.

Nominated by Government—

Officials.
1. Mr. Geo. McWatters, M.A., C.S.; proceeded to England in October 1890, and was succeeded, as Chairman, by Mr. Ware Austin, C.S.
2. Captain H. A. Street, H. M.'s I. M.
3. Major W. L. C. Baddeley, R.E.; resigned in February 1891.

Non-officials.
1. Mr. Cowasjee Eduljee Panday.
2. Mr. Mirza Mehdy Isphani.
3. M.R.Ry. M. Varadarajalu Chetty Garu.

Meetings held. Average attendance.

3. The Board held 26 ordinary regular fortnightly meetings during the year, being the minimum prescribed under the Act: also two special meetings in February under Section 37, to consider the Budget Estimates for the year 1891-92. The average attendance has been 8·6.

Opening Balance. Closing Balance. Investments.

4. The opening balance of 1890-91 was Rs. 7,87,035 and the accounts of the year under review closed with a total sum to the credit of the Trust of Rs. 10,60,174; of which Rs. 7,89,203 were invested in Government 4 per cent. paper of the nominal par value of Rs. 8,00,000, but worth on the 31st March, at the then current market rate Rs. 105/8, Rs. 8,44,000; or Rs. 54,797 more than the actual cost of purchase.

Contribution from Port Funds.

The above balance included a contribution from Port Funds of Rs. 2,62,000 as against Rs. 2,75,000 the previous year.

5. Other Receipts have been as follows :—

Increase of Receipts.

	1889-90. Rs. A. P.	1890-91. Rs. A. P.
Harbour Dues, Imports ...	2,07,098 14 7	2,41,441 0 6
Do. Exports ...	1,00,945 7 6	92,289 10 10
Godown rent	10,225 0 1	12,469 13 4
Ground rent	2,836 0 0	3,444 0 0
Rent of Trust's properties ...	2,945 11 1	2,186 2 5
Miscellaneous	2,695 10 8	1,398 13 8
Cranage	.....	63 10 6
	3,26,746 11 11	3,53,293 3 3
Interest on investments ...	37,272 13 2	34,676 15 9
Cash received which cannot be distributed under the above headings: the records having been burnt	.....	6,089 4 10
Porterage Receipts. Porterage	1,306 7 11	1,22,532 13 10
	3,55,326 1 0	5,16,592 5 8

Expenditure. Repayment of loan. Interest on loan. Excess of Income over Expenditure.

6. The total expenditure for the year—including Rs. 1,00,000 the annual instalment on account of repayment of loan to Government for construction advances, and Rs. 1,43,541-13-11, interest on the same account—amounted to Rs. 5,05,452-9-11; showing an excess of income over expenditure of Rs. 11,139-11-9.

Details of Receipts.

7. The following statement gives the details of receipts and expenditure as compared with the year 1889-90.

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COMPARATIVE STATEMENT OF RECEIPTS AND EXPENDITURE DURING THE YEARS 1889-90 AND 1890-91.

ITEMS.	1889-90.	1890-91.	Remarks.
	Rs.	Rs.	
RECEIPTS.			
Opening Balance	5,65,313	7,87,035	
Current Receipts—			
(a) Harbour Dues—Imports	2,07,099	2,41,441	
(b) Do. do. —Exports	1,00,945	92,290	
(c) Godown and Ground Rents	16,007	15,914	
(d) Miscellaneous	2,696	9,673	
(e) Interest on Balance invested in Govt. Securities	37,273	34,677	
(f) Contribution from Port Funds ...	2,75,000	2,62,000	
Cranage	...	64	
Porterage	1,306	1,22,533	
	6,40,326	7,78,592	
Grand Total ...	12,05,639	15,65,627	
EXPENDITURE.			
Salaries of Chairman and Secretary	12,510	12,790	
Fees to Trustees	9,180	6,600	
Establishments	43,243	31,159	
Overtime Fees	5,887	3,000	
Pier Cooly Bills	23,118	...	
Other Charges	12,765	12,435	
Contribution for Pensions	4,752	904	
Refunds	342	3,498	
Porterage	6,499	1,11,946	
	1,18,296	1,82,332	
Petty Construction and Repairs ... Works ...	17,173	16,159	
Repairs ...	62,531	61,206	
Tools and Plant ...	3,360	2,214	
	83,064	79,579	
Interest on Loans from Secretary of State ...	1,17,244	1,43,542	
Repayment of Loans from Secretary of State ...	1,00,000	1,00,000	
Total Expenditure ...	4,18,604	5,05,453	
Closing Balance ...	7,87,035	10,60,174	
Grand Total ...	12,05,639	15,65,627	

Comparison of Budget and Revised Estimates with Actuals.

8. The following table compares the Budget Estimates, with the Revised Estimates and the Actuals for the year.

Items.	Budget Estimate for 1890-91.	Revised Budget Estimate for 1890-91.	Actuals of 1890-91.	Plus or Minus.
	Rs.	Rs.	Rs.	Rs.
Revenue Account.				
Opening Balance	7,64,007	7,87,035		
Receipts.				
Contribution from Port Funds	2,62,000	2,62,000	2,62,000	
Beach Imports	88,000	1,00,000	1,41,287	+ 41,287
Pier Imports	88,000	90,000	1,00,154	+ 10,154
Beach Exports	34,000	34,000	33,435	— 565
Pier Exports	64,000	60,000	58,855	— 1,145
Ground Rent	2,500	2,500	3,444	+ 944
Godown Rent	9,000	9,000	12,470	+ 3,470
Penalties (Section 84)	...	...	...	...
Rent of Harbour Trust Properties	2,500	2,500	2,186	— 314
Miscellaneous	1,500	1,000	7,487	+ 6,487
Interest on Investments (Government Securities)	30,000	32,000	34,677	+ 2,677
Cranage	...	...	64	+ 64
Porterage Account	...	...	1,22,533	+1,22,533
Total	5,81,500	5,93,000	7,78,592	
Total including the opening Balance	13,45,507	13,80,035		
Charges.				
Refunds	400	1,000	3,498	+ 2,498
Interest (under Section 30)	1,43,600	1,43,542	1,43,542	...
Repayment of Loan for Construction of Harbour	1,00,000	1,00,000	1,00,000	...
Chairman's Salary	4,800	4,800	4,800	...
Secretary's Salary	8,150	7,990	7,990	...
Establishment.				
Office Establishment	31,000	28,000	26,290	— 1,710
Harbour Trust Properties Establishment	252	243	242	— 1
Contribution to Government for Pensions	1,030	1,000	904	— 96
Office Rent	1,800	1,800	1,800	...
Preventive Service	13,140	1,080	4,627	+ 3,547
do. Boat Establishment	1,224	1,224	...	...
Fees to Trustees	8,000	8,000	6,600	— 1,400
Contribution to Provident Fund	2,400	2,400	1,808	— 592
Contingencies.				
(*a*) Subject to Regular Audit—				
Postage Stamps	75	75	59	— 16
Receipt Stamps	175	175	204	+ 29
Telegrams	50	50	11	— 39
Furniture	200	200	1,945	+ 1,745
Fees for Audit	750	750	750	...
Law Charges	1,000	1,000	329	— 671
Pier Cooly Contractor's Bills	23,000	...	...	...
Stationery and Printing	1,500	2,000	3,007	+ 1,007
Advertisement Charges	500	800	296	— 504
Uniform to Peons Preventive Service, &c.	1,000	1,200	704	— 496
(*b*) Admissible without detailed audit Contingencies other than office—				
Fees to Establishment for working overtime on Sundays and Holidays	3,000	2,500	1,500	— 1,000
Fees to Preventive Service do. do.	2,800	3,000	1,500	— 1,500
Miscellaneous	3,000	3,000	1,522	— 1,478
Petty Constructions and Repairs.				
New Works	15,000	50,000	16,159	— 33,841
Repairs to Pier, Machinery, &c.	15,000	50,000	61,206	+ 11,206
Tools and Plant	5,000	5,000	2,214	— 2,786
Porterage	...	...	1,11,946	
	3,87,846	4,20,829	5,05,453	

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Increase of income.

9. With reference to the foregoing two statements it will be observed that the actual receipts estimated for were Rs. 74,559 in excess of the Budget Estimate and Rs. 63,059 above the Revised Estimate; to this must be added Rs. 1,22,533 receipts on account of Porterage, which includes the landing and removal by rail from the Board's premises of coal and other material for the Madras Railway, under an arrangement between the Agent of that Company and the Chairman, which received the approval of Government before the Board undertook the Porterage of all foreign cargo landed at the Port.

Records burnt.

It is impossible to give an exact comparison of receipts under each head of income, owing to the records of the Trust, having been burnt, consequently data for a short period is incomplete, and receipts to the extent of a little over Rs. 6,000 have therefore had to be classed as miscellaneous.

Increase of Imports and of work done at the Pier.

10. Imports have again considerably increased; this is due to a continuance of the arrival throughout the year of Railway material for the Villapuram Guntakal State Railway, and to large quantities of coal for the Railways and Gold Mines. Improved facilities upon the Pier have led to a continued advance in the quantity of cargo landed there.

Decrease of Exports.

11. Exports have fallen considerably, due to high and uncertain rates of exchange. The decrease has been general in nearly all articles of export; but is most marked in jaggery, cotton and ground-nuts.

Reduction in Expenditure.

12. The expenditure under all heads has been largely reduced: owing to the Board having undertaken the Porterage of cargo. The amount received under this head was Rs. 1,22,533, and the total expenditure Rs. 1,11,946, which includes payment to Staff of all wages, overtime fees and other charges fairly debitable to the Porterage account. The following statement gives details of the reduction of items in expenditure due to this cause, chief among which are, Establishment Rs. 2,784, Preventive Service Rs. 9,536, Overtime Rs. 4,498. With regard to the last named item it is to be noted that the staff have had to work much longer hours and upon all Sundays and holidays to cope with the work, and that therefore the gross charge for overtime has increased; but as this is directly due to the Porterage work overtime incurred on that account has

been so charged, and the debit to Revenue reduced by nearly Rs. 3,000 as compared with last year.

Item.	Actuals 1890-91.			Deducted and charged to Porterage Account.			Balance charged to Revenue.			Remarks.
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	
Establishment ...	29,073	15	3	2,784	0	0	26,289	15	3	
Preventive Service ...	13,027	10	11	8,400	0	0	4,627	10	11	
,, Boat Service ...	1,136	2	9	1,136	2	9	...	...	...	
Provident Fund ...	2,352	4	3	543	9	1	1,808	11	2	
Pensions ...	976	14	2	73	2	8	903	11	6	
Uniform ...	1,276	5	0	572	8	0	703	13	0	
Overtime Establishment ...	3,860	2	8	2,360	2	8	1,500	0	0	
,, Preventive Service ...	3,638	10	5	2,138	10	5	1,500	0	0	
Miscellaneous ...	2,182	13	11	1,181	3	11	1,001	10	0	

Saving effected in Cooly Contractors' charges on the Pier.

13. The most important saving is however in the heavy expenditure paid in past years to Contractors from Revenue funds for cooly labour upon the Pier. The amounts paid away last year aggregated Rs. 23,118; the corresponding charges have this year been Rs. 23,820, as follows :—

Pier bills up to end of	August	1890 ...	Rs.	11,800	4 6
,, for	September	,, ...	,,	1,941	11 10
,, ,,	October	,, ...	,,	2,159	10 0
,, ,,	November	,, ...	,,	1,593	5 0
,, ,,	December	,, ...	,,	1,306	3 8
,, ,,	January	1891 ...	,,	1,896	10 4
,, ,,	February	,, ...	,,	1,477	10 8
,, ,,	March	,, ...	,,	1,644	11 0

The whole of these amounts have during the past year been paid from the separate funds received by the Board from merchants as porterage charges. This is therefore a most important gain to the Trade of the Port, for it must be remembered that it is in such interest alone that the Board holds its funds.

Reduced cost of Establishment.

14. Referring to the remarks made in the Administration Report for 1889-90, para. 10, regarding the proportionate cost of Establishment as compared with Revenue : it is pleasing to note that

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a very great economy has been effected during the past year. Excluding Port fund contribution, and interest on Government Securities, the total Revenue collected under all heads amounts to Rs. 4,81,916: and the debit to Revenue on account of Establishment and Preventive Service has been reduced to Rs. 31,160; but for the purposes of comparison with the figures given last year it is necessary to deduct from the Revenue the receipts under Porterage account; and the net Revenue is thus reduced to Rs. 3,59,383 which compares as follows with previous years.

Percentage of Establishment to Revenue.

Date.	No. of officers employed.	Cost per annum.	Revenue collected.	Percentage of Establishment.
On 1st April 1884 ...	114	Rs. 27,864	Rs. 3,70,000	7·53
On 1st June 1886 ...	122	,, 32,052	,, 3,12,000	10·27
On 1st April 1889 ...	182	,, 46,608	,, 2,67,000	17·46
On 1st April 1890 ...	186	,, 43,243	,, 3,27,000	13·22
On 1st April 1891 ...	143	,, 31,160	,, 3,60,000	8·65

Taking Porterage collections and expenses of that establishment into account the result is as follows :—

	No. of officers employed.	Actual cost per annum.	Revenue collected.	Percentage of Establishment to Revenue.
1st April 1891...	224	Rs. 43,479	Rs. 4,81,916	9·02

Reduced by nearly half since 1889.

This proportion of Establishment to Revenue, whether regarded in reference to the gross or net results, must be considered very satisfactory; it has been practically reduced by half from what it was on the 1st April 1889, when Government in its order upon the accounts of the preceding year recorded the opinion that the Administration of the Harbour Trust was extravagant. It must however be remembered that the Trustees have had a difficult task to perform in bringing into existence anything like system and order within the arms of the Harbour. The Establishment made over to them in 1886 was admittedly inadequate, and order and system were conspicuous by their absence. Each firm had to scramble as against all others to push forward its landing and shipping operations by its own agency, with the result that the weaker went to the wall invariably. The Trustees could only make the best of existing circumstances, and gradually introduce such reforms as would tend to the benefit of the general trade of the Port, regardless of individual interests; and this could not have been done had not the firms interested been willing, as they have been, to abide by and support the action of their representatives upon the Board as elected by the Chamber of Commerce or Trades' Association: which two bodies—their proportionate representation upon the Trust having been finally settled and accepted—have worked

together harmoniously and efficiently, in the public interest, with the official and non-official members nominated by Government.

Transfer of Porterage to the Trust.

15. To explain the very satisfactory result of the Administration of the Board during the past year, it is necessary to enter somewhat in detail into the circumstances attending the transfer to the Board of the Porterage of all foreign cargo landed at the Port. A report has already been submitted to Government by the Trustees, when forwarding their Budget Estimate for 1891-92; but as observed by Government in its order thereon, details of Administration ought not to have been entered into in such connection. The object of the Board in doing so at that time, was to place Government in possession of as full information as possible up to date. These details must however now be again referred to.

Old System of Contracts.

16. When the Trust was constituted, the Board found two contractors handling the cargo landed at the port: one (*a*) dealt with Pier cargo only, and his responsibility ceased with respect to import cargo at the gates of the Custom House: the other (*b*) received all foreign goods landed on the Beach, conveyed them into the Custom House, and delivered therefrom all goods brought inside both from the Pier and Beach; (*a*) had been paid for work done on the Pier out of Harbour Funds under the control of the Marine Department, (*b*) was paid by merchants, at varying rates, under private contracts, for goods removed from the Beach, and for storage and delivery in and from the Custom House.

New Contract 1887—1890.

17. This dual system was a fruitful source of annoyance and loss to merchants, who found it very difficult to fix the responsibility for losses upon either one or the other. The Trustees therefore decided to give the work to one man: and tenders were called for, the lowest being accepted, so far as regards the work on the Pier, and the rates for porterage from the Beach, and delivery from the Custom House, were fixed by the Trustees in consultation with the members of the Chamber of Commerce, to whom a schedule prepared by the Board was submitted. The Chamber suggested various reductions, which were accepted by the Board: the schedule so amended was approved by Government, published in the Gazette, and still remains in force.

Expiration of Contract, March 1890.

18. The contract for the whole work was given for a period of three years, which expired on the 1st March 1890. The principle of having one party only to do the work gave satisfaction on the whole, and was an improvement upon the system previously in force: but it happened that the contractors were the Dubashes of one of the leading firms, and this led to a good deal of unpleasantness; so much so, that a reference to Government became necessary in connection

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with amended Bye-law No. 4 and the work entrusted to the contractor thereunder.

Fresh tenders invited.

19. Towards the expiration of the period fresh tenders were called for. The then contractors did not tender, and all other parties who did, and to whom it would have been possible to entrust the work, did so at considerably enhanced rates; while the objection to employing the Dubashes of any firm still remained, as it was practically only they who tendered such offers as could have been accepted.

Work organized departmentally.

20. The Board's Secretary under these circumstances offered to organise the work departmentally, and was directed by the Trustees to submit his proposals. This was done; they were approved, and it was decided that the Traffic Department should undertake the work at the rates paid to the old contractors.

And is successfully inaugurated.

21. Organised opposition of a formidable character was offered by the various Dubashes, and the greatest difficulty was experienced in carrying on the work at first. Owing however to the tact and energy displayed by the Board's Secretary, ably assisted by the Deputy Traffic Manager, all difficulties were speedily overcome, and it is [illegible] due to the Secretary that what might easily have been a *fiasco* turned out a most complete success. The Dubashes memorialised Government, and are now apparently awaiting its final decision as to whether the Trust is legally entitled to carry on the work or not.

System of payments of coolies' wages.

22. *Coolies' wages* are paid daily, the account being made up after each day's work, and the men are paid the same evening, with the exception of the Pier coolies who are paid next day: their account cannot be prepared the same day as they frequently work till midnight.

Scale of rates framed for cooly hire.

23. The scale of cooly hire has been, item by item, approved from time to time by the Chairman and has now been tabulated and printed. It is hung up in various places accessible to the coolies, so that each and every man may know what he should be paid for the work he does. The maistry of each gang receives daily a chit stating the work done by the gang, and the rate according to this schedule. The wages are then at once disbursed, and the chit becomes the voucher for the payment. In cases of full cargos of iron and coal the Porterage is generally given to a contractor, and the Chairman deals with each case as it arises; the rates paid are practically the same.

Petty Contracts.

Ample supply of coolies.

24. Insufficiency of coolies was an almost daily cause of complaint under all previous contracts and systems; and it is pleasing to note that no such complaints whatever are now received.

Provision for coolies' comfort.

25. Every consideration possible is shown for the personal comfort of the coolies; they have been provided with drinking water; latrines both on Pier and Beach, and are allowed a full hour for dinner in the middle of the day. They consequently work cheerfully, and this hour is by no means lost time.

Coolies' Provident Fund.

26. It has hitherto been the custom of Dubashes to make presents of cloths and rice, &c., during native feasts; this it was felt the Board could not continue; but three pies are added to every rupee paid in coolies' wages, and placed to a separate fund under the Chairman's control. From this fund coolies are paid 4 annas a day while incapacitated through any accident met with while on duty; grants of a few rupees at a time are also made on the occasion of domestic occurrences, births, marriages and deaths.

Claims for assistance enquired into by a Committee of coolies.

27. When any claim is made for assistance a Committee of maistries and coolies is summoned, and presided over by the native Assistant Traffic Manager; the justice of the claim is carefully enquired into, and the Committee make their recommendation, which is submitted to the Chairman for disposal.

It may be noted that the coolies jealously safe-guard the fund against improper claims; and invariably recommend the disallowance of any put forward for illegitimate connections.

The coolies appear to very greatly appreciate the benefits of this fund and also the prompt payment of their wages; a marked improvement has taken place in the class of men who work under the Trust, and it is satisfactory to note that they prefer provision being thus made for sickness, &c., to wasting money on tamashas at feast times.

The principle is capable of further extension in time, without additional expense to the Trust.

Reasons for the division of the staff between Traffic and Porterage work.

28. It should be observed that while on the one hand it is incumbent upon the Trustees to maintain an efficient staff to take a reliable tally of cargo and maintain an efficient discipline within their premises, and although an establishment sufficient for the busiest working day must at all times be maintained in readiness, still on the other hand the transfer of the porterage of cargo to the Board, has given the Board the opportunity of charging the salaries of certain individuals to this separate account on the following grounds:—

29. The elaborate system of check and tally in force is not primarily needed for the collection of Harbour Dues; but in the interests of the trade of the Port, in which the Trust itself has been constituted, and when it is now found by the practical experiment of a full year's work, that the separate charges paid by merchants for the porterage of cargo—in addition to Harbour Dues—is sufficient to maintain a staff capable of carrying out

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such duties as are needed in the interest of the individual merchants, it seems only equitable that this separate fund should be charged with the maintenance of the staff so employed, even although every individual is also needed to take a reliable tally, and to maintain discipline in the general interests confided to the Trust.

Efficiency and economy of the management.

30. To put it otherwise, the Board have hitherto had to maintain to take a tally, &c.,—which was also taken separately by the Contractors—a staff capable of coping with a heavy day's work without muddling it, while at other times they were comparatively idle, some individuals absolutely so. The Porterage work gives full occupation to the whole staff at all times; and in carrying out this work, the supervision and care of goods on behalf of merchants, as well as the statistics in connection with the receipt and delivery of cargo,—for the sake of which the Board had previously to maintain this staff,—are now more efficiently secured than before.

31. It therefore seems clear that if in doing the Porterage work, and paying the cost out of the separate charges received, the Trust can at the same time do away with the necessity of their previous expenditure from Harbour Dues Revenue for the same purpose, they are fully justified in electing to charge the Establishment, etc., to the funds received directly and specially for the performance of the work.

Additional income now needed.

32. The financial position of the Trust is now such that additional income is needed: this can be obtained in two ways (*a*) by securing the additional revenue on the Porterage and therewith reducing expenditure from Harbour Dues Funds, or (*b*) by increasing the Dues. The first alternative imposes no additional charge whatever upon the merchants of Madras: the second would do so in a direct manner, and would be most unpopular. The revenue from Porterage is realized without imposing any additional charges upon the Mercantile Community; while at the same time the service of the Port has been much improved.

Alternative means of obtaining extra revenue.

Reduction in expenditure.

33. Comparing the Revenue Account Expenditure during the current year with previous periods the following items show the most noticeable reduction:—

		1888-89.	1889-90.	1890-91.
Fees to Trustees ...	Rs.	13,740	9,180	6,600
Establishment ...	„	47,026	43,243	31,159
Overtime fees ...	„	6,273	5,887	3,000
Pier Cooly bills ...	„	19,345	23,118	Nil.
Uniform and Clothing	„	.....	998	704

Reduction in expenditure.

With regard to fees to Trustees the minimum number of meetings only have been held, and the attendance has been 1·4 below the full strength of the Board. This is due to the absence of one official Trustee on special duty for several months and to the departure of another for England. The Trustees elected by the Chamber of Commerce and Trades' Association and the Non-official Members appointed by Government have all attended nearly every meeting. The reductions in the cost of Establishment, Overtime fees, Uniform and Peons' clothing are all due to the economy effected through the Porterage Department as also is the large saving of over Rs. 23,000 pier cooly bills as explained in para. 13 supra.

Petty Construction and Repairs.

34. The actuals of expenditure upon Petty Construction and Repairs for the current year closely approximate the expenditure under these heads in the previous year.

The figures compare as follows :—

		1889-90.	1890-91.
New Works ...	...	Rs. 17,173	16,159
Repairs to Pier, &c.	...	„ 62,530	61,206
Tools and Plant ...	...	„ 3,360	2,214

The *New Works* referred to are further extensions of railway sidings within the arms of the Harbour, the commencement of another new Goods-shed, and of the addition of an upper storey to the Traffic Department Office, besides smaller items.

Future reduction in expenses

The expenditure under the head of *Repairs* has been chiefly in connection with the renewal of the beams, tie-bars, and deck of the iron screw pile pier. The work was practically completed before the close of the period under review, and the cost of repairs will for some years to come now probably consist chiefly of maintenance charges, merely, without any heavy items of expenditure.

Traffic work on Iron Pier.

35. The Traffic returns over the pier have been well maintained and the work thereon now proceeds with systematic order. The two Doty lights at the pier head have been of great assistance on many occasions when work after dark was necessary; the light they give is well suited for the purpose intended, and is very economical.

Board's Office destroyed by fire.

36. On the 14th October a fire occurred in the office premises rented by the Board, from the Trustees of Paichayappah Moodeliar's Charities. The fire was first discovered about 9 P.M. and was located in one of the rooms on the ground floor, which was in the occupation of the Board's Engineer, the whole floor being locked up. There were two watching peons upstairs but they knew nothing of the accident until called by the Police. The premises were completely gutted, the roof falling in about midnight. All records were burnt with the exception of the securities and contracts which were in the

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Secretary's Safe, these were all recovered though somewhat charred. Silver and Copper Coins to the value of Rs. 205-7-8 were also recovered from the Cashier's Safe, but Rs. 500 in notes received by him from the Board's Engineer and Rs. 20 notes received in payment of Harbour Dues after Banking hours were burnt. The Balances of Petty Cash and other small accounts in notes and coin were all recovered, though much scorched, from the Chief Accountant's Safe, which was fortunately built into the wall of the building. All other Cash received into Office up to 3 P.M. that day amounting to Rs. 7,127-6-0 had been sent to the Bank of Madras.

Records lost. Securities preserved.

All cash previously banked with the exception of a small amount.

A balance sheet had been prepared and closed for the half year ending 30th September, and this was very fortunately in circulation amongst the Trustees; there was therefore only a fortnight's accounts to rewrite; the amount of cash received during this period was at once ascertainable by reference to the Madras Bank; the difficulty was in allotting it to the proper heads of revenue; this has been done as far as possible, but there remains a balance paid into Bank of Rs. 6,089-4-10, the details of which as to whether paid as dues upon imports or exports or under what sub-head of either cannot be ascertained.

Balance Sheet up to 30th September preserved being in circulation to Trustees.

37. The Stationery received from the Stationery Department still in Stock at the time of the fire, was stored in a small dome-shaped Chamber, built by the Peninsular and Oriental Company many years since, as a strong room for the storage of specie. The entrance to this was secured by double teak-wood doors, the outer one only of which was burnt, and the Stationery within was absolutely uninjured.

Stock of stationery uninjured.

38. A temporary office was organised the following morning, and no delay or inconvenience was occasioned to the public.

Organization of temporary office.

39. The Board has provided New Office accommodation by building on top of the Traffic Department Office, at an estimated cost of a little over Rs. 8,000 by which Rs. 1,800 per annum hitherto paid as rent will in future be saved.

Erection of new office.

Saving of rent.

40. The only other expenses the Trust has been put to in connection with the fire has been an excess of expenditure over estimate to the extent of Rs. 1,007 for printing and replacing books burnt, and of Rs. 1,745 for new furniture. There will however be a further charge on the latter account during the year 1891-92. The Engineer has also spent about Rs. 600 in recovering stores from the ruins, chiefly iron work such as portions of cranes, the total value of which he estimates at Rs. 10,000.

Other expenses in connection with the fire.

41. Separate enquiries were held into the origin of the fire by the Deputy Commissioner of Police, and by a Committee of the Harbour Board, but the cause could not be ascertained.

Enquiries held as to origin of fire.

Scale of rates framed under Section 45, Act II of 1886.

42. Section 45 of Act II of 1886 directs that the Board shall frame a scale of rates to be levied on account of landing, shipping and other operations within the Trust's premises, and provides that until a scale of rates has been so framed under that section the scale in force when the Act came into operation shall be continued. This scale has therefore still remained in force; but in several details it is incomplete. The Trustees have during the period under review framed a complete scale under Section 45 preserving as far as convenient existing rates. The scale so framed has been submitted to Government and orders are awaited. The rates as finally approved by Government will become leviable by the Board on publication in the *Fort Saint George Gazette*.

Orders of Government are awaited.

Capital account

43. *Harbour Construction.*—During the course of the year the balance of the full amount sanctioned for the reconstruction of the Harbour under Schedule B. Act II of 1886 was drawn by the Trust, and the outstanding liabilities due to Government on the 1st April 1891 amounted to Rs. 42,54,242.

Payments in reduction of capital debt and the interest thereon.

44. The following payments have been made to Government in reduction of Capital Debt and for interest thereon:—

	Capital.	Interest at 4½ per cent.
April 1887	Rs. 1,00,000	Rs. 74,600
„ 1888	„ 1,00,000	„ 1,00,245
„ 1889	„ 1,00,000	„ 1,17,244
„ 1890	„ 1,00,000	„ 1,43,542

Further advances required and sanctioned.

45. To complete the Harbour with an Eastern Entrance according to the modified design adopted after the visit of Sir Alexander Rendel, it became necessary to submit to Government a supplementary estimate, amounting to Rs. 15,00,000; and this further advance has been sanctioned since the close of the year under review.

Erosion of the sea at Cassimode. Extra expenditure.

46. The erosion of the sea to the north of the Harbour at Cassimode has also necessiated a heavy additional outlay, and an estimate for Rs. 1,55,500, has been submitted to Government and approved.

Satisfactory progress made.

47. The progress made upon the construction of the Harbour has been very satisfactory, both pier heads having been reached; but after these two points were arrived at, the forward progress in lineal feet has been much slower, as the pier heads are wider, and founded deeper, than the ordinary section of the walls, and because the titan cranes are unsuited to the work, for being unable to reach across the greater width to set blocks, each titan has to be moved for each course, which is a difficult and tedious task, and takes a considerable time on each occasion, for in addition to the actual moving of the cranes the

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water ballast tanks have to be emptied before the moving is commenced, and pumped full again before block setting can be resumed. Additional delay has also been caused by the necessity of moving a large quantity of rubble base, to allow of the blocks being set deeper, it having already been made up to its full section required before the design was modified.

Plan of the Harbour annexed.

48. A Plan of the Harbour is annexed to the Engineer's report drawn to a scale of 500 feet to one inch; upon it is shown in neutral tint the progress of reconstruction up to the end of March 1890, and the work completed during the official year 1890-91 is shown in red.

Details of progress at North Arm.

49. From Mr. Pogson's report it will be observed the progress at the *North Arm* was very rapid until the pier head was reached: 56 courses were set in position in 112 working days, of which 76 were taken up in actually setting the blocks and 36 days were occupied with preparatory Divers' work to the base: 583 blocks have been set, 480 of which were in the ordinary 24 feet wide section, and 103 special blocks for the Pier head; the length of ordinary wall built has been 300 feet, the length the pier head has been advanced from the point where it commences to widen out and go deeper has been 37·5 feet, the total length advanced at the north arm has therefore been 337·5 feet, bringing the total length on the 31st March 1891 up to 3,617 feet from the point where concrete blockwork commences, begun in the year 1876.

Total length built.

Progress at South Arm.

50. At the *South Arm* the total number of courses set during the year was 11 in which were 201 blocks, the section on the 31st March having been widened to 38 feet founded at 34 feet below water level; this section is composed of 21 large blocks as against only 10 in the ordinary 24 foot section of the walls. The total number of days upon which work could be carried on at the South Pier Head was 112, of which only 34 days were occupied in setting the blocks and 78 days in removing rubble by Divers to prepare the foundation at the proper depths.

Total length built.

The total length of the pier head including the concrete mass in caisson is to be 269 feet, and on the 31st March, 75 feet had been completed, bringing the extreme length of the arm up to 3,775 feet.

Iron caisson for pier head.

The iron caisson was received in February and cost, delivered, Rupees 19,878.

Wave breaker protection.

51. The wave breaker protection of random blocks was continued at each arm prior to closing work for each monsoon, and there were deposited at the north arm 661 blocks, weighing 19,830 tons, which—as is the case with the rest of this screen along this arm—are deposited to a section of 28 feet wide only at the water level, instead of the full section of 40 feet, because the titan crane is unable to place

North Arm

Wave breaker protection, South arm.

them further out. At the south arm the section on the east wall is made up all along to the full width of 40 feet; the wave-breaker crane being in use there; during the year 134 blocks of 30 tons each were so placed outside the pier head, and were all that were needed to protect the comparatively short length built.

The wave breaker protection to the north arm will be made up to its full width as soon as possible after the new all-round titan crane indented for arrives.

Total expenditure upon reconstruction.

52. The total expenditure upon reconstruction up to the end of March 1891 amounted to Rs. 44,40,777; exclusive of the protective works in progress to the north of the Harbour.

Pallaveram quarries.

53. The outturn of stone from the Pallaveram quarries amounted to 74,161 tons; of which 41,168 tons were used in the rubble base, and 32,993 for blockmaking.

Excessive haulage charge made by the South Indian Railway Company.

54. In their report last year the Trustees referred to the excessive haulage charges made by the South Indian Railway upon stone carried from Pallaveram to the Beach; and Government ruled that the exorbitant rate of one anna per ton per mile should be reduced to 8·5 pies per ton as from 1st July 1890, to this the Railway Company has objected; but the Directors have intimated their willingness to accept the reduction from the 1st January 1891. The value of the stone and the charge for haulage during the past year compared as follows with the three preceding periods :—

	Value.	Haulage charges.
1887-88	Rs. 19,710	Rs. 40,453
1888-89	„ 19,924	„ 53,856
1889-90	„ 33,905	„ 64,962
1890-91	„ 40,891	„ 70,307

The reduction in the proportion of charges to value is due to the Trustees having purchased a narrow gauge Engine and placed it during the year on the quarry lines, thus reducing the haulage from 17 to 14 miles. The matter is still under the consideration of the Trustees, and Government will be again addressed on the subject.

Cement concrete blocks.

55. During the year 1,577 blocks were made, equal to 25,662 cubic yards of concrete; 5,044 tons of Portland cement packed in 28,245 casks were received from Home through the India office; 3,759 tons were used in blockmaking, and the balance in stock on the 31st March was 19,764 casks or 3,529 tons.

Rubble base.

56. The rubble base, inside the walls of the Harbour, has been protected during the period under review, by a continuance of Portland cement concrete pavement to a width 20 feet wide, 743 feet in length at the north arm and 722 feet at the south arm.

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Construction of drain near Fort St. George to carry off Municipal Sewage overflow.

57. During the course of the year complaints were received from the Military authorities regarding a very offensive accumulation of sewage from the Municipal drain immediately to the north-east of Fort St. George, and as the Harbour walls are the cause of erosion of sand to the north, and of the accretion to the south, Government ordered that the Trustees should provide for the removal of the nuisance; an open drain constructed of cement concrete has accordingly been made, at the expense of the Board, to carry off all storm-water overflow; and this has had the desired effect of entirely removing the stagnant pool of sewage which previously existed.

Nuisance removed.

Deputy Conservator's Report.

58. Annexed to the Deputy Conservator's Report is an interesting statement giving the number and tonnage of vessels which have entered the port during the past ten years 1881-91; from which it will be observed that there has been a steady increase in the number and tonnage of steamers, and a steady decrease in sailing vessels; and it is also to be noted that during the past year the number and tonnage of the steamers is the largest on record. In 1881-82 there were 345 mercantile steamers of a tonnage aggregating 540,005 tons net register which gives an average for each vessel of 1,565 tons: in 1890-91, the figures are 638 steamers of 994,891 tons, or an average of 1,559 tons each, just a little smaller than in the former period, which might seem to indicate that a smaller class of steamers now trade to this port: this, however, is not so, but is due to the British India Company having during the past year run a regular line of small steamers direct to Rangoon, which made frequent entries into the port, thereby increasing the numbers during the past two years, but reducing the average tonnage. The regular liners, and the home traders generally are much larger vessels than they were ten years ago, since which date the size has steadily increased from an individual maximum then of 4,900 tons gross register to over 6,000 tons now.

Increase in the number of Steamers.

Average size.

Increase in the size of steamers.

Harbour Masters have conducted their duties without accident.

59. It is most creditable to the Harbour Masters that notwithstanding the large increase in the number of steamers entering the Harbour, and consequently a much less space for each ship inside, they have piloted all, both in and out, without a single mishap or accident of any kind, and not only this but the manner in which the steamers are brought to an anchor and moored to the stern buoys, the very short time taken and the confined space in which such large vessels are turned, speaks well for their professional ability. In this connection it may also be mentioned that since the close of the official year under review a large sailing vessel of over 1,600 tons net register has been piloted into and out of the Harbour, under sail only, by Mr. Taylor, Acting Senior Harbour Master, and was made fast to the

Ship enters and leaves Harbour under sail only.

Advantages of Harbour available for sailing vessels.

mooring buoys without letting go any anchor, there being at the time of her entry five steamers moored inside the Harbour. This was not only a very smart piece of seamanship, but demonstrates in a practical and forcible manner that the advantages of the Harbour are available to sailing vessels as well as to steamers.

Deputy Traffic Manager's report.

60. Referring to the Deputy Traffic Manager's Report it will be observed that a much greater volume of work has been carried through in a very efficient and satisfactory manner; 1889-90 was up to that date the heaviest year's work on record, but the figures for 1890-91 are considerably higher, the net result being an increase in revenue as compared with last year of Rs. 32,636 and what is still more satisfactory an increase of Rs. 62,627 upon the average of the three preceding years. It is to be noted that the increase in Harbour Dues has taken place in imports, which show an advance of nearly Rs. 35,000, while on the other hand exports have decreased by Rs. 8,000. The additional revenue derived from imports is due to the continued arrival at the port during the year of State Railway material, and to larger imports of coal, chiefly for the Mysore Mines; the imports of fuel by both the Madras and South Indian Railway Companies being less than in 1889-90, while the increased importation by others is nearly 5,000 tons; also to the large increase in the import of iron which has risen by nearly 5,500 tons.

Increase of Imports.

Decrease of Exports.

Foreign cargo.

61. Among the items referred to in the detailed statements, the following other increases should be noted:—

From Foreign Ports.

	1889-90.	1890-91.
Beer, cases	5,564	6,606
,, Hhds.	3,649	8,217
Coal	.....	.....
Dynamite, cases	6,450	9,230
Gunpowder, packages... ...	962	1,746
Hardware do.	2,924	3,954
Kerosine oil, cases	248,505	345,000
Matches, cases...	4,928	7,916
Nails, kegs	4,409	13,287
Paper, bales	3,988	4,646
Steel hoop, bundles	.....	12,566
Sugar, bags	.....	2,250
Spelter, cakes	3,255	11,342
Tin plates, cases	3,771	4,994
Windows, glass, cases	5,158	8,297
Yellow metal, do.	2,722	4,309

Items of increased Imports.

Decrease.

Arrack, casks	773	346
Piece goods and Twist bales and cases.	97,383	82,640
Copper plates and tiles	5,012	1,594

Items of decreased Imports.

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Malt, bags	609	354
Machinery, tons	1,799	1,600
Oil and Turpentine, drums	8,863	6,942
Pig lead, pigs	2,647	1,420
Wine and Spirits, packages	50,111	43,745
Corrugated iron sheets	1,174	595

Foreign Cargo. Items of Imports showing decrease.

62. From the above it will be observed, that while the import of beer has largely increased, wines and spirits, arrack and hops all show a considerable falling off; dynamite shows a large and steady increase, having risen from 2,000 cases in 1887-88 to 9,230 cases in 1890-91. This increase, as in the case of coal, is due to the requirements of the Gold Mining Companies; gunpowder also is now much more largely imported for blasting purposes; and the import of kerosine oil has risen from 86,489 cases in 1887-88 to nearly three and a half lakhs of cases in 1890-91, the greater part of which has come from Batoum.

Increase of Beer. Decrease of Spirits. Increase of Dynamite. Increase of Gunpowder. Increase of Kerosine Oil.

63. With regard to the other items it may be remarked that the metal trades generally show a considerable advance. The sugar is Continental beet, and is a new item; piece goods and twist show a heavy falling off.

Increase of Metals. Importation of Beet-root sugar. Decline of Piece goods and Twist.

64. Statements II and III show a decrease all round in the material imported by both the Madras and South Indian Railways.

Decrease of Railway Imports.

65. Turning to the *Coasting Imports*, the most important item to be noted is the large increase in coal brought to this port—14,884 tons as against 186 the previous year; this came from Calcutta and is in addition to the increase noted in para. 60 as coming from Foreign ports. Gram and peas have increased from 191,357 bags in 1889-90 to 225,739 bags in 1890-91 and rice has risen from 69,446 bags to 223,751 bags.

Local Indian Trade. Items of increase.

66. In other items it may be observed that, as in Foreign imports, piece goods and twist have largely decreased, and metal has increased; while as compared with earlier years, sugar imported from the Coast appears to have been ousted by Continental beet.

Items of decrease.

67. Foreign exports show heavy decreases in all important items except skins, hides, and indigo, but even the last two are less than in the preceding year. The chief cause of the great reductions all round has been the uncertainty of exchange, which seems to have had a greater effect than the higher rate.

Foreign Exports, decrease.

68. The following are the principal items of decrease:—

Details of decrease.

	1889-90.	1890-91.
Chillies, bags	3,262	1,362
Cigars, cases...	1,423	942
Cotton, bales	101,837	77,922

		1889-90	1890-91
Foreign Exports : details of decrease.	Carpets, bales	725	524
	Ground-nuts, bags	206,096	190,320
	Jaggery, bags	111,032	34,135
	Rice, bags	65,475	2,050
	Seeds—coriander, bags	11,610	1,385
	Do. —gingelly and castor, bags	80,411	19,021
	Tamarind, bags	2,549	1,156
	Tea, cases	3,822	2,384
Foreign Exports Items of increase.	The following items show increases :—		
	Coffee, bags	15,515	22,708
	Cotton twist, bales	5,956	8,271
	Do. piece-goods, bales and cases ...	3419	5843
	Poonac, bags	15,187	26,134

All that can be remarked about these four items is that it has been a good period for coffee, and it is satisfactory to note the continued increase in the outturn of the various local cotton mills.

Local Indian Trade Exports.

69. The exports coastwise shows increases and decreases in similar items to foreign cargo, except that it is to be noted that the decrease in the foreign export of ground nuts is here recouped, and that double the quantity of oil-seeds exported last year has this year been shipped, principally to Calcutta.

Import and Storage of timber.

70. Imports of timber have increased. The place set apart for landing at Cassimode has to a great extent become useless for the purpose; indeed timber can only be landed there between the end of the old protective stone revetment and the commencement of the new one, while the space formerly used for the storage of timber has almost entirely been washed away by the sea. It has therefore been necessary to utilize the Harbour, and two steamers have during the course of the year discharged each a full cargo consisting of nearly 3,800 tons in all, while the British India and Asiatic steamers have been permitted to land inside also, whenever the Deputy Conservator considered that such could be done without risk to shipping.

Chairman Harbour Trust Board.

Secretary.

Madras, 28th August 1891.

To the Hon'ble J. F. PRICE, C.S.,
Chief Secy. to Govt. Marine Dept.

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MADRAS HARBOUR TRUST BOARD.

Statement of Receipts and Charges from 1st April 1890 to 31st March, 1891.

Charges.	Rs.	A.	P.	Rs.	A.	P.	Receipts.	Rs.	A.	P.	Rs.	A.	P.
Refunds	3,497	8	8				Opening Balance ...	.....	...	...	7,87,034	11	1
Interest (under Section 30)	1,43,541	13	11				Contribution from Port Funds ...	.....	...	...	2,62,000	0	0
Repayment of loan for construction of Harbour	1,00,000	0	0										
Chairman's Salary	4,800	0	0										
Secretary's Salary	7,990	0	0				Harbour Dues Collections.						
				2,59,829	6	7							
Establishment.							Beach Import ...	1,41,286	9	0			
Office Establishment	26,289	15	3				Pier do. ...	1,00,154	7	6			
Harbour Trust Properties Establishment ...	241	9	4				Beach Export ...	33,435	0	7			
Contribution to Government for pensions.	903	11	6				Pier do. ...	58,854	10	3			
Office Rent	1,800	0	0				Godown Rent ...	12,469	13	4			
Preventive Service	4,627	10	11				Ground do. ...	3,444	0	0			
Do. Boat-Establishment ...	...	...	...				Cranage ...	63	10	6			
Fees to Trustees	6,600	0	0								3,49,708	3	2
Contribution to Provident Fund ...	1,808	11	2										
				42,271	10	2	Miscellaneous.						
Contingencies.							Harbour Trust Properties Rent ...	2,186	2	5			
(a) Subject) to regular Audit.							Provisions ...	654	11	0			
Postage	59	6	6				Water collections ...	740	4	0			
Receipt Stamps	203	11	0				Sundries ...	3	14	8			
Telegrams	11	3	0								3,585	0	1
Furniture	1,945	6	6										
Fees for Audit	750	0	0				Interest realized on Government of India 4 per cent. Pro-notes				34,676	15	9
Law charges	328	12	0				Porterage				1,22,532	13	10
Stationery and Printing	3,006	11	6				Difference that cannot be credited under the appropriate heads for want of records				6,089	4	10
Advertisement charges	295	11	0										
Uniform to Preventive Service	703	13	0										
				7,304	10	6							
(b) Admissible without detailed Audit.													
Overtime Fees to Establishment ...	1,500	0	0										
Do. Preventive Service and Boatmen.	1,500	0	0										
Miscellaneous	1,001	10	0										
Value of Notes burnt on the night of 14th October 1880	520	0	0										
				4,521	10	0							
Petty Construction and Repairs.													
New works	16,159	2	7										
Repairs to Pier, Machinery, &c.... ...	61,205	11	10										
Tools and Plant	2,214	1	7										
				79,579	0	0							
Porterage...	.....	...	...	1,11,946	4	8							
Total Expenditure...	.....	...	...	5,05,452	9	11							
Closing Balance.													
Amount invested in Government of India Pro-notes for 8,00,000	7,89,202	8	10										
Cash in Bank of Madras	2,70,208	5	3										
General Cash in Office	263	8	9										
Contingent Cash	500	0	0										
				10,60,174	6	10							
				15,65,627	0	9					15,65,627	0	9

C. PINSENT,
Secretary.

H. E. HOPE-ROSS,
Chief Accountant,
Harbour Trust Board.

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MADRAS HARBOUR WORKS.

ADMINISTRATION REPORT FOR THE YEAR 1890-91.

The progress to be recorded in the reconstruction of the Madras Harbour during the Official year 1890-91, while not being in excess of the last year's record, is still none the less satisfactory.

2. The less rapid progress was anticipated in the construction of the wider walls, necessary in the Pier Heads, and provision has accordingly been made in the estimates; but it is hoped that as soon as the new All-Round-Titan crane can be brought into use, that much of the present delay will be saved. The unsuitability of the present cranes is evident from the fact that these cranes when setting the ordinary superstructure, were at times capable of adding a length of 12½ feet of finished superstructure in a working day during fair weather; but while setting the present deeper and wider section of wall in the Pier Heads, a possible progress, of only 6¼ feet has been recorded in four working days.

3. The Official year under review was one without any interruptions concerning design, consequently no time was lost; and the working year was therefore the total number of days upon which it was possible for the Divers to work below water, in preparing the rubble base.

4. From a careful record, throughout the year, of the state of the sea on such days, it shows that there were only 112 days when the sea was quiet enough to allow the rubble base to be prepared by Divers, or blocksetting to be attempted during the year; and upon 87 of these workable days, concrete blocks were set in the superstructure of the north and south piers.

5. **Plan of Harbour, &c.**—A plan of the Harbour to a scale of 500 feet=1 inch will be found attached at the end of this report, upon it is clearly shown in neutral tint, the state of the Harbour under reconstruction at the close of the last official year 1889-90.

6. The progress made at each arm during the year under review, together with all new works on shore, is shown in red upon the plan.

7. The contours are given at fathoms below Low Water Ordinary Spring Tides, reduced from the latest survey of the Madras roadstead.

8. **Inspection of Works.**—On the 17th February 1891, His Excellency Lord Wenlock, accompanied by the Chairman and Trustees of the Harbour Trust Board, officially inspected the progress to works, and Protective Works to the north of the Harbour; and on several other occasions the Chairman and Trustees inspected the works during construction.

9. **North Pier Superstructure.**—The progress made at the North Pier of the Harbour was rapid as long as construction was confined to the building of the ordinary 24 feet section of the superstructure, for the building of which, the present Titan cranes are well adapted; but from the time the Pier Head was commenced, progress was unavoidably slower.

10. 56 courses of blocks were set in position in 112 working days, of which 76 days were taken up in actually setting the blocks in position under water and 36 days went in making the beds, or levelling up, the rubble base foundation, by Divers.

11. This progress was the result of setting in position 583 blocks, 103 of which were special blocks of the North Pier Head, which wider portion of blockwork was commenced upon early in February 1891.

12. The length of the Pier built was therefore 300 lineal feet of the 24 foot-wall, which length completed the reconstruction of the North Pier outer straight, ordinary section of wall; and the remaining 37½ lineal feet of progress, was the Pier Head superstructure, to a wider and deeper section.

13. The total advance to the north arm during the year was therefore 337½ lineal feet, which brings the present termination of the North Pier up to 3616¾ feet from the commencement of the concrete blockwork, begun in the year 1876.

14. **Wavebreakers.**—The Wavebreaker protection to the North Pier was extended to the end of the completed superstructure, and to a section of 28 feet in width, east or seawards of the Pier. This screen of blocks, weighing 30 tons each; should be deposited to a width of 40 feet at a foot above high water level, but until the new All-round crane arrives, this protection must remain lighter than is specified in the sanctioned design: consequently only 661 wavebreaker blocks, equal to 19,830 tons of concrete were deposited, being all that the present Titan crane is capable of doing.

15. **Rubble Base.**—There were 11,321¼ tons of rubble stone deposited from boats, into the North Pier base or foundations to complete the required section of base, previous to placing the blocks thereon.

16. In addition to this quantity of stone, some of the old rubble foundation raised by the Grab Dredger from the South Pier rubble base, was transferred and deposited again at this Pier at the Pier Head, where extra rubble stone will be necessary.

17. **Apron or Protection to Rubble Base.**—The North Pier rubble base was paved or consolidated with Portland Cement concrete (in lieu of the proposal of concrete in bags by Mr. Parkes) for a length of 743 feet by a width of 20 feet from the pier, over which area was spread 825¼ cubic yards of concrete.

18. **Concrete Blockmaking.**—Owing to the large number of concrete blocks on hand, made last year; the work of blockmaking was only carried on at intervals, as space in the stacking grounds was made available, through the setting of the old stock of blocks.

19. Meanwhile the necessary Timber Block moulds were being made for the special shaped blocks required in the two pier heads, and by being able to stay the work and make only a few of the special shaped blocks at a time, considerable saving in the outlay upon block moulds, was made.

20. Under this arrangement 1577 blocks were made during the year, which represents an outturn of 25,662 cubic yards of concrete, 631 of these blocks were the ordinary 30-ton wavebreaker blocks, 124 were superstructure blocks for completing the 24 foot section of wall, and 822 were special shaped blocks for the north and south Pier Heads, which required very careful supervision in making, so as to ensure the construction of a regular curve which necessitates a wind or twist, in each block.

21. **Supply of Portland Cement.**—5,043½ tons or 28,245 casks of Portland cement was received on the works during the year, all of which was from England delivered through the India Office.

22. Each consignment was tested on arrival in India under the recognized cement tests, and found to be suitable and in accordance with the specification of the works.

23. In blockmaking 3,758½ tons of cement was consumed, and 278½ tons was used for other works in connection with reconstruction proper.

24. 101½ tons of cement was used for outside works such as the extension of the Municipal Drain, North of Fort St. George, the building of goods sheds, and the upper storey to the Harbour Trust Board's offices.

25. The total consumption of Portland cement was therefore 4,138¼ tons, leaving a balance on hand on the 31st March 1891, of 19,764 casks or 3,529 tons of cement inclusive of the balance in stock at the close of the last official year.

26. **Pallavaram Quarries.**—The total quantity of materials required from the Pallavaram quarries was again in excess of last year's outturn; and it was with difficulty the Contractor met the extra demand owing to the scarcity of water, for quarrying purposes.

27. The outturn during the year was 74,161 tons of stone, and this quantity was brought to Madras in 12,075 South Indian Railway waggons, of this quantity 41,167¾ tons was stone for the rubble base and Protective Works north of the Harbour, and 32,993¼ tons was specially blasted stone into chips for blockmaking.

28. The Quarry Railway lines were maintained in excellent order, with the result that there were no derailments throughout the year.

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29. **South Pier Superstructure.**—The progress at the South Pier Head has no precedent for comparison, but considering the Titan crane is not suited for the wider section of blockwork, the progress of 68⅛ lineal feet made to the Pier Head superstructure, must be considered satisfactory.

30. The section of the superstructure at the commencement of the Pier Head was formed of 10 large blocks and was 24 feet wide and founded at 22 feet below water level.

31. The progress during the year has been to widen and deepen the blockwork from this point, until at the close of the year this section of blockwork reached 38 feet in width, and founded at 34 feet below water level. This wider section is composed of 21 large blocks instead of 10 as in the former work, and this increasing width of Pier, was a most difficult piece of work to build.

32. The total amount of work done at the South Pier Head, was the setting of 11 courses or 201 blocks, and these could only be worked at during 112 days in the year; 34 days were occupied in setting the blocks in position and 78 days in preparing the beds by Divers, and when this rate of progress is compared with that of the North Pier, it will be seen that the rate of progress at these Pier Heads will be about ⅓ the rate the ordinary superstructure took to construct with the present cranes.

33. The length of the Pier Head inclusive of caisson, is to be 268¾ feet; and at the close of the year, 75 feet had been completed, which brings the total length of this arm up to 3,775 feet from the 1st block set on shore. The completed length of the South Pier inclusive of Pier Head is to be 3,968¾ feet.

34. The Iron Caisson which is to form the solid mass of concrete at the end of the Pier Head, and upon which a lighthouse can eventually be erected, was received as indented for in February 1891, and cost Rs. 19,878.

35. **Wavebreaker.**—As the work closed, each season for the monsoons, the newly built length of superstructure was protected with wavebreaker blocks to a width of 40 feet from the Pier, by the wavebreaker crane depositing 134 blocks of 30 tons each.

36. **Rubble Base.**—The South Pier Rubble Base was deficient by 5,305¼ tons of rubble and this quantity was deposited by the special stone boats in use for receiving the surplus stone raised by the Priestman's Grab.

37. This new Grab was received in January, and with slight alterations was worked from the Titan Crane at the South Pier, where it considerably reduced the Diver's labor in excavating.

38. The surplus stone so raised was carried forward, and deposited, where more stone was required.

39. **Apron or Protection to Rubble Base.**—The South Pier Rubble Base was paved with concrete, along the inner face of the stone base, as at the North Pier, for a length of 722 feet by 20 feet wide, over which area was spread 802¼ cubic yards of concrete.

40. **Protective Works North of Harbour.**—Attached to this report is a separate plan showing the existing Protective Works in black, and the proposed new line of revetment sanctioned in G. O., No. 720 W., at a cost of Rs. 1,55,461-10-8 shown in red.

41. This work was in rapid progress at the close of the official year by which date 24,576¼ tons of large stone had been deposited along the line of revetment.

42. I may here mention that the erosion this year commenced earlier than usual, and there is no doubt that a more serious erosion would have taken place this year, had the present measures not been adopted in time.

43. **Summary of Progress.**—The following is a summary of the above details of the progress made throughout the works during the official year under review.

MADRAS HARBOUR WORKS.

STATEMENT SHOWING PROGRESS DURING OFFICIAL YEAR 1890-91.

No. of Items.	PARTICULARS AND QUANTITY OF WORK, &c. NOTE.—The figures in **red** denote for comparison, progress and quantity of work done in official year, 1889-90.	Sub Heads of work.	North Pier Rubble Base.	Do. Superstructure.	Do. Pier Head.	Do. Wavebreaker.	Do. Base Protection.	South Pier Rubble Base.	Do. Superstructure, Pier Head.	Do. Wavebreaker.	Do. Base Protection.	Pallavaram Quarries outturn.	Concrete Blockmaking.	Protective works.	Total Expenditure, 1890-1891.
1	Total quantity Rubble stone received on Works and deposited	Tons.	4,204 11,321¼	...	...	...	...	3,502½ 5,305½	...	...	...	19,695½ 41,167½	...	11 989½ 24,576¼	...
2	„ of Chips „ „ „		...	...	...	...	...	...	...	...	...	32,993¼	...	...	...
3	Concrete Blocks, set by Divers ...	Number.	...	726 480	103	.. 523	...	...	201	... 493	...	...	...	...	...
4	„ „ deposited in Wavebreaker ...	„	...	...	...	661	...	...	...	143	...	...	... 1,751	...	...
5	„ „ made for Superstructure (ordinary)..	„	...	...	...	...	...	...	..	...	...	...	124	...	...
6	„ „ „ „ Pier Heads...	„	...	...	...	...	...	...	...	...	...	...	822 1,284	...	...
7	„ „ „ „ Wavebreaker..	„	...	73	...	...	...	...	73	...	...	...	631	...	...
8	Wrought Iron Cramps fixed in position	„	...	54	31	...	...	...	25	...	...	...	...	..	...
9	Total outturn of concrete	Cub. yds.	...	...	...	...	825½	...	...	...	802¼	...	38,963 25,662	..	...
10	Advance or progress of completed Superstructure ...	Rg. ft.	...	454 300	37½	...	...	..	68½	...	...	...	...	...	...
11	Rubble Base protected with concrete	„	...	...	...	...	743	...	...	...	139 722	...	...	...	...
12	Expenditure under Sub-Heads of Work—Approximately—Rs...		10,732	48,132		4,672	5,347	2,714	45,172	7,857	5,617	1,10,855	2,93,600	27,192	5,61,890

28,245 Casks of Cement received on works in the year containing ... Tons. 5,043 cwt. 10 qrs. 2 lb. 27.

25

44. **Expenditure.**—The total outlay on the works during the past year, including the further expenditure on the Protective Works north of the Harbour, and new machinery required, has been Rs. 7,01,475 made up as follows:—

Outlay on Works ...	...	Rs. 5,61,491
„ „ Establishment	... ...	„ 58,134
„ „ Tools and Plant ...	...	„ 51,922
Total Rs.		6,66,547
Net debits to Suspense Heads	...	34,928
Net outlay in the year		Rs. 7,01,475

45. The total expenditure up to the end of the official year was Rs. 44,40,777, against the total estimated cost of Rs. 45,90,051.

46. A complete statement of the comparison of expenditure and quantities under each of the sub-heads will be found attached at the end of this report.

47. **Beach Improvements.**—In connection with the Beach Improvements, many alterations and additions were made in the accommodation, and machinery in connection with the working of the Traffic Department.

48. Of the hand-power cranes upon the Screw Pile Pier, and upon the beach, 7-¾ ton, 3-1½ ton, 3-2 ton, 1-5 ton and 1-10 ton cranes, were thoroughly overhauled and turned out equal to new; and the 2-2 ton Steam Cranes were kept in working order.

49. 23 of the Iron Pier traffic tracks were repaired, some having the timber work renewed throughout.

50. The Railway lines in connection with the Coal and Iron Yards on the Beach were maintained in good order and extensions, to the extent of 926 running feet of Broad Gauge lines, &c., was completed by the close of the year, and the whole structure is now rigid and equal to new.

51. **Iron Pier.**—The renewal of the Iron Screw File Pier decking, bracing and Railway was laid in addition to other alterations and renewals.

52. Several other works not in connection with the reconstruction of the Harbour were carried out departmentally in which were the—

53. Alterations and additions to the Biden Home, for the accommodation of the Harbour Masters.

54. The addition of an Upper Storey to the old Harbour Dues Office, as Offices for the Harbour Trust Board.

55. The erection of a fourth corrugated Iron Goods shed; and the work nearing completion, was the extension to the Municipal Drain north of Fort St. George and the erection of the fourth corrugated Iron Goods shed with an open platform.

A. LEE POGSON,
Engineer, Harbour Trust Board.

HARBOUR WORKS OFFICE,
MADRAS, *9th July*, 1891.

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MADRAS HARBOUR WORKS.

COMPARISON OF EXPENDITURE TO DATE WITH SANCTIONED ESTIMATE FOR THE YEAR 1890-91.

Sub-Head of Work.	As per Sanctioned Estimate.				As Executed.					Arrears not paid.	Grand Total as compared with Estimate.	Remarks.
	Quantity.	Rate.	Per.	Cost.	Quantity.	Rate.	Cost. Total up to 31st December 1884.	During the year.	Up to date			
1	2	3	4	5	6	7	8	9	10	11	12	13
		Rs. A. P.		Rs.			Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
As per Old Estimate.												
1 Works	.....	... ...	...	49,15,752	...	... ...	55,03,324 8 10	... ...	55,03,324 8 10	....	55,03,324 8 10	
2 Establishment	.....	... ...	...	3,57,612	..	... ...	5,29,904 0 0	.. ..	5,29,904 0 0	....	5,29,904 0 0	
3 Tools and Plant	.....	... ...	...	4,71,801	...	... ...	5,15,262 6 6	... ...	5,15,262 6 6	....	5,15,262 6 6	
Total ...	.....	... ...	...	57,45,165	...	... ...	65,54,490 14 16	... ...	65,54,490 14 16	....	65,54,490 14 16	
New Estimate.												
4 Alteration and extension of block ground ... Prely...	.....	... ...	...	8,000	...	... ...	... ...	... ...	5,882 3 5	9 13 6	5,892 0 11	
North Pier.												
Rubble Stone in Foreshore and Base.												
5 Ordinary deposited from break-water ... Tons	5,382	1 8 0	Ton	8,297	2,780	1 12 0	... ...	... ...	4,865 0 0	....	4,865 0 0	
6 Do. from boats ... ... ,,	1,82,260	2 0 0	,,	3,64,520	2,07,102½	2 0 8	... ...	29,340 2 1	4,46,271 9 5	6,533 6 0	4,52,804 9 5	
7 Large ordinary deposited under wave-breaker from break-water ... ... ,,	14,780	1 12 0	,,	25,812	11,149¼	1 12 0	... ...	... ...	19,512 9 0	....	19,512 9 0	
8 Concrete blocks for building ... C. yds.	58,816	9 0 0	C. yd.	5,28,544	46,227½	11 8 1	... ...	1,15,335 15 0	4,64,730 13 1	....	4,64,730 13 1	
9 Setting blocks at commencement of new work ,,	2,062	2 0 0	,,	4,124	2,215½	2 4 7	... ...	... ...	5,414 11 5	....	5,414 11 5	
10 Do. from 2,380 to 3,600 feet ... ,,	35,245	2 8 0	,,	88,112	36,446¾	2 15 6	... ...	41,402 13 1	1,08,813 14 8	....	1,08,813 14 8	
11 Do. at Pier head ... ... ,,	20,909	3 0 0	,,	62,727	1,335¾	6 4 8	... ...	44,095 14 0	4,927 14 0	5,704 5 4	3,492 3 4	
12 Concrete in mass for filling ... ... ,,	500	10 0 0	,,	5,000	263¾	4 8 5	... ...	... ...	1,188 9 7	... ...	3,188 0 7	
Wave Breaker.												
13 Built blocks ... ... C. yds.	288	10 0 0	C. yd.	2,880	288	9 8 7	... ...	... ...	2,892 0 0	... ...	2,892 0 0	
14 Ordinary concrete blocks ... ,,	70,849	9 0 0	,,	6,37,641	56,232⅝	10 15 1	... ...	1,49,277 0 0	6,04,383 10 8	... ...	6,04,383 10 8	
15 Depositing do. ... ... ,,	70,849	1 0 0	,,	70,849	55,869½	0 12 10	... ...	5,806 14 4	44,754 11 1	9 7 3	44,764 2 4	
16 Apron blocks ... ... ,,	1,067	9 0 0	,,	15,003	} 807½	7 14 8	... ...	6,178 14 7	6,178 14 7	188 8 0	6,367 6 7	
17 Setting do. ... ... ,,	1,067	4 0 0	,,	6,008								
18 Concrete in bags ... ... ,,	742	12 0 0	,,	8,904								
19 Cramps ... ... No.	330	10 0 0	Each	2,300	245	9 6 6	... ...	1,853 7 1	2,282 10 2	17 1 6	2,304 11 8	
20 Concrete capping ... ... C. yds.	22,400	10 0 0	C. yd.	2,24,000	497½	19 11 6	... ...	2,781 9 2	9,812 6 6	8 3 0	9,820 9 6	
Total for North Pier ...	.....	... ...	...	20,50,581	...	...	...	3,60,734 2 4	16,95,603 9 2	10,462 9 9	17,06,066 2 11	
South Pier.												
Rubble Stone in Foreshore and Base.												
21 Ordinary deposited from break-water ... Tons	675	1 8 0	Ton	1,013	...	... ...	... ...	... ...	... ...	... ...	...	
22 Do. from boats ... ,,	1,69,517	2 0 0	,,	3,39,034	1,70,774	2 9 3	... ...	10,575 3 2	4,35,359 2 1	5,094 11 7	4,40,454 13 11	
23 Large, deposited from break-water ,,	15,088	1 12 0	,,	26,317	8,814¾	3 12 0	... ...	... ...	15,975 13 0	... ...	15,975 13 0	
24 Concrete blocks for building ... C. yds.	52,153	8 0 0	C. yd.	4,69,377	36,035¾	10 15 11	... ...	97,967 0 4	3,96,834 15 7	....	3,96,834 15 7	
25 Setting blocks at commencement ... ,,	2,062	2 0 0	,,	4,124	2,536	3 1 6	... ...	... ...	7,911 13 8	....	7,911 13 8	
26 Do. from 2,550 to 3,700 feet ... ,,	29,262	2 8 0	,,	73,205	30,150½	3 7 11	... ...	2,732 12 0	1,05,463 9 4	....	1,05,463 9 4	
27 Do. at Pier head ... ,,	20,800	3 0 0	,,	62,427	3,330½	14 9 9	... ...	40,092 3 9	45,018 11 4	3,730 1 1	48,749 12 5	
28 Concrete in mass for filling ... ... ,,	600	10 0 0	,,	5,000	602	7 9 1	... ...	... ...	4,654 14 4	... ...	4,654 14 4	
Wave Breaker.												
29 Concrete Blocks ... ... C. yds.	57,066	9 0 0	C. yd.	5,13,594	37,044½	11 2 1	... ...	89,125 12 9	4,12,885 9 3	... ...	4,12,885 9 3	
30 Depositing blocks ... ... ,,	57,066	1 0 0	,,	57,066	37,520⅝	1 5 0	... ...	8,019 10 6	50,074 15 5	169 14 9	50,244 14 2	
31 Apron do. ... ... ,,	1,067	9 0 0	,,	15,003	} 956½	9 6 1	... ...	7,225 7 8	8,909 7 4	... ...	8,909 7 4	
32 Setting do. ... ... ,,	1,067	4 0 0	,,	6,008								
33 Concrete in bags ... ... ,,	742	12 0 0	,,	8,904								
34 Cramps ... ... No.	275	10 0 0	Each	2,750	186	11 13 2	... ...	1,002 0 11	2,187 6 4	... ...	2,187 6 4	
35 Concrete capping ... ... C. yds.	19,200	10 0 0	C. yd.	1,92,000	625½	21 2 4	... ...	1,972 14 6	13,322 13 5	16 6 8	13,339 5 1	
Total for South Pier ...	.....	... ...	...	17,76,482	...	...	...	1,40,403 3 10	14,96,556 3 2	9,011 3 2	15,05,567 6 4	
35a Extending the rubble revetment, &c., North of the Harbour	.....	... ...	...		3,745½	... ...	... ...	4 3 5	4 3 5	5,659 12 7	5,664 0 0	
36 Tools and Plant	.....	... ...	...	3,19,529	...	... ...	... ...	56,572 10 11	4,74,844 12 2	25,133 8 0	4,99,478 4 2	
				3,19,529	...	... ...	... ...	... ...	... ...	... ...	4,99,478 4 2	
37 Contingencies at 2½ per cent.	.....	... ...	...	1,03,873	...	... ...	... ...	7,791 2 10	79,253 0 7	9,477 1 2	* 88,710 1 9	
				1,03,865	...	... ...	... ...	... ...	... ...	... ...	88,710 1 9	
38 Lighting entrance	.....	... ...	...	20,000	...	... ...	... ...	... ...	... ...	... ...	... ...	
39 Establishment	.....	... ...	...	3,11,594	...	... ...	... ...	59,133 15 4	4,14,058 5 11	103 1 5	4,14,161 7 2	
				3,11,594	...	... ...	... ...	... ...	... ...	... ...	4,14,161 7 2	
40 Materials at site (concrete blocks in yards)... C. yds.	.....	... ...	...	...	19,436 7/16	13 9 2	... ...	14,024 13 9	2,53,088 11 9	19,605 3 7	2,53,693 15 4	
41 Advances to work-people	.....	... ...	...	...	...	... ...	... ...	... ...	4,970 14 5	... ...	4,970 14 5	
42 Other stores	.....	... ...	...	...	...	... ...	... ...	... ...	1,39,761 11 2	1,26,881 4 3	2,66,642 15 5	
43 Protective Works	.....	... ...	...	...	82,819½	... ...	... ...	33,590 8 6	64,589 7 1	2,254 6 6	66,843 13 7	
Total of Estimate and value of work done ...	.....	... ...	...	45,90,051	...	... ...	... ...	6,71,197 5 11	46,28,090 2 6	1,98,997 15 9	48,27,088 2 3	
Deduct Probable recoveries due to sales of Tools and Plant												
Total ...	.....	... ...	...	45,90,051	...	... ...	... ...	6,56,546 15 7	45,80,538 14 6	1,98,997 15 9	47,79,536 14 3	
Deduct Arrears due	.....	... ...	...	...	...	... ...	... ...	... ...	... ...	... ...	1,98,997 15 9	
Total Outlay to date by books...	.....	... ...	...	...	...	... ...	... ...	... ...	... ...	... ...	15,80,538 14 6	
Deduct Total Outlay to end of last year	.....	... ...	...	...	...	... ...	... ...	... ...	... ...	... ...	† 27,74,220 3 9	
Total ...	.....	... ...	...	...	...	... ...	... ...	... ...	... ...	... ...	8,96,308 10 0	
Deduct Value of Stock	.....	... ...	...	...	...	... ...	... ...	... ...	... ...	... ...	1,59,761 11 2	
Total ...	.....	... ...	...	...	...	... ...	... ...	... ...	... ...	... ...	† 6,66,546 15 7	
Add Net Debits to Suspense Heads during the year...	.....	... ...	...	...	...	... ...	... ...	... ...	... ...	... ...	34,927 12 6	
Net Debits of the year	.....	... ...	...	...	...	... ...	... ...	... ...	... ...	... ...	7,01,474 12 1	
Grant for 1890-91, Rupees 7,47,011	.....	... ...	...	...	...	... ...	... ...	... ...	... ...	... ...	...	

† Outlay on Works up to 31st March 1890 ... Rs. 27,74,220-3-9
Do. during the current year from 1st April 1890 to 31st March 1891 ... Rs. 6,66,546-15-7
Total Net Outlay up to 31st March 1891 ... Rs. 34,40,766-8-4

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MADRAS,
9th July 1891.

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* Includes Rs. 9,088-3-5 Harbour Works Contribution towards H. T. Board Provident Fund.

A. LEE POGSON,
Enigneer, Harbour Trust Board.

2298/15

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To

THE SECRETARY,

HARBOUR TRUST BOARD,

Madras.

SIR,

I have the honor to submit the following report on the working of the Traffic Department for the year 1890-91, together with a review of the work of the three preceeding years.

2. The year under report has been an exceptionally busy one, and the Revenue receipts compare favorably with previous years. Excluding contribution from Port Funds, interest realized on Government Pro-notes and Porterage receipts the estimated income and actual receipts during the past four years have been as follows, :—*viz.*:

	Estimated.			Actuals.		
	RS.	A.	P.	RS.	A.	P.
1890-91	2,99,000	0	0	3,59,382	8	1
1889-90..	3,06,200	0	0	3,26,746	11	11
1888-89...	2,73,350	0	0	2,66,966	13	2
1887-88...	2,96,300	0	0	2,96,583	10	11

The above figures show an increase of Rs. 32,635-12-2 as compared with 1889-90 of Rs. 92,415-10-11 as compared with the receipts of 1888-89, and of Rs. 62,798-13-2 as compared with those of 1887-88.

3. The following statement gives the sources of revenue from which the above amounts have been realized.

Current Receipts.	1887-88.			1888.89.			1889-90.			1890-1891.		
	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.
(a.) Harbour Dues, Imports	1,79,799	15	3	1,72,480	14	7	2,07,098	14	7	2,41,441	0	6
(b.) Do. Exports	93,145	10	2	78,568	1	7	1,00,945	7	6	92,289	10	10
(c.) Godown rent	13,530	10	10	8,574	5	1	10,225	0	1	12,469	13	4
(d.) Ground rent	3,609	2	5	2,773	4	6	2,836	0	0	3,444	0	0
(e.) Rent of Trust Properties	4,902	0	9	3,246	0	3	2,945	11	1	2,186	2	5
(f.) Miscellaneous	1,596	3	6	1,324	3	2	2,965	10	8	7,551	13	0
Total ...	2,96,583	10	11	2,66,966	13	2	3,26,746	11	11	3,59,382	8	1

(*a*). *Imports.*—The large increase of Rs. 68,960 above the receipts of 1888-89 and of Rs. 34,342 above the receipts of 1889-90 is due to the importation of large quantities of stores for the Villupuram, Dharmavaram and Guntakal State Railways, but owing to the loss of records by fire the exact sum levied on these stores cannot now be ascertained--14,522 tons of fuel landed in excess of 1889-90 accounts for Rs. 10,891 while the balance is due to ordinary increase in the trade of the Port.

(*b*). *Exports.*—The decrease of Rs. 8,656 under this head is due probably to the very uncertain rate of exchange prevailing during the greater part of the year.

(*c*). *Godown rent.*—The increase of Rs. 2,245 under this head is due to larger quantities of goods having been imported.

(*d*). *Ground rent.*—This increase is due to the large quantities of fuel imported which has almost fully occupied the available area for storage in the coal-yard.

(e). *Rent of Trust Properties at Cassemode.*—These rents are steadily decreasing owing to the erosion of the sea and as a long revetment is to be built to stop the annual erosion it is probable that the Cassiemode Timber Depôt will have to be abandoned as the foreshore is not suited for landing timber.

(f). *Miscellaneous.*—The large increase shown under this head is caused by the addition of the sum of Rs. 6,089 which, owing to loss of records cannot be apportioned under the proper heads.

4. The tonnage of goods landed and shipped at this Port is as follows, *viz.* :—

	1887-88.	1888-89.	1889-90.	1890-91.
	Rs.	Rs.	Rs.	Rs.
Pier Imports, Tons ...	86,258	85,133	88,419	100,154
Do. Exports „ ...	54,562	47,262	66,208	58,855
Total Tons...	140,820	132,395	154,627	159,009
Beach Imports, Tons	124,721	116,464	158,240	188,383
Do. Exports „	51,445	41,741	46,317	44,580
Total Tons...	176,166	158,205	204,557	232,963
Total Tonnage of Pier and Beach Tons...	316,986	290,600	359,184	391,972

5. *Coal and South Beach Railway Sidings.*—No additions have been made to these lines during the year except that a small loop-line connecting both the coal lines has been laid to facilitate the removal of coal. This was necessary as 14,522 tons of fuel in excess of the previous years' landing had to be handled.

6. There has been a very large increase during the year in the importation of fuel as the following statement will show :—

	1887-88.	1888-89.	1889-90.	1890-91
	Rs.	Rs.	Rs.	Rs.
Coal ...	10,000	21,645	23,970	41,888
Coke ...	608	997	645	1,389
Patent Fuel ...	4,884	6,443	9,753	5,613
Total Tons...	15,492	29,085	34,368	48,890

7. A steady revenue has been received as ground rent for the storage of coal on the coal yard during the past year as the space available for rental has been fully occupied during a large portion of the year. Should the import of fuel increase, it will be necessary to extend the coal yard so as to give the necessary accommodation, but as the Madras Railway Company are making enquiries for a large supply of Singareni coal, viâ Buckingham canal, it is probable that the importation by sea will decrease during the year 1891-92.

8. *Screw Pile Pier.*—The repairs of this Pier were completed during the year and the revenue derived from goods passing over it is still on the increase. Now that this structure is complete it is fully able to deal with all goods that Exporters and Importers wish to have handled at the Pier. The three sheds at the inner end of the Pier have been utilized fully and have been found of such service that a fourth shed has become necessary, and is in course of construction. These sheds are of great service to the trade of the Port.

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9. The following statement shows the revenue collected on goods passing over the Pier.

	1887-88.	1888-89.	1889-90.	1890-91.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Pier Imports ...	86,258 8 9	85,132 14 2	88,418 12 9	100,154 7 6
Pier Exports ...	54,561 8 9	47,261 11 3	66,207 15 1	58,854 10 3
Total ...	1,40,820 1 6	1,32,394 9 5	1,54,626 11 10	1,59,009 1 9

Porterage work.—During the year under report the whole of the foreign import cargo and all goods landed at, and shipped from, the Screw Pile Pier have been handled by the Porterage Department, with the result that a large saving in revenue expenditure has been effected and a considerable sum placed in the Bank of Madras to the credit of the Porterage account. In consequence of outstandings being due to the porterage account on bills prepared prior to the 31st of March and on large quantities of goods stored in the various yards and sheds for which application has not yet been made by consignees, and as certain amounts have yet to be disbursed as cooly-hire on goods not delivered to consignees, it is impossible to state exactly what has been the actual saving effected during the 13 months the Porterage Department has been working. The amount may, however, be taken as Rs. 56,762, as per following statement :—

Receipts.

Cash received during March 1890	...	...	...	Rs.	1,306
Do. do. 1890-91	...	...	...	„	1,22,533
Pier cooly bills paid from porterage account	...	...	...	„	23,820
Outstandings on 31st March 1891...	...	...	...	„	8,358
				Rs.	1,56,017

Expenditure.

Cash expended during March 1890	...	...	...	Rs.	6,498
Do. do. 1890-91	...	...	...	„	92,757
				Rs.	99,255
Balance or saving effected				Rs.	56,762

Great difficulty was experienced for several months from the opposition made by those parties who were formerly interested in this work, but steady and persistent determination on the part of the Traffic and Porterage Departments gradually overcame the difficulty by showing that the Trust really intended to do the work. Since then the work has gone on very satisfactorily as to the carrying on of the work of landing, shipping, and delivery of goods, while the financial results have proved most favorable.

The bringing of this work to such a successful issue has entailed a great strain on the whole of the Traffic Department, none of whom, with the exception of myself, the Assistant Traffic Manager, and Pier Traffic Overseer, have received any remuneration for the very heavy extra work thrown on them. A daily average attendance of about 600 coolies has been necessary, and these had to be supervised, and work apportioned for them, while a correct account has been kept of the work done daily by each cooly or gang, so that daily payments might be made, without which the men would not work, except under the old dubash system of advances.

A correct record of quantity and the marks and numbers of every package handled has been kept, together with notes of damage to any package during transit from the ship to shore. In fact every package handled has been followed from the ship's hold to the delivery gate of the Customs yards and notes taken of its condition by the various men it has passed. This has been done in the interests of the ship, landing contractor, consignee and Trust, so that any damage or loss might be at once fixed on the party liable. The result of this strict supervision has been that greater care is taken right through and less loss and damage occurs.

The Board's late contractors informed me that they paid from 12,000 to 13,000 rupees per annum for claims for loss and damage, but the claims paid by the Trust have been less than 3,500 rupees for 13 months' work, although a much heavier expenditure under this head was anticipated.

Appended are eight statements showing the quantities of goods landed at, or exported from, this Port during the past three years, viz. :—

Appendix I. Goods imported from foreign ports.
II. Stores imported by the Madras Railway Company.
III. Stores imported by the South Indian Railway Company.
IV. Goods imported from coast ports.
V. Goods exported to foreign ports.
VI. Goods exported to coast ports.
VII. Stores, &c., imported by Government.
VIII. Stores, &c., exported by Government.

I have the honor to be,

Sir,

Your most obedient servant,

TRAFFIC MANAGER'S OFFICE,
HARBOUR TRUST BOARD,
Madras, 15*th July* 1891.

S. HUTCHENCE,
Deputy Traffic Manager.

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I. STATEMENT OF GOODS IMPORTED FROM FOREIGN PORTS.

	Packages.	1887-88.	1888-89.	1889-90.	1890-91.	Remarks.
Apparel and Effects ...	Packages ...	1,579	1,368	1,217	851	
Alum	Barrels ...	424	496	504	1,233	
Asphalte, Tar, & Pitch.	Casks ...	2,296	2,797	3,133	3,623	
Acids	Cases ...	791	1,484	775	1,362	
Arms and Guns ...	,, ...	188	516	235	126	
Arrack	Casks ..	665	832	773	346	
Blankets	Bales ...	68	25	36	58	
Beef and Pork ...	Cases ...	1	2	.....	.....	
Bricks	100 ..	5 0	420	1,497	222	
Beer	Cases ...	7,658	6,697	5,664	6,606	
	Barrels ...	.....	2,160	935	110	
	Hogsheads ...	7,170	4,424	3,649	8,217	
Boiler ...	No. ...	45	33	19	32	
Corks	Bundles ...	181	191	133	88	
Canvas	Bales ...	334	140	77	244	
Candles	Cases ...	11,911	14,278	20,539	18,515	
Colours	,, ...	898	1,980	1,056	2,698	
Confectionery Provisions and Oilmanstores	,, ...	17,425	17,042	14,214	17,896	
Crockery and Glassware	Crates and Casks ...	2,990	2,942	3,018	4,099	
Chalk	Barrels ...	292	377	95	178	
Cement	Casks ...	6,742	17,203	8,868	7,049	
Cast Iron Tubes and Pipes	Tons ...	451	683	1,009	950	
	Tubs ...	2,615	2,675	1,560	1,556	
Camphor	Tons ...	6,054	13,773	11,992	16,688	
Coal, Coke and fuel ...	Cases ..	1,200	879	975	1,134	
Crackers	No. ...	3,883	498	5,012	1,594	
Copper Plates and Tiles	Packages ...	258	51	449	2,913	
Corrugated Iron ...						
Dynamite	Cases ...	2,000	4,998	6,450	9,230	
Earthenware ...	Crates ...	3,837	2,104	794	1,913	
Fire Clay	Casks ...	43	234	147	23	
Flour	Bags and Barrels. ...	785	483	675	367	
Flannel	Bales ...	56	74	23	58	
Gunpowder	Packages ...	700	476	962	1,746	
Harmonium ...	Cases ...	8	4	11	9	
Hardware	Cases and Casks. ..	7,670	4,247	2,924	3,954	
Hops	Packets ...	615	269	115	129	
Iron	Tons ...	19,902	17,771	12,762	18,138	
Iron Safes	No. ...	411	577	343	241	
Kerosine Oil	Cases ...	86,489	2,48,024	2 48,505	3,45,000	
Lime Water	,, ...	126	108	31	45	
Malt	Bags ...	61	565	609	354	
Millinery and Haberdashery ...	Cases ...	2,043	1,640	1,393	1,356	
Matches	,, ...	6,087	11,739	4,928	7,916	
Machinery	Tons ...	640	1,752	1,799	1,600	
Nails	Kegs ...	9,971	19,256	4,409	13,287	
Oil and Turpentine ...	Drums ...	3,963	6,984	8,863	6,942	
Piece Goods and Twists	Cases & Bales	76,522	1,05,495	97,383	82,649	
Paper	Bales ...	5,526	2,363	3,988	4,646	

STATEMENT OF GOODS IMPORTED FROM FOREIGN PARTS—concluded.

—	Packages.	1887-88.	1888-89.	1889-90.	1890-91.	Remarks.
Piano	No.	102	102	135	123	
Printing Types	Cases	419	330	348	263	
Pig Lead	No.	1,013	1,895	2,647	1,420	
Paint	Kegs	5,784	7,837	7,945	7,457	
Rattan	Bundles	4,945	949	6,527	883	
Soaps	Cases	1,544	2,075	2,191	1,996	
Salt	"	938	488	620	225	
Steel	Cases & Casks	...	921	3,577	874	
Steel Bundles and Bars	No.	...	...	...	5,746	
Steel Hoop	Bundles	...	...	...	12,566	
Shovels	"	34	173	13	747	
Sodawater Bottles	Crates	708	846	997	840	
Sulphur	Casks	425	825	831	633	
Shot	Kegs	306	220	348	240	
Sundries	Packages	34,366	32,262	39,934	48,364	
Specie	No.	1,877	1,330	1,541	1,115	
Sugar	Bags	...	...	...	2,250	
Slates and Pencils	Cases	303	1,389	645	1,101	
Spelter	Cakes	7,465	13,343	3,255	11,342	
Saw	Cases	49	34	7	68	
Twine and Rope	Bales & Coils	362	71	221	183	
Tin Plates	Boxes	3,611	4,194	3,771	4,994	
Wine and Spirits	Cases	38,227	45,173	46,479	40,857	
	Casks	...	2,094	3,240	2,739	
	Puncheons	2,195	256	392	149	
Window Glasses	Cases	4,498	1,987	5,158	8,297	
White and Red Lead	Kegs	1,040	859	969	495	
Yellow Metal	Cases	3,141	907	2,722	4,309	
Zinc Sheets	Packages	1,096	1,221	1,474	595	
Horses	No.	619	837	696	611	
Ponies	"	3	3	6	17	
Cows	"	21	14	13	10	
Dogs	"	...	...	1	7	
Elephants	"	...	...	...	...	

II. STATEMENT OF STORES IMPORTED BY THE MADRAS RAILWAY COMPANY.

—	Packages.	1887-88.	1888-89.	1889-90.	1890-91.	Remarks.
Stores	Packages	186,911	34,697	81,723	51,879	
	Tons	...	...	171	467	
Fuel	"	4,884	5,587	9,753	4,673	
Coke	"	608	997	645	839	
Coal	"	718	52	2,702	4,301	
Timber	"	831	1,622	1,483	3,800	
Fire Bricks	100	..	141	140	165	

III. STATEMENT OF STORES IMPORTED BY THE SOUTH INDIAN RAILWAY COMPANY.

—	Packages.	1887-88.	1888-89.	1889-90.	1890-91.	Remarks.
Stores	Packages	140,270	109,131	694,812	618,937	
Fuel	Tons	...	856	...	...	
Coke	"	...	...	...	...	
Coal	"	3,091	5,276	6,582	5,989	
Timber	"	...	10	...	...	
Boiler	"	...	...	10	55	

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IV. STATEMENT OF GOODS IMPORTED FROM COAST PORTS.

—	Packages.	1887-88.	1888-89.	1889-90.	1890-91.	Remarks.
Apparel and Effects.	Packages	149	378	414	634	
Alum	Barrels	15	51	56	...	
Acids	Cases	50	149	11	99	
Animals	No.	...	...	...	210	
Arms and Guns	Cases	21	15	49	10	
Boilers	No.	2	3	1	7	
Bricks and Tiles	100	1,577	120	1,239	1,630	
Coffee	Bags	757	715	461	349	
Candles	Cases	996	1,871	682	...	
Colours	Do	635	1,667	1,067	1,541	
Crockery and Glassware	Do	216	782	413	305	
Coal and Coke	Tons	1	2,351	186	14,884	
Carpets	Bales	137	112	178	187	
Camphor and Benjaman	Tubs	1,647	1,483	1,535	4,640	
Copra	Bags	2,844	191	124	...	
Crackers	Cases	...	10	...	...	
Copper	Do	772	1,350	1,061	...	
"	Tiles and Ingots.	...	...	11,053	1,071	
Cutch and Lac	Packages	...	...	...	5,703	
Cocoanuts	No.	10,399	900	600	...	
Earthenware	Crates	97	169	30	23	
Do.	Pipes	690	2,080	...	...	
Firewood	Tons	396	1,212	892	...	
Flour	Bags and Barrels.	1,689	2,819	4,352	4,177	
Gunnies	Bales	7,197	7,993	11,863	10,786	
Gram and Peas, &c.	Bags	1,68,359	1,25,942	1,91,357	225,739	
Garlic	Do	3,897	1,899	7,077	8,523	
Hardware	Cases	737	542	469	605	
Horns	Bundles	1,068	702	1,043	681	
Hides	Bales	7,138	4,440	7,400	6,936	
Iron	Tons	689	277	457	400	
Iron safes	No.	6	65	47	19	
Leaves	Bundles	6,945	5,116	5,796	5,574	
Machinery	Tons	6	171	109	251	
Millinery and Haberdashery	Cases	155	254	268	189	
Oil and Turpentine.	Drums	2,244	2,794	2,540	2,846	
Piece Goods	Cases and Bales	5,080	7,306	6,237	3,028	
Paper	Bales	3,223	3,820	5,003	3,985	
Paint	Kegs	49	212	1,098	99	
Piano	No	7	6	7	5	
Rice	Bags	42,400	26,769	69,446	223,751	
Rose Water	Cases	877	1,409	1,867	715	
Seeds	Bags	14,285	13,066	13,212	12,044	
Skins	Bales	8,314	5,729	5,727	5,387	
Silk	Do.	1,045	837	883	825	
Sandalwood	Bundles	227	145	297	63	
Sugar	Bags	4,163	6,900	2,816	2,134	
Specie	No.	107	201	184	37	
Sundries	Packages	44,567	43,462	38,472	40,653	
Soap	Cases	12	105	179	363	
Sulphur	Casks	...	48	173	...	
Spice	Packages	...	...	...	3,674	
Twine and Rope	Bales and Coils	1,545	1,164	541	942	
Tin Plates	Boxes	630	1,118	1,322	708	
Twist	Bales	3,782	4,064	3,434	1,338	
Turmeric	Bags	4,635	5,790	8,421	10,751	
Timber	Tons	14,273	17,277	17,889	16,850	
Tea	Cases	3,830	1,421	3,813	4,785	
Yellow metal	Do.	636	155	342	809	
Horses	No.	2	...	...	...	

V. STATEMENT OF GOODS EXPORTED TO FOREIGN PORTS.

—	Packages.	1887-88.	1888-89.	1889-90.	1890-91.	Remarks.
Beer and Ale	Cases	22	13	30	...	
	Casks	21	...	2	...	
	Hogsheads		1	1	...	
Cinchona Bark ...	Bales	2,791	2,185	1,299	1,346	
Chillies	Bags and Bundles.	6,333	2,225	3,262	1,362	
Cigars	Cases	1,120	1,239	1,423	942	
Coffee	Bags	14,879	23,456	15,515	22,708	
Cotton	Bales	82,394	55,173	101,837	77,922	
Cotton Twist ...	,, ...	2,893	3,960	5,956	8,271	
Coriander and Omum Seeds	Bags	3,891	9,281	11,610	1,385	
Carpets	Bales	526	645	725	524	
Coal	Tons	50	182	115	...	
Deer Horns ...	Packages ...	866	874	1,366	1,311	
Explosive ...	Cases	9	14	25	...	
Firewood ...	Tons	8	23	...	...	
Four-wheel Carriage.	No.	3	30	3	2	
Ground Nuts ...	Bags	105,529	95,642	206,096	190,320	
Gram, Peas, &c. ...	,, ...	3,379	937	1,454	...	
Horns, Cow and Buffalo	Tons	242	199	66	84	
Hides, Tanned ...	Balesand Bundles.	20,376	17,858	17,532	16,460	
Indigo	Cases and Chests.	27,482	22,762	27,618	24,453	
Iron	Tons	20	29	23	...	
Jaggery	Bags	79,358	23,520	111,032	34,135	
Myrabolams ...	Bags	1,744	195	452	2,576	
Miscellaneous ...	Packages ...	19,381	23,607	17,990	16,335	
Onions	Bags and Baskets	6,089	7,979	9,078	12,022	
Oil	Casks	933	331	587	50	
Piece-goods ...	Bales and Cases...	4,033	3,372	3,419	5,843	
Potatoes	Bags and Baskets	2,892	3,837	2,703	2,284	
Poonac	Bags	14,847	13,116	15,187	26,134	
Piano	No.	3	10	8	3	
Rice	Bags	5,250	17,589	65,475	2,059	
Redwood	Tons	1,145	1,382	2,052	1,809	
Seeds, Gingelly and Castor	Bags	132,295	20,137	80,411	19,021	
Skins, Sheep & Goat, Tanned	Bales	31,249	32,498	30,399	31,209	
Sandalwood ...	Bundles ...	840	672	637	1,728	
Spirits and Wine	Cases	714	135	331	...	
	Casks	49	5	87	...	
	Puncheons ...	...	...	18	...	
Sugar	Bags	912	1,112	7,296	...	
Species	Boxes	164	153	33	55	
Tamarind ...	Bundles ...	3,573	8,277	2,549	1,156	
Turmeric... ...	Bags	24,230	1,898	1,526	...	
Tea	Cases	4,300	4,275	3,822	2,384	
Two-wheel Carriage.	No.	...	...	...	3	
Wool	Bales	991	970	1,043	1,196	
Yellow Metal ...	Tons	98	3	5	...	

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VI. STATEMENT OF GOODS EXPORTED TO COAST PORTS.

—	Packages.	1887-88.	1888-89.	1889-90.	1890-91.	Remarks.
Beer and Ale	Cases	262	249	456	289	
	Casks	28	16	110	159	
	Hogsheads ...	...	161	10	47	
Cinchona Bark ...	Bales	80	178	186	...	
Chillies	Bags and Bundles.	2,341	2,908	5,535	4,592	
Cigars	Cases	857	1,488	1,298	1,345	
Coffee	Bags	567	506	574	605	
Cotton	Bales	2,977	1,972	4,761	8,521	
Cotton Twist ...	,, ...	2,923	3,816	3,075	5,103	
Coriander and Omum Seeds	Bags	2,435	2,728	7,071	4,783	
Carpets	Bales	10	34	26	45	
Coal	Tons	249	...	94	976	
Deer Horns ...	Packages ...	4	85	7	84	
Explosive ...	Cases	152	201	303	55	
Eggs	Pots	2,631	2,717	3,882	2,801	
Firewood... ...	Tons	67	28	8	...	
Four-wheel Carriage.	No.	21	26	9	34	
Ground Nuts ...	Bags	22,711	30,757	20,996	61,463	
Gram, Peas, &c. ...	,, ...	701	15,204	8,987	3,568	
Horns, Cow and Buffalo	Tons	79	198	336	30	
Hides ...	Bales and Bundles	246	407	495	506	
Indigo	Cases and Chests.	227	405	829	412	
Iron	Tons	324	989	743	850	
Jaggery	Bags	433	376	296	...	
Kerosine Oil ...	Cases	250	1,516	4,680	3,463	
Myrabolams ...	Bags	714	322	139	535	
Miscellaneous ...	Packages ...	26,540	12,419	20,868	36,308	
Onions	Bags and Baskets.	15,838	9,705	11,516	21,141	
Oil	Casks	1,771	790	1,844	1,231	
Piece-goods ...	Bales and Cases...	3,273	3,429	3,613	6,259	
Potatoes	Bags and Baskets	14,485	24,229	21,992	26,470	
Poonac	Bags	3,121	2,210	1,469	4,752	
Piano	No.	...	5	42	24	
Paddy	Bags	18,655	27,149	4,019	11,426	
Rice	,, ...	3,370	6,790	8,198	8,098	
Redwood	Tons	223	62	194	...	
Seeds, Gingelly and Castor	Bags	56,137	19,374	28,756	57,157	
Skins, Sheep & Goat, Tanned	Bales	635	510	758	1,271	
Sandalwood ...	Bundles ...	998	224	342	1,856	
Spirits	Cases	2,629	2,143	2,098	3,049	
	Casks	44	150	162	250	
	Puncheons ...	...	2	16	54	
Sugar	Bags	265	460	2,307	2,093	
Species	Boxes	401	278	164	154	
Tamarind ...	Bundles ...	5,423	2,010	3,598	17,197	
Turmeric	Bags	11,491	8,972	463	4,719	
Tea	Cases	51	55	544	298	
Two-wheel Carriage.	No.	4	14	8	27	
Wool	Bales	9	37	567	475	
Yellow Metal ...	Tons	23	88	25	47	

VII. STATEMENT OF STORES, &c., IMPORTED BY GOVERNMENT.

Departments.	Description.	Class.	1887-88.	1888-89.	1889-90.	1890-91.	Remarks.
Accountant-General	Specie Silver	Boxes	2,423	1,789	1,109	1,176	
	„ Copper	„	352	335	1,320	3,475	
	Silver & Copper	„	...	174	...	...	
	Notes	„	4	19	21	8	
	Packages	No.	7	...	1	...	
State Railway	Packages & Pieces.	„	11,940	593	...	3	
	Rails	„	26,602	...	...	...	
	Sleepers	„	78,513	...	...	...	
	Bridge Work	Tons	267	...	...	...	
Public Works Department	Boilers	No.	2	2	...	...	
	Coal	Tons	...	106	44	60	
	Iron	„	63	220	442	250	
	Stores	Pkgs.	3,084	1,691	1,127	2,094	
Ordnance	Coal	Tons	136	86	1,968	939	
	Ammunitions	Boxes	2,160	1303	51	...	
	Stores	Pkgs.	11,336	15,838	22,268	22,898	
Madras Harbour Works	Cement	Casks	11,168	35,764	40,241	30,375	
	Stores	Pkgs.	790	321	1,009	895	
	Coal	Tons.	....	....	496	586	
Clothing	Packages	No.	2,525	1,773	2,831	1,527	
Police	„	„	211	248	135	335	
Salt Revenue	„	„	69	75	115	190	
Post Office	„	„	1,733	980	1,858	1,739	
Medical	„	„	2,879	1,384	1,616	1,250	
Telegraph	„	„	34,690	6,899	16,414	19,211	
Stationery	„	„	1,503	1,088	743	611	
Stamps	„	„	1,263	1,435	1,439	1,647	
Commissariat	„	„	3,841	1,811	1,779	4,384	
Gazette Press	„	„	91	52	32	2,414	
Marine	„	„	147	32	182	511	
Supt., Railway Mail Service	„	„	270	52	31	...	
Revenue Survey	„	„	103	252	52	32	
Agriculture	„	„	28	1	6	292	
Government Central Museum	„	„	13	6	4	10	
Under Secy. to Government	„	„	81	87	84	94	
Supt. of Prisons	„	„	6	3	9	...	
Revenue Board	„	„	36	65	36	139	
Forests	„	„	66	31,811	175	1,318	
Bank of Madras	Specie Silver	Boxes	...	...	3	...	
	„ Copper	„	...	...	56	...	
	Packages	No.	...	...	13	40	
Presidency College	„	„	...	2	2	...	
School of Arts	„	„	...	1	...	...	
Sanitary Commissioner	„	„	...	116	10	...	
Inspector of Cattle Diseases	„	„	49	25	15	32	
Chemical Examiner	„	„	11	50	2	64	
Medical College	„	„	12	...	...	14	
Dy. Collectors	„	„	5	...	1	...	
Camp Equipage	„	„	4	11	6	6	
Astronomer	„	„	1	8	6	13	
Presidency Pay Master	„	„	19	24	2	3	
Registration	„	„	43	...	9	5	
Director of Public Instruction	„	„					

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VIII. STATEMENT OF STORES, &c., EXPORTED BY GOVERNMENT.

Department.	Description.	Class.	1887-88.	1888-89.	1889-90.	1890-91.	Remarks.
Accountant-General	Specie Silver	Boxes.	342	118	174	20	
„ „	„ Copper	„	176	136	216	330	
„ „	„ Notes	„	4	5	4	10	
„ „	„ Packages.	No.	1	1	1	6	
„ „	„ Silver	Boxes.	...	...	10	...	
Bank of Madras	„ Copper	„	...	...	37	...	
„ „	Packages & Pieces.	No.	7,467	5,765	25,038	6,564	
Ordnance	„	„	1,100	4,420	18,358	429	
Public Works Department	„	„	1,401	916	1,018	1,245	
Clothing	„	„	690	749	849	727	
Police	„	„	152	330	493	306	
Salt Revenue	„	„	1,794	1,049	1,868	1,552	
Medical	„	„	4,078	355	1,125	9,462	
Telegraph	„	„	915	777	398	799	
Stationery	„	„	177	165	171	195	
Stamps	„	„	5,881	5,128	5,179	7,761	
Commissariat	„	„	328	445	567	476	
Gazette Press	„	„	926	419	307	268	
Marine	„	„	29	26	52	79	
Revenue Board	„	„	154	157	55	87	
Revenue Settlement	„	„	80	31	77	74	
Revenue Survey	„	„					
Superintendent of Prisons	„	„	63	151	91	71	
Registration	„	„	29	80	64	61	
Conservator of Forests.	„	„	35	28	49	31	
Quarter-Master General	„	„	28	...	...	...	
Government Central Museum.	„	„	9	7	6	9	
Deputy Collectors	„	„	12	20	...	...	
Camp Equipage	„	„	244	...	...	...	
Government Astronomer	„	„	6	5	2	...	
Agriculture	„	„	7	...	...	5	
General Hospital	„	„	3	...	...	...	
State Railways	„	„	98	293	...	...	
Inspector of Cattle Diseases	„	„	9	11	11	3	
Chemical Examiner	„	„	1	...	1	3	
Director of Public Instruction.	„	„	2	9	2	16	
Registrar of the University	„	„	12	14	16	16	
Collector	„	„	1	...	...	...	
Curator of Government Garden, Ooty	„	„	2	...	2	12	
Engineer, H. T. Board.	„	„	...	..	1	...	
Crown Officer, High Court	„	„	...	1	8	13	
School of Arts	„	„	...	1	...	...	
Secretary to Government, Public Department	„	„	...	4	1	...	
Registrar-General of Births, Deaths and Marriages	„	„	...	9	...	...	
Inam Commissioner	„	„	...	...	1	...	
Consulting Engineer to Government Railways.	„	„	...	...	4	36	

S. HUTCHENCE,
Dy. Traffic Manager.

2298/22

ADMINISTRATION REPORT

OF THE

DEPUTY CONSERVATOR OF THE PORT OF MADRAS

FOR THE YEAR 1890-91.

During the past year the number of vessels entering the Port of Madras was as shown below and again shows an increase on the preceding year.

	1890-91.		1890-91.	
	No.	Tonnage.	No.	Tonnage.
Steam Ships, Mercantile	570	978,251	638	994,891
Sailing do. do.	11	13,764	2	2,842
Do. Native Craft	84	10,597	91	11,038
Man-of-War, Government Ships and hired Transports	16	18,925	22	18,079
Total...	681	1,021,537	*753	1,026,850

Increase, number of Vessels, 72 and of Tonnage 5,312. Ten of the Steam vessels mentioned above did not enter the Harbour.

2. The number of vessels which left the Port during the year was—

	No.	Tonnage.
Steam Ships	675	1,006,237
Sailing Native Craft	89	10,765
Total...	746	1,017,002

The annexed statement shows the number and tonnage of vessels calling at the Port during the last ten years.

* Including { 26 French Steam Ships. 20 Austrian Do. 23 German Do. 1 American Do.

Total foreign 70

Statement of number and tonnage of Vessels entering the Port of Madras during the past ten years 1881-91.

Class of vessels.	1881-1882.		1882-1883.		1883-1884.		1884-1885.		1885-1886.		1886-1887.		1887-1888.		Remarks.
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	
Steam Trading	345	540005	377	603177	382	648123	393	668499	463	754855	532	834963	562	905597	
Sail	52	4111	67	55169	53	44448	41	37743	39	33270	31	31681	21	18753	
Native	265	33752	275	36274	204	26545	199	30076	194	28847	121	15982	112	23078	
Men-of-war, &c	9	7329	10	10229	8	10319	10	7913	13	18143	21	33100	25	41751	
Hired Transports	1	910	3	4133	.....	.....	1	910	12	20842	18	31792	.....	.....	
Total ..	672	623107	732	708982	647	729435	644	745141	721	855957	723	947518	720	989179	
Piloted inwards	266	.....	398	.....	388	.....	390	.....	459	.....	562	.....	569	.....	

Class of vessels.	1888-1889.		1889-1890.		1890-1891.		Remarks.
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	
Steam Trading	518	879860	570	978251	638	994891	
Sail	15	14495	11	13764	2	2812	
Native	85	9860	84	10597	91	11038	
Men-of-War, &c.	11	16560	16	18925	22	18079	
Hired Transports	1	1039	.....	.....	.....	.....	
Total. ...	630	921814	681	1021537	753	1026850	
Piloted inwards	524	.....	604	.....	680	.....	

3. The Revenue amounted to Rupees 1,35,622 against Rupees 1,47,007 for 1889-90.

	Rs.
Port Dues	... 1,01,831
Salvage	... 316
Diver's services	... 498
Hire of Port Raft	1,529
Boat Licenses	... 648
Shipping Office fees	... 705
Office fees for overtime ...	... 1,040
	1,06,567
Pilotage and Boat charges connected	... 29,055
Total...	1,35,622

Pilotage fees have been reduced since 1st June 1890.

4. *Artificial Harbour.*—No interruption of shipping work has occurred during the year within the Harbour, the weather having been fine during the whole year, and the shelter of the Harbour efficient; it is probably the first time such a thing has happened in the history of the Port. On three occasions troop-ships were brought alongside the Northern Groyne for the purpose of landing and embarking troops.

5. Erosion has still being going on to the north of the Harbour and accretion to the south.

6. *Weather.*—The warning signals have only been hoisted once for a few hours (31st October) during the course of the year.

7. *Accidents and Casualties.*—There are fortunately very few accidents to record. The SS. "Egremont Castle" on 29th May carried away the mooring of the Buoy off the Biden Sailors Home and on 31st May parted her port cable.

The S.S. "Clan Matheson" on the 28th June dragged the south anchor of No. 3 Buoy.

The S.S. "Mount Lebanon" on 14th July parted her stern lines while berthed off the Biden Home.

The S.S. "Kohinur" on 31st August having commenced unmooring before the Harbour Master arrived on board, got the moorings of No. 4 Buoy foul of her propeller.

Two Lighters were sunk alongside vessels while receiving cargo, two more were damaged and rendered unserviceable alongside vessels, the cargoes in all cases being iron, the sunken lighters were recovered by the Port Diver.

Eight Masulah boats were damaged and rendered unserviceable on the beach, two of them outside the Harbour.

One Masulah boat was damaged and rendered unserviceable alongside a vessel.

No loss of life has been reported during the year.

Three men were slightly injured while overhauling the moorings of No. 8 berth on 26th August by the breaking down of the winch.

8. *Moorings.*—An additional small buoy was laid in 16 feet L.W.S. inside the inner row of buoys and moored to a screw anchor which had been put down before the Harbour was destroyed in 1881.

This mooring has been utilized by many small vessels calling at the Port, leaving all the nine outer moorings available for the larger ships.

The Head buoy of No. 8 berth was damaged by coming in contact with vessels sterns and was removed and replaced by another.

The moorings of the Northern buoy off Cassimode, were found to be much more worn where the chain takes the bottom and the bad piece had to be cut out, the wear on the moorings inside the Harbour is very slight.

On one or two occasions more vessels have been accommodated inside the Harbour than there have been moorings for, at these times the additional vessel was moored near the entrance and it had to be arranged that it was a vessel leaving before night which was thus berthed.

It has also happened that vessels have had to wait a short time outside before a berth could be given them, but with these exceptions, the mooring accommodation has been found sufficient, if the increase of shipping continues, provision will have to be made for more moorings, the orginal number intended (according to Mr. Thorogoods plan of 1881) for the Harbour being sixteen.

9. *Boats.*—Two new boats were procured during the year, a cutter for a reserve boat for the Harbour Masters and a Gig for the Deputy Conservator, both were obtained from the Indian Marine Dock-yard, Calcutta. It is intended to sell the oldest of the Harbour Masters boats.

Four additional boatmen have been entertained for the Harbour Masters establishment.

A set of iron rollers were manufactured and supplied by Messrs. Borbam & Co., which facilitates the beaching of the boats.

10. *Port Rafts.*—The work of landing heavy weights is still being carried on by means of Masulah boats since last year, 75 lighters and 108 Masulah boats being now shown. Three water boats fitted with efficient pumps have been established and are a great benefit to shipping, it being now an easy matter for vessels to water in Madras, a better supply of water on the Pier is required.

11. *Cargo boats.*—The number of boats on the register shows an increase in the number of rafts as no lighters have yet been built of a sufficiently large size, the raft has been in requisition 26 times during the year, earning Rs. 968.

12. *Time signal.*—The time signal has not shown any improvement on last year's performance, 41 failures having been recorded, it is to be hoped it has reached its maximum, in this direction as it seems difficult to assign any cause for the too frequent failures.

13. *Leading and Buoy Lights.*—A new illuminant (Cera) has been brought into use for the lights which has been found more efficient than Cocoaunt oil and requiring less attention as it burns throughout the night without retrimming.

14. *Life-saving Apparatus.*—Monthly practice with the Racket apparatus took place up to December 1890, since that date only quarterly practice has been allowed under G. O., No. 49, dated 9th February 1891.

15. *Harbour Masters.*—1331 vessels have been conducted in and out of the Harbour during the year by the Harbour Masters, being an increase of 154 over the figures of last year. Fortunately another year's work in this way can be recorded without accident.

The Harbour Master's office was given up to the Secretary's staff after the fire at the Board's Offices, and they have since that date been accommodated in one of the sheds south of the Pier, but it makes a very inconvenient office and waiting-room. Sanction was given by Government for the erection of a new one on 26th January 1891, but as yet it has not been commenced. It is to be hoped it will be soon.

16. *Port Diver.*—The services of the Diver have been almost constantly required throughout the year, the greater part of the goods lost has been recovered by him. Several pieces of bridge-work and bar iron remain as yet unrecovered, but most of them will probably be recovered by the Diver in the course of his searches. It is difficult to account for the great number of articles lost overboard while discharging as vessels now lie in smooth water.

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17. The Deputy Conservator, Captain H. B. Simpson, officiated as Presidency Port Officer from 26th November 1890 to 18th March 1891. Mr. H. D. Baddely officiating as Deputy Conservator.

SHIPPING OFFICE.

The number of seamen engaged and discharged show a decrease in the case of European seamen and an increase in the case of Native seamen.

		No.	
Europeans engaged	7	} 30	
Do. Discharged	23		
Do. sent to Hospital	13		
Do. do. Jail	5		
Native seamen engaged	220	} 675	
Do. discharged	455		
Do. sent to Hospital	3		
Do. do Jail	63		
		705	

The fees collected amounted to Rs. 705.

Periodical returns and statements have been forwarded to the Board of Trade, London, and the Government of Madras as they fell due.

H. B. SIMPSON, CAPTAIN, I. M.,
Deputy Port Conservator.

PORT OFFICE,
MADRAS, *4th July* 1891.

PLAN OF MADRAS HARBOUR

1891.

Soundings reduced to Low Water Ordinary Spring Tides.

Scale 500 feet = 1 inch.

100 0 500 1000 1500 2000 FEET

2798/25

9 Fathoms

9

8

8

500.0"

March 1891.

March 1890

March 1891

March 1890

7

7

6

6

5

5

4

4

3

3

2 Fathoms

2 Fathoms

1 Fathom

High Water at date of Survey, March 1891

High Water at date of Survey, September 1889

December 1876

Commenced September 1877

High Water 31st March 1891

High Water at date of Survey

September 1883

Commencement of the Harbour Works

Old Light House

Custom House

High Court

Memorial Stone

Block Ground Intervening Sewer

Bakery

Post Office

Telegraph Office

SOUTH INDIAN RAILWAY

NORTH PIER

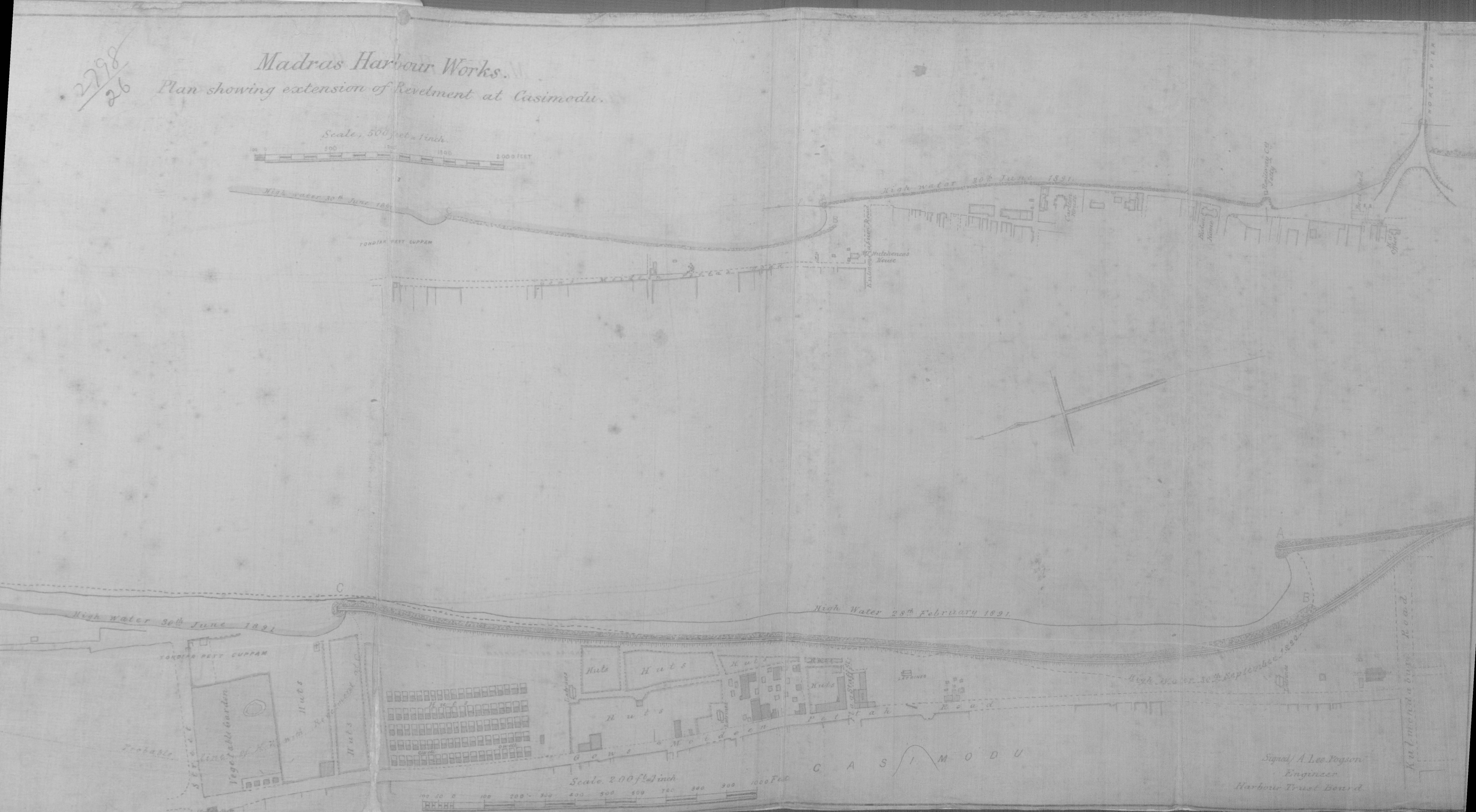
SOUTH PIER

BLACK TOWN

Signed / A. Lee Pogson
Engineer
Harbour Trust Board

Light House

Lithographed at the Lawrence Asylum Press, Madras, 1891.


2298/26
Madras Harbour Works.
Plan showing extension of Revetment at Casimodu.
Scale, 500 feet = 1 inch.
High water 30th June 1891
Tondiar Pett Cuppam
Mr. Hutchence's House
Carlton House
Railway Co. Jetty
Boat Shed
H.W. Office
A
B
C
High Water 28th February 1891
High water 30th June 1891
High Water 30th September 1890
Huts
Vegetable Garden
Gowe Moideen Pettah Road
C A S I M O D U
Kulmonda Bux Road
Scale 200 ft = 1 inch
Signed/ A. Lee Pogson
Engineer
Harbour Trust Board

2798/27

9th October 1891, Nos. 442, 443, Marine.

GOVERNMENT OF MADRAS.

MARINE DEPARTMENT.

Read—the following papers:—

From the Chairman, Harbour Trust Board, Madras, dated 5th September 1891, No. 1522.

Abstract.—Submitting Administration report of the Trustees of the Madras Harbour for the year 1890–91.

From the Chairman, Harbour Trust Board, Madras, dated 7th September 1891, No. 1544.

Abstract.—Advising the despatch of additional copies of the report.

Order—dated 9th October 1891, No. 442, Marine.

The Chairman, Harbour Trust Board, submits the Administration report of the Trust for 1890–91.

2. There were during the year, as in that preceding it, ten Trustees, but the number of ordinary meetings fell from 37 to 26, which latter is the minimum number prescribed by section 17 (2) (*a*) of Act II of 1886. The average attendance fell from 9·35 in 1889–90 to 8·6. The changes in the constitution of the Board are recorded in paragraph 2 of the report. Mr. Austin succeeded Mr. McWatters as Chairman.

3. The receipts of the year aggregated Rs. 7,78,592, which, added to the closing balance of the previous year, gives a total of Rs. 15,65,627. The expenditure was Rs. 5,05,453, and there was a closing balance of Rs. 10,60,174 at the end of the year. Under receipts, the items * noted in the margin were the largest, and the expenditure included three † items of or above a lakh each. The current receipts exceeded those of 1889–90 by Rs. 1,38,266,‡ which is principally accounted for by the increase under "Porterage" from Rs. 1,306 to Rs. 1,22,533. Owing to the loss of the records when the Board's office premises were destroyed by fire in October 1890, a sum of Rs. 6,089 has been returned as miscellaneous receipts, there being no information available as to the heads under which it should be distributed. The causes of the increase in imports and the decrease in exports are explained in paragraphs 10 and 11 of the report.

	Rs.
* Contribution from Port Funds ..	2,62,000
Harbour Dues—Imports ..	2,41,441
Porterage	1,22,533

	Rs.
† Interest on loans from Secretary of State	1,43,542
Porterage	1,11,946
Repayment of loan from Secretary of State	1,00,000

	Rs.
‡ 1890–91	7,78,592
1889–90	6,40,326
	1,38,266

4. The porterage of foreign import cargo and all goods landed at, and shipped from, the pier was taken by the Board into its own hands during the year under review and the Government notes with pleasure the testimony borne in paragraph 21 of the Chairman's letter to the energy and exertions of the Secretary and the Traffic Manager in placing the system on a successful footing.

5. It is stated that the expenditure under all heads has been largely reduced owing to the Board having undertaken the porterage work. The amount received under this head was Rs. 1,22,533, and the total expenditure against it has been worked up to Rs. 1,11,946 by the inclusion of the sums shown in column 3 of the statement in paragraph 12 and the amount of pier cooly charges in paragraph 13 of the report, which, in the opinion of the Board, are charges fairly debitable to the porterage account. This transfer of establishment charges heretofore debited to revenue has enabled the Board to show a large reduction in the percentage charge for revenue establishment; but the correctness of the debits to porterage seems open to question, and the Chairman will be requested to furnish a statement showing in detail the receipts and charges under that head with an explanation of the grounds for the debit of any sums which, under previously-existing arrangements, would have fallen against ordinary revenue. As the case stands, it appears that the profit to the Board on the porterage account amounted in the year to Rs. 53,596, made up as follows:—

	Rs.
1. Establishment charges transferred from Revenue account ..	19,189
2. Pier cooly charges do. do. ..	23,820
3. Surplus in porterage account	10,587
Total ..	53,596

and this sum has been realized without any additional charge on the trade of the port, the rates for porterage previously paid to contractors not having been altered since the Board took the work into their own hands. This result is certainly satisfactory, especially as it appears from the report that the work has been much better done. There has been less confusion, greater speed, more cheerful work by the coolies, better tally of goods, and smaller claims on account of goods lost or damaged, notwithstanding a considerable increase in the quantity of goods handled. The change thus appears to have been in every way beneficial, but it seems a question whether the trade of the port should not get the full benefit of the improved management in the shape of reduction of porterage charges. No doubt it matters little whether the trade pays in this shape or in increased harbour dues for the purpose of enabling the Board to meet the heavy liabilities arising out of the construction account in respect of which their financial position is, as has recently been shown, susceptible of improvement; but the Board should take the question into consideration and report the result to Government.

G.O., dated 9th May 1891, No. 313.

6. The fees to Trustees fell from Rs. 9,180 to Rs. 6,600. This is accounted for by the fewer number of meetings held and the decrease in the number of members who attended them. It is stated that the expenditure on establishments fell from Rs. 43,243 to Rs. 31,159. If, however, the amounts transferred to porterage are added, it will be found that there was no actual reduction of establishment charge, but a small increase of Rs. 236.

7. The outlay on new works, repairs, &c., was Rs. 79,579 against Rs. 83,063. Of these amounts, Rs. 61,206 and Rs. 62,530 were expended on repairs to the pier, and it is satisfactory to learn that, for some years to come, there will be no further heavy charges under that head. Considerable improvement in traffic facilities have also been effected during the year. The Government is glad to learn that the loss sustained by the Board, through the fire at its office premises in October 1890, was comparatively slight.

8. The work of "construction" appears to have been carried on satisfactorily during the year. The north arm of the harbour was extended to a length of 3,617 feet and the south arm to 3,775 feet. The length of the arms at the beginning of the year was 3,279 and 3,706½ feet, respectively. The advance was therefore 338 and 68½ feet only. This is accounted for by the fact that the pier heads were reached, and consequently the width of the arm was greater and the work more difficult. The

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expenditure on "construction" during the year was Rs. 6,66,547 against Rs. 7,40,752 in 1889–90 and Rs. 6,17,226 in the preceding year. The total expenditure up to the end of the year under review was Rs. 44,40,777.

9. There was again an increase in the outturn of stone from the Pallávaram quarries. The haulage charges were Rs. 70,307 as against Rs. 64,962 in 1889–90.

	Tons.
1888–89	48,585
1889–90	61,083
1890–91	74,161

10. It is gratifying to learn that the nuisance complained of by the Military authorities has been entirely removed by the open drain constructed by the Board to the north-east of Fort St. George.

11. The increase in the amount of shipping using the harbour is satisfactory, and the fact that, although 1,331 steam vessels were piloted in and out, there was no mishap, reflects much credit on the Harbour Masters.

12. The Government has perused, with interest, the particulars of the trade of the port during the year afforded in paragraphs 60 *et seq.*; also the reports by the Board's Engineer, the Deputy Traffic Manager and the Deputy Conservator.

13. The attention of the Government Astronomer will be called in the Public Department to paragraph 12 of the Deputy Conservator's report. The matter referred to in the concluding portion of paragraph 11 of the same report will no doubt be dealt with by the Board.

14. The Governor in Council is pleased to be able to congratulate the Harbour Trust Board on the generally efficient management of port concerns during the year under review.

(True Extract.)

J. F. PRICE,
Chief Secretary.

To the Chairman, Harbour Trust Board.
" Presidency Port Officer.
" Financial Department.
" Public Department.
" Public Works Department,
" Public Works Department (Railway Branch),
" Revenue Department,
" Chairman, Chamber of Commerce, Madras,
" Chairman, Madras Trades' Association,
" Secretary to the Port Trust of Bombay,
} with copy of the Report.

ENDORSEMENT—dated 9th October 1891, No. 443, Marine.

Copy to the Government of India, Finance and Commerce Department, in continuation of No. 323, dated 29th August 1890.

J. F. PRICE,
Chief Secretary.

Exd. P. L. Pereira.

Govt. of {1891} Madras.

MARINE.

B/
No. 2798 W dy 24 Oct 91

105 C

Recorded

Issued

Recd. 16.10.91 Encl. /

16.10.91

G.O., &c., 9th October 1891,
Nos. 442, 443.

OCTOBER.

26 22 W 3 6/10/90

Harbour Trust Board.

Reviewing the administration report of the — for the year 1891-92. Copy to the Government of India.

(28)

2
1890-91

1
90-91

BW/
W. 26/10

with order