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# MADRAS RECORD OFFICE.

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## Government of Madras.

Public Works DEPARTMENT.

G.O. No. 2652 W Press / Mis.

353-369

Dated 24—12— 1860.

**Not to be folded or roughly handled**

Read the following papers.

No. 353. LETTER FROM THE CHIEF ENGINEER; TO THE SECRETARY TO GOVERNMENT, PUBLIC WORKS DEPARTMENT, DATED CHEPAUK, 26TH APRIL 1860, No. 12753.

"Public."
* No. 42.
† No. 68.
Enclosures 4.
1. Letter from Collector Trichinopoly No. 42 dated 20th March 1860 with one enclosure.
2. Letters from District Engineer Nos. 1395 and 1551, dated 30th March and 10th April 1860.
‡ No. 11726 dated 26th March 1860.

SIR—I have the honor to bring to the notice of Government that on receiving from the Collector of Trichinopoly a letter dated 20th March last,* giving cover to one from the Collector of Tanjore of the 17th Idem,† representing the "disgraceful and dangerous state" of the road between the capitals of those Districts within the boundaries of Trichinopoly, I ‡ directed the District Engineer to report on the road in question and the steps he had taken or intended to take for its repair.

2. Captain Moberly in reply* stated that the repairs had been placed under Sub-Overseer Punnuswami Pillai, but that he had been obliged to remove him to Vetticutti to prepare Estimates for irrigation repairs, adding that the Sub-Overseer had returned and was then organizing measures for carrying on the work which was also impeded by the necessity of clearing the Weyacondan Channel and by the demand for labor on the Railway.

* No. 1395 dated 30th Mar. 1860.

3. Considering this explanation unsatisfactory I* required the District Engineer to submit a more complete one which is now afforded in his letter† of the 10th Instant, herewith submitted in which there is little more information than in the former. Captain Moberly states that the sanctioned Estimate for the road repairs was received by him in February, when he was obliged to employ the Sub-Overseer charged with the work elsewhere, but there was no reason why he should not have commenced these repairs much earlier in anticipation of sanction, and employed on them a temporary Superintendent reporting his proceedings which would certainly have been approved of.

* No. 12143 dated 5th April 1860.
† No. 1551.

4. The Statements contained in paras 4, 8 and 9 are in my opinion irrelevant to the question, nor do they justify the District Engineer for having so evidently neglected to adopt vigorous measures for repairing a road of such great importance as the one referred to.

5. There is no District in which the same difficulties as those complained of by Captain Moberly have not been felt, but they have generally been met by expedients which might have been adopted in Trichinopoly.

6. The District Engineers are all well aware that it is their duty to give immediate attention to the repair of roads when injured by the weather and the control of this office has never been so exercised as to hinder their action in cases of necessity.

7. I do not know why the District Engineer considered that the works referred to in his last paragraph had been deferred for want of money. All of them except the Carûr Road

were properly repairs, and a large allowance for that purpose had been expressly made to Trichinopoly in the allotment of September 10th, 1859.

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LETTER FROM J. BIRD, ESQ., COLLECTOR OF TRICHINOPOLY; TO LIEUT. COLONEL J. H. BELL, CHIEF ENGINEER, DEPARTMENT OF PUBLIC WORKS, FORT ST. GEORGE, DATED 20TH MARCH 1860, No. 42.

SIR—I deem it my duty to furnish you with copy of a letter just received by me from the Collector of Tanjore bringing to notice the disgraceful and dangerous state of disrepair of the road between Trichinopoly and Tanjore.

2. The state of this road has been known to me for near twelve months, and it ought to receive the immediate attention of the District Engineer in view to putting it in some sort of repair. Its dangerous condition was noticed, and animadverted upon last January by Mr. Secretary Bourdillon and other Members of His Excellency the Governor's Suite when travelling through this District.

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LETTER FROM THE COLLECTOR OF TANJORE, TO THE COLLECTOR OF TRICHINOPOLY; DATED VALLAM, 17TH MARCH 1860, No. 68.

SIR—I have lately had occasion to travel on public duty over the road leading from this to Trichinopoly, and which forms part of the main line of communication from Negapatam to that station, and deem it my duty to bring to your notice that the road continues (as indeed it has to my knowledge for months past) in many places in a most disgraceful state of disrepair, in some places near the eastern limits of your District it is positively dangerous and as nothing would seem to be doing even to commence the repairs, I trust you will be good enough to bring the matter to the prompt and immediate notice of the District Engineer.

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No. 11726.

Ordered to be communicated to the District Engineer of Trichinopoly who is requested to report as soon as possible on the present state of the road therein referred to, as also the steps he has taken or intends to take towards its repair.

(Signed) E. LAWFORD, LIEUT. COL.
*Deputy Chief Engineer.*

*26th March*, 1860.

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LETTER FROM CAPTAIN F. J. MOBERLY, DISTRICT ENGINEER OF TRICHINOPOLY; TO THE DEPUTY CHIEF ENGINEER, DEPARTMENT PUBLIC WORKS, DATED 30TH MARCH 1860, No. 1395.

SIR—In reply to your No. 11726 of the 26th March 1860, I have the honor to report that the Tanjore road repairs were placed under Sub-Overseer Punnuswami Pillai a short time back; but as Supervisor Kistnayen's transfer was much delayed, Lieutenant Mead was obliged to send him to Vetticutti to prepare Estimates for irrigation repairs.

2. He has however returned and is organizing measures for carrying on the work which is also impeded by the necessity of clearing the Weyacondan while the dry weather allows and by the demand for labour on the Railway running parallel to us.

3. The Coolies employed on the channel will be at liberty to afford additional aid in a fortnight I hope.



*Proceedings of the Madras Government, Public Works Department, 24th December* 1860.

No. 12143.

The information furnished in the foregoing letter in reply to the order of the 26th March 1860, No. 11726, is most unsatisfactory. Captain Moberly entirely fails to show that he has used his best efforts to prevent or remedy the disgraceful state of the Tanjore road reported by the Collectors of Tanjore and Trichinopoly, and unless a better explanation is immediately afforded, the Chief Engineer will be obliged to bring the subject to the notice of Government.

Copy to the Collector of Trichinopoly with reference to his letter No. 42, dated 20th March 1860.

(Signed) E. LAWFORD, LIEUT. COL.
*Deputy Chief Engineer.*

*5th April*, 1860.

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LETTER FROM CAPTAIN F. J. MOBERLY, DISTRICT ENGINEER, TRICHINOPOLY; TO THE DEPUTY CHIEF ENGINEER, DEPARTMENT PUBLIC WORKS, DATED 10 APRIL 1860, No. 1551.

SIR—Referring to your No. 12143 of the 5th Instant, I regret that I know not how to offer a better explanation for the delay on the Tanjore road repairs.

2. An estimate sanctioned for this work was received early in February, when I was en route to Vappur, it was duly communicated to Lieut. Mead who assigned the duty of its execution to Sub-Overseer Punnuswami Pillai being under the impression that he would be immediately at liberty on Assistant Supervisor Kistniah taking charge of Vetticutti.

3. As Kistniah did not join Punnuswami Pillai was detained making estimates in Vetticutti; but was ordered to the Tanjore Road when Lieut. Mead heard of Captain Burn's approach—that officer however caused further delay on the plea of his own health, &c., and has still not relieved Lieut. Mead.

4. My arrangements have been completely overthrown, first by Mr. Bateman's sudden removal and the delay first in appointment and then in joining of his successor; and 2nd, by the lapse of time before I was allowed to entertain two temporary Sub-Overseers in the room of two dismissed for intemperate habits.

5. I had then to consider the relative importance of the works near the embankment of the Vennar, the clearing of the Wayacondan were both works which would not suffer delay; and were already commenced; labour was very scarce and what there was was already engaged on these two large works, and the Railway.

6. I cannot think that the Government wish me to commence a race of competition in prices with the Railway Officers, when by a short delay I could bring over my own coolies from neighbouring works, particularly as, after all the strong language of the Collector of Tanjore (the Collector of Trichinopoly only forwarded his letter) there was really little or no impediment to ordinary slow-traffic.

7. That the gentlemen in the Governor's suite and Mr. Cadell were jolted in travelling by posted bullocks is very probable; but the road is hard and dry and there is certainly nothing to complain of but its unevenness. With limited superintendence and labour, I thought therefore that I was doing my best for the public in carrying out the other works in preference to making the Tanjore road perfect.

8. My own time has been fully employed in looking after the irrigation works, and I have only just been able to inspect the Tanjore road in person. My arrangements of my own time have been constantly broken in upon to examine projects which I had hoped had been

given up, or at least postponed. My plans for my subordinates have been necessarily altered by the changes and removals among them.

9. I trust that in referring the matter to Government you will do me the justice to report that I have brought this state of things frequently to notice but without avail; that I was refused permission (see No. 6155 of the 11th October 1859) to execute new work from my repair funds until the 13th December, and that I was then suddenly ordered to push on with the Codamurti, the Aiar and the Culiar bridges; the Carur road and the Nat Voikal Head Sluice all which works I considered had been deferred from want of money.

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No. 354. MINUTE BY THE HONORABLE THE PRESIDENT; DATED 3RD MAY 1860.

This great delay in the restoration of the direct road between two such places as Trichinopoly and Tanjore is deserving of severe censure. We must mark our disapprobation of gross instances of neglect if we desire the public service to be properly conducted.

(Signed) C. E. TREVELYAN.

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No. 355. MINUTE BY THE HONORABLE E. MALTBY, ESQ.

Captain Moberly ought to have taken the steps pointed out by Col. Bell. It appears to me however, that both money and time must continue to be largely lost under the present system. If Collectors had the charge of the smaller Irrigation works and District roads as before, the Engineers would have more time for Trunk roads and great works.

(Signed) E. MALTBY.

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No. 356. MINUTE BY THE HONORABLE W. A. MOREHEAD, ESQ. CONCURRED IN BY HIS EXCELLENCY THE COMMANDER-IN-CHIEF.

I agree with Mr. Maltby in his remarks. The present utterly inefficient and at the same time enormously expensive state of the Public Works Department calls urgently for reform. In this particular instance, however much blame must attach to the Collector who appears entirely to have omitted to insist, as it was his duty to do, on the repairs to the road being carried out by the District Engineer.

(Signed) W. MOREHEAD,
„ P. GRANT.

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No. 357. MINUTE BY THE HONORABLE THE PRESIDENT, DATED 8TH MAY 1860.

I cannot see that any of the responsibility which attaches to the District Engineer can justly be transferred to the Collector. The Collectors of Tanjore and Trichinopoly made a strong representation to the Chief Engineer in March last upon the dangerous and disgraceful state of disrepair of this Road; and it is probable that, before they appealed to his Official Chief, they remonstrated with the District Engineer himself. If they did not, it may have been because they knew that the state of the road had been animadverted upon in the preceding January when I was there.

As regards the general question raised by Mr. Maltby, I will only observe that, after full experience and mature consideration, it was determined, some years ago, to establish a separate organization for the execution of Public works throughout the whole of British India; that, if there is one branch of the Public business more than another, which requires a separate division of labor, it is the scientific, professional work of the Engineer and builder; that, up to





the beginning of last year, the Madras Department of Public Works had no fair trial, owing simply to defective administration; but that since Colonel Bell has been placed at the Head of it, it's discipline and tone have been restored, its regulations have been revised, and many improvements have been made in its practical working. It is true that at the present moment the expense of the Establishment bears a large proportion to the cost of the work done; but this is owing to the low state of the finances; and if we maintain our Professional Establishment we shall soon have plenty of occupation for them in several important works which will be commenced as soon as Funds are available. It must also be remembered that much the largest portion of the expense of the Corps of Military Engineers, who must at any rate be maintained for defensive purposes, is included in that of the Department of Public Works.

Under these circumstances, it appears to me very unadvisable to reopen the general question of the mode in which the Public works of the country should be provided for. Under every possible system there will be instances of neglect and incapacity of which due notice should be taken, as will be done in this case. It is also possible that arrangements may be gradually made for transferring local works to local superintendence. I made an arrangement of this sort at Trichinopoly whereby the temporary Irrigation works and the distribution of the water were placed under the charge of the Land-owners assisted and directed by the Revenue Authorities; but it is questionable how far this would have been necessary if an able, popular officer had been in charge. Every opportunity should be taken for promoting sound municipal action; but I deprecate any change which would unsettle the Department of Public Works. On the contrary, we should steadily continue our efforts for its improvement.

(Signed) C. E. TREVELYAN.

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No. 358. MINUTE BY HIS EXCELLENCY THE COMMANDER IN CHIEF; DATED 9TH MAY, 1860.

Mr. Maltby observed in Council last Friday, that, while the work was not so well done now as it was formerly, the cost was increased to the extent of from 10 to 11 lacs annually. If this can be established the sooner the old system is reverted to the better.

(Signed) P. GRANT.

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No. 359. MINUTE BY THE HONORABLE W. A. MOREHEAD, ESQ.; DATED 10TH MAY, 1860.

It is not so much to the expense that I object as to the state of the Department, a state which in my opinion can only exist from there being something radically wrong in its organization, or mode of working. Much may be done, I am inclined to think, by reverting to the old mode of carrying out ordinary repairs, in regard to which no scientific skill is needed. If this were done the scientific skill would be available, which it is not now, on all occasions where required.

(Signed) W. MOREHEAD.

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No. 360. MINUTE BY THE HONORABLE E. MALTBY, ESQ; DATED 16TH MAY, 1860.

1. I was led to make the remark which has produced the President's Minute of the 8th Instant, because the Chief Engineer's letter of the 26th Ultimo reporting the neglect to repair the main road between the towns of Tanjore and Trichinopoly is another illustration of the failure of a system which has long appeared to me as disappointing in its results as it has been expensive to the State.

2. The present financial crisis demands that no public money should be wasted, and it seems to me therefore an imperative duty to enquire whether the Department of Public Works cannot be conducted on more economical and efficient principles.

3. In 1852 when the Commissioners on Public Works wrote their reports, the existing Establishment cost 5,79,474 Rs. per annum. The Commissioners recommended an enlargement which would have raised the annual cost to Rs. 14,69,075; they proposed to entrust the execution of all works to the professional Department, but the Revenue officers were still to take an active interest in the Department, and it was to be presided over by a Board of Works composed of both branches of the service. Subsequently however it was determined by the Government of India to separate the Department entirely from the Revenue Branch of the service. In August 1855 a Central Office was established with a Chief Engineer aided by Deputy Chief Engineers, and a separate executive agency was provided at the large annual cost of upwards of 16 Lacks* of Rupees.

* In the Chief Engineer's Administration Report for 1857-58 the amount is stated at Rs. 16,01,454; but this appears to be for salary only, without office Establishments, &c.

4. The President remarks that this arrangement was part of a system deliberately decided upon "to establish a separate organization for the execution of Public Works throughout the whole of British India," and he expresses his opinion that "a separate division of labor is especially necessary for the scientific professional work of the Engineer and Builder." To this I would reply 1st, that although the new system may be applicable to Bengal and other parts of India where the only public works are isolated in their character and of an important description, such as bridges, roads, canals and public buildings, it is not suited to our Presidency which depends for its prosperity on an artificial irrigation of a peculiar character composed of thousands of small tanks, and water-courses. The successful maintenance of such petty works requires an immense establishment when entrusted to a separate agency, and cannot be so promptly, cheaply and efficiently cared for as by the Collector with the aid of the Taluq and Village servants and a small Maramut Establishment. 2nd, I admit the advisability of entrusting the construction of all important works to professional hands, but believe that this object could be attained more advantageously and cheaply than at present and without separating the two Departments. For example I would assign an Engineer officer with a suitable establishment to each District; but while holding him directly responsible for the execution of new works of importance would place him in the position of assistant to and general adviser of the Collector, the head of the District, in the Public Works Department.

5. It is alleged that the check given to the construction of Public Works by the financial pressure has prevented the Department in its new form showing its full usefulness, and that it has been crippled by reductions of its Establishment in 1857. But in the official year 1858-59 the cost of the mere Establishment *after those reductions* was Rupees 13,95,292 and the total charge including travelling allowances, batta and contingencies amounted to Rupees 16,64,788, being a per-centage of no less than 36·926 to the value of work performed. If it is argued that this heavy cost of superintendence arises from the stoppage of new works on account of financial pressure while it is still necessary to keep up an expensive professional Establishment, the reply is that in that case the Establishment would have been more than sufficient for the diminished quantity of work which remained to be performed. But instead of this being so, complaints have been numerous of the insufficient number of servants, and the shortcomings of the Department have been commonly attributed to this cause, as in the present instance of the neglect to repair the Trichinopoly and Tanjore road. Moreover it has been found necessary to include an item for extra servants in most of the Estimates, so that the per-centage cost of the regular Establishment to the value of the work performed, large as it is, does not really show all which Government has now to pay for superintendence.

Among other papers on this subject, see Administration Report for 1858-1859, paras 205,207 and 213. The Chief Engineer's Report of 31st August 1859, P. 101, 173 and 178 and E. M. C. 13th Nov. 1858, No. 2386, P. 3 and 5.



6. The heavy expense of the Establishment has attracted the attention of the Government of India and called forth the following recent remarks:—

Letter from Lieutenant Colonel Yule, 30th July 1859, No. 5136.

P. 3. "No specific information is given as to the estimated "amount of Establishment, but it is stated that in the year 1857 and "1858 it reached a ratio of 40 per cent. on the outlay." * * * * *

P. 4th. "It is stated that the Establishment cannot be reduced to a lower scale, and that "a reduction of expenditure is not necessarily accompanied by a proportional diminution in the "expense of Establishment, for a larger proportion of highly paid officers must be retained on "the list, and the area to be supervised is not diminished by a decrease of Establishment. There "is much truth in all this, still 40 per cent. appears even under these circumstances to be "excessive, and is half as much again as the cost of Establishment in any other Presidency."

In another letter from Lieutenant Colonel Yule, dated 18th July 1859, No. 4879, it is remarked:—"The Governor General has not been insensible of the pains exhibited in the pre- "paration of the Madras Budget to keep down expenditure on construction. But the items "for repairs and establishments are very heavy, and with these the Government of Madras can "only deal effectually. The Governor General in Council places the matter in the hands of that "Government with confidence that every means will be taken to bring the expenditure (allowed "for that year) within the indicated amount of 67 Lacks."

7. With this confidential duty entrusted to us by the Supreme Government, and with the additional data which we now have for judging the cost and results of the new system, it appears to me that the time has come for thoroughly examining the present constitution of the Public Works Department and considering whether it cannot be placed on a more economical and efficient footing. At a time when the Government is involved in financial difficulty and new and harassing taxes are proposed to be laid on the people, it is more than ever necessary to check that waste of the public resources which is now notorious throughout the Presidency and it should be kept in remembrance that as economy is attained in the cost of Establishments and other expenditure, larger funds will be available for the construction of those new works of irrigation and communication which are now in abeyance, but on which the advancement of the country greatly depends.

8. The main faults of the present system in my opinion are, 1st, that by disconnecting the Collector from all active part in the Department, a safeguard against wasteful expenditure has been removed. And 2nd, that a much more expensive and less efficient agency is now employed to look after the Village roads and those numerous small irrigation works which abound in our Districts, and form the peculiar feature of this Presidency. This part of the Public Work Department is a humble one and calls for no great scientific knowledge, but on its careful superintendence the prosperity of the country and the comfort of the people in a high degree depend. Both the faults which I have thus alluded to are closely connected with each other, and I shall offer a few remarks on each, commencing with the second.

9. It is chiefly from taking the petty Irrigation works and district roads from their natural custodians the Revenue Officers, and attempting to place them under a separate agency that our present Public Works Establishment is so expensive, compared with the period before 1852, and costs half as much again as the Establishment of any other Presidency, according to the remark of the Supreme Government. It becomes therefore a serious subject of consideration whether any adequate advantage has been derived from this large additional outlay for superintendence. The trial of the new system has been made under favorable circumstances for although

Extract Minutes of Consultation 23d March 1859, No. 677, Public Works Department.

* Extract Minutes of Consultation 23d March 1859. No. 677, Public Works Department.

the Establishment was reduced in 1852, it still more than doubles the cost of that in 1852, and as observed* by Government the restriction on new works, "greatly narrowed the operations of the "Department and as a consequence left the Engineer officers little else to attend to than the "repair and maintenance of existing works and the continuation of some works already in progress." But according to general opinion instead of any advantage having arisen from the new arrangements these District Works are less efficiently kept in repair than they used to be, and this unfortunate state of things is not based on public opinion only. About eighteen months after the restrictive order of 17th July 1857, No. 1372, had left the Department more at liberty

Extract Minutes of Consultation 13th November 1858. No. 2386, Public Works Department.

to attend to this branch of its duty, the Government reviewed its working, and was obliged to record that thus far it had proved a failure and led to general complaints of the Irrigation Works being neglected. After expressing this opinion, the Government observed:—"The attempt at improvement may perhaps have been made on too large a scale for a beginning, and this had "led to great difficulty, but the Government cannot but believe that the principle is correct "and must eventually succeed." I cannot however join in this expectation. The experiment failed after a *favorable* trial, and the remarks of Government on that occasion show *permanent* causes why the new system must be less efficient than the old, viz. "that the Revenue officers "worked with the inhabitants of the locality who had a direct interest in urging on the repairs, "an interest which paid subordinates *never* can feel;" and again, "It appears impossible, *even if* "*the Department were at its full strength*, that its subordinates should inspect personally, every "small breach or injury in every Village, or estimate for and see to its repair. It often happens "that very many of these repairs require to be seen at the same time, and injury occurs "*from what cannot be avoided under the present agency*, viz. that the inspection of some "must be delayed until that of others has been completed. Under the old regime each Village "looked after its own work all at the same time."

The importance of this point will be apparent when it is recollected that delay in repairing a tank or channel throws the land out of cultivation for that season to the impoverishment of the Village and the loss of the public revenue.

10. Government proposed on the above occasion as a remedy for the admitted defects of the new system that the Collectors should interfere and undertake repairs in cases of emergency. But after Collectors have been deprived of their Maramut servants, and seen this Department transferred from them to an independent and separate agency, it is vain to expect that they will be continually interfering, especially when their interference may lead to disputes about its necessity. Besides if their services are thus valuable why employ at a large expense to the State a new agency, which has been shown to be unsuccessful and which is less acceptable to the landowners whose interests depend on the efficiency of the Department and who are consequently the best judges of the merits of the two systems.

11. But the subject may be pursued further as one which has an important bearing on the public interests and which affects the general condition of the Public Works Department, beyond merely the prompt repair of the Irrigation Works and District roads.

The Engineer officers are not directly responsible like the Collector for the Land revenue of the District and instead therefore of giving their attention to keeping the numerous small but valuable tanks and channels in order, they not unnaturally leave this drudgery in a considerable degree to their subordinates, and prefer occupying themselves with projects and works of more conspicuous interest, such as anicuts, canals, bridges, &c., which will bring their names, into prominence with Government and the public. The consequence of the new system therefore is not only that the Establishment is much more expensive, and that ordinary repairs are delayed or neglected, but also that these repairs cost much more than they used to do. Being executed at distances from the Head Station and under little check, the subordinate servants



use the opportunity to charge for materials and labor at enhanced rates, and unfortunately foundation is thus given for similar overcharges in the construction of the more important works. It is, I believe, chiefly in this manner that the Department has fallen low in public estimation, and the records of the Government furnish but too much ground for the charge.*

For the fact that high prices have been thus charged whatever explanation may be assigned to it, see the Chief Engineer's Administration Report for 1857-58, paragraph 8.

12. The Collector on the other hand has a lively and direct interest both in the maintenance of the Land revenue and in the prosperity and contentment of the people of his District. His continual attention was therefore given to the tanks and channels and aided by the Villagers and only a small Maramut Establishment he was able to keep these works and the minor roads in order more effectually and far more economically than at present. I am of opinion therefore that recourse should be had to the old system, but enlarged and improved in its details. The Commissioners on Public Works acknowledged that under this Presidency the class of officers "most conversant with "the wants of the country as respects both works of irrigation and roads are the Collectors" and their competency to undertake the repair of the Village tanks and roads is shown by the general wish of the people that the charge should be restored to them and by the recent example of Tanjore. Alluding to the labor of repairing the injuries done by a violent storm in that District, the Chief Engineer observed:* "In this they (the Public Works "Department) were assisted by the Revenue Department to which "was entrusted in the first place, the repairing of the breaches in "the river banks and irrigation works, but subsequently the communications, the Department of "Public Works, undertaking the restoration of embankments, and masonry works." As therefore an efficient and more economical agency is at our command, and experience has shown that the small Irrigation works and District roads have deteriorated since they were taken from the care of the Collectors, and placed under a separate and more expensive agency, it seems to me high time to consider the propriety of retracing, in some degree at least, our steps.

First Report, paragraph 212.

* Report of 31st August 1857. No. 4436. para. 143.

13. I have mentioned the bad state of the District roads as being a fact of general notoriety. Among others the Bishop of Madras lately conversed with me on the subject. His Lordship's tours give him much knowledge of the Presidency, and when in Madras two months ago he lamented to me that the roads had become worse and worse, since they were taken from the Collectors.†

14. The remedy which I suggest would lead, in my opinion, to several important advantages. If the small irrigation works and District roads on which the prosperity of the country so deeply depends were restored to the care of the Collector they would be kept in more prompt and efficient repair and this would be achieved at far less expense than at present, partly by a more active control over the details of the expenditure, partly by the cheaper agency of the Revenue Establishment strengthened by a few Maramut Maistries, and partly by the people then taking their proper part in the execution of petty repairs. According to the usage of the country

* Among other instances Mr. Fraser, the Executive Engineer of Coimbatoor, writes of "thousands of rupees at present wasted in cheating and misdirected labor."—See Government Order No. 824, 7th April 1859.

† The Salem District used to be noted for its roads (see the Report of the Commissioners on Public Works in 1852) but now Government has had to call for explanation regarding their bad state, and the District Engineer Captain Gahagan writes in reply as follows to the Deputy Chief Engineer of the Southern Circle: "I can "assure you that the local Officers do their best to keep the roads in decent order. Instances of bad work and "inefficient control are, I am painfully aware only too common, but these must continue to occur as long as "the Subordinates are so much overworked as they are now, and have been since the restrictive orders of 18th "July 1857." (Letter of 19th May 1860.) As the Establishment of the Public Works Department now costs in salary 14 Lacks per annum instead of 6 Lacks as in 1852 and the restriction on expenditure makes it less occupied with new works than was intended, this result is surely unsatisfactory and suggests grave reflections. A new agency has been appointed at a great increase of expense and yet fails in dealing with the ordinary repairs.

the landowners are bound to aid in trifling repairs, but since the change of system the Department no longer "works with the people" and the consequence is squabbling and difficulty instead of co-operation. Government have given repeated orders* for the landowners to perform their duty, but until the charge of these works is restored to the Revenue Department with which they are so closely blended, I cannot anticipate real compliance. In addition to the above advantages, the professional officers when relieved from attending to those minor details, would have more time for the construction and maintenance of the greater works of the District. This appears to me the really sound "division of labor" and until it is adopted I fear that no satisfactory progress will be made in putting that check on overcharges and in introducing that punctual and regular system of accounts which is so much needed.

* The most recent orders are Order of Government 20th March 1860. No. 596.
Do. 5th May 1860, No. 940.
Do. 7th June 1860, No. 1190.

See also letter from Chief Engineer 20th June 1860, No. 1305.

15. I have already observed that the opportunity given under the present system to the subordinates to make† overcharges in the repair of tunnels, tanks, and embankments appears to me the main cause which has brought the Department into so much public obloquy. The enhanced prices charged for materials and labor in the Bills for these petty repairs are naturally carried upwards to more important works; the body of the Department thus becomes tainted, and hence those lamentable disclosures which fill the public records of the last two years, and confirm the unfavorable verdict passed on the Department by public opinion. The cases in which the Government has had to dismiss servants for fraud and record displeasure are too numerous for detail on this occasion, but the real rottenness of the present system may be seen in the exposure of the Department in North Arcot by the Commission for investigating Public Establishments. There is no reason to suppose that this was an isolated case, or that the Department was worse in that District than others. Similar cause for distrust has indeed been discovered in other places also, thus in Tanjore our most important province where there are the largest Establishment and annual outlay, Government have had to record a belief that "there is systematic fraud in the Department."‡ In another large District (Bellary) Government found indications of "culpable laxity in the system of accounts and employment of the funds" and when dismissing some servants for fraud in Madura, Government remarked that the subordinates of the Department kept their accounts "very incorrectly" that they were improperly allowed to draw and hold large sums of money and that but little vigilance had been exercised over them. In Trichinopoly also the inefficient condition of the Department caused Government "a very painful feeling." (See order on Mr. McCullagh's, 16th June 1860.) It is however unnecessary to cite more instances, as the Government published some grave strictures of the Secretary of State on the Public Works Department in Bengal with the following observation :—

† In remarking on Mr. McCullagh's case in Trichinopoly the Government have just observed para. 5th "If practices at all "resembling those disclosed in "these papers prevail in other "Districts it is easy to see why "the amount expended in re-"pairs has so much increased "within the last few years." Order of Government No. 1271 16th June 1860.

See Order of Government No. 811, 5th April 1859.

See proceedings of Government on letter from Chief Engineer, dated 22d December 1859, No. 8603.

Government Order, No. 278, 31st January 1859.

Government Order of 2d April 1859, No. 789.

"The Governor in Council regrets to remark that instances have occurred to show that "the censures and admonitions of the Secretay of State will not be out "of place as addressed to the members of the Madras Public Works "Department. He trusts that they will have due effect."

Government Order, No. 354, 9th February 1859.

‡ The importance of this remark of Government will be apparent when it is recollected that the expenditure in Tanjore during the two last official years amounts to Rupees 11,61,523. This sum was chiefly for repairs after two severe storms.



16. Even in the construction of those large works which form the particular duty of the professional officers the working of the Department has not been satisfactory since its separation from and independence of the Revenue Department. Thus the Hindre Bridge in Kurnool was originally estimated for at Rupees 30,743. A revised estimate was next submitted for Rupees 49,413, and yet a farther supplemental estimate of Rupess 28,072, was required to complete the work. The Palaar Bridge was originally estimated for at Rupees 72,673. But the cost was swelled by 3 supplemental estimates to Rupees 1,24,663. The Murthaar under tunnel in Trichinopoly exceeded its estimate of Rupees 10,720 by 70 per cent.

Government Order 12th February 1859. No. 372.

Government Order 15th September 1859. No. 2227.

Government Order 2nd March 1859, No. 447.

The Salem Jail and Court House were sanctioned at a cost of Rs. 62,500, but the additional outlay amounts to Rs. 50,170.

Letter from Chief Engineer 20th January 1860. No. 183.

In these and other instances Government have had to express its extreme censure, and to degrade or dismiss some of the executive servants. My object in alluding to these cases is to illustrate my remark in para. 15 that the absence of the Collector's control has swelled the charges for the repairs of the small Irrigation works, and as a necessary consequence led to increased expense in the construction and maintenance of the larger works to the great detriment of the public interests.

17. I readily concur in the President's remark that the late able Chief Engineer Colonel Bell has done much to diminish confusion in the Department; but I feel convinced that under the present system the Establishment must cost far more than is necessary, and that no adequate control can be placed over the expenditure in the construction and repair of works. As proofs of laxity which still prevails in the Department I would observe that the accounts of the Godaveri Anicut, the Dowlaishwaram Workshop, and the Tanjore repairs after the two storms of 1858 and 1859 have apparently yet to be received.* The records of the current year contain grave complaints on the part of Government of imperfect accounts, irregularity in drawing money, and heavy arrears of bills, and the general laxity of the Department may be seen in Major (now Lieutenant Colonel) Horsley's† reports of his recent tour, in Ganjam and the Godaveri, and Krshna Districts. It is unnecessary for me to remark on the irregularities therein detailed, but it is a significant point that the Reports led Government to single out Captain Phillips from the other Officers of the Department for special praise, because his accounts have the unusual, but what ought to be the common place merit of being kept with correctness. As the Department to which Captain Phillips belongs is recommended to be entrusted in this single year with the expenditure of 54 Lacks of Rupees, such a state of things fills me with uneasiness, and seems to demand the serious attention of Government.

* The Government has just remarked in their Pro. on the Chief Engineer's letter of 21st June 1860, No. 1861, that the accounts of the Department submitted to them are "systematically incorrect" and imperfect and are many months in arrear in several Districts.

† Dated 27th January 1860.
do. 28th March do.

See Budget for 1860-61.

18. In my opinion the right course to adopt would be to place the Collector again at the head of the Department in each District, giving him a small Maramut establishment to aid his own revenue servants in looking after the minor irrigation works and roads. The District Engineer should be his assistant and adviser in the Department with a separate and efficient establishment, to enable him to render the construction and maintenance of the larger works and Trunk roads, besides aiding the Collector in the general duties of the Department. The District Engineer should be directly responsible for his own outlay, but his bills should be sent to Madras with the Collector's countersignature, and on the other hand the District Engineer should examine the work and check the accounts of the Collector's subordinates in the Maramut Department. By this arrangement, the Collector and District Engineer would be placed, I believe, in

a more satisfactory position than at present, while each branch of the Department would act as a check on the other and provide in an important degree that controul over the expenditure which is now so much wanted. Less expensive Establishments would then be sufficient, and I believe that the construction and repair of works would be effected much more cheaply than at present.

19. The course which I suggest would entail some change in the Central office, but not of a kind to create difficulty or expense. With respect to the Deputy Chief Engineers I should propose their being absorbed in the District Engineers, or if retained that they should be stationed in their Circles. The Chief Engineer might be re-associated with the Revenue Board under arrangements which would leave to him the scientific details and ordinary routine of the Department though I believe the superior plan would be to make him Secretary to Government as well as head of the Department. This course would diminish correspondence, expedite business and supply that direct and personal communication with the Head of the Department which is now so often felt to be wanted in the Council Chamber. With the Members of the Government to hold the scale even between the Revenue and Engineer officers, and with the Revenue Board at hand to consult when necessary, I should not anticipate that this arrangement would lead to Departmental difficulties or jealousies.

20. As the Collectors and their subordinate servants are being relieved from Police duties a partial return to the old system in the Public Works Department would not now be attended by those objections which might have otherwise been urged, and I would again point out that the minute and peculiar irrigation of this Presidency requires* a different system from that which is found to answer elsewhere. For the sake of uniformity of system with the other Presidencies, the public money is now wasted and in the present state of the finances, we cannot afford the expense of separate Revenue and Public Works Establishments for the purpose of carrying out a principle which however sound in theory has not been found to succeed in practice after a trial of several years. The main points to which I would invite attention are as follows:—

1st. The present Establishment costs half as much again "as at any other Presidency, and the Departmental charges, without including extra Establishments amount to 40 per cent. of the value of the work performed.

2nd. The annual cost of the Establishment in salary is now Rupees 13,95,252 against Rupees 5,79,174 in 1852. Yet it is confessedly unequal to maintaining the Irrigation Works, and roads in order, although the stoppage of new Works has left the Department at leisure for this duty. After alluding to the temporary restriction placed for financial reasons on new Works, Government recently observed, "Meanwhile the Department is unable *from deficiency of* "*Establishment* to perform the humbler but equally important duties, of repairing roads and stopping breaches in tank bunds "works which of truth are more necessary for the immediate welfare of the people and the maintenance of the Revenue."

Extract Minutes Consultation 13th November, 1858. No. 2383, para 5.

* In support of my argument that different circumstances require different treatment I am able to quote Sir C. Trevelyan, who in his Minute of 1st June 1859 writes thus on another point connected with the Public Works Department.

"I entirely agree with Mr. Bourdillon that the circumstances of the Madras Presidency may require a different "application of the same principle or even to a certain extent the application of different principles from the circumstances of the other Presidencies. It is worse than useless to ignore in theory individualities which exist "in fact. It puts our whole system of administration out of joint and wastes invaluable public time in discussing abstractions which have often no more connection with the South of India than the status of France has "with that of Spain or Italy.





3rd. Notwithstanding the complaints of neglected repairs, the expense under this head has greatly increased. Before the Irrigation works were taken from the charge of the Collectors the repairs* cost as follows:—

* See Appendix Y Commissioners' 1st Report.

| | Rs. |
|---|---|
| 1849-50 | 9,71,999 |
| 1850-51 | 10,84,092 |

Since the separation the cost has been—

| | Rs. |
|---|---|
| In 1857-8 | 12,70,656 |
| „ 1858-9 | 19,22,764 |
| „ 1859-60 | 17,01,935 |
| Estimate for Budget of 1860-1 | 17,16,491 |

Allowance has undoubtedly to be made for the higher cost of labor and materials and for injuries from storms in Tanjore and Trichinopoly, but still this increase of charge accords ill with that neglect of the Irrigation Works which is so much complained of.

4th. The sanctioned cost of the Department in the last official year 1859-60 was 67 Lacks of Rupees of which 17 Lacks were appropriated to Establishment and 50 Lacks reserved for expenditure on Works. The Department thus absorbs 12 per cent. of the Revenues of the Presidency and its efficient working is therefore a matter of the highest importance.

It is under these circumstances that the state of the Department appears to me. to call for investigation, with a view to improve its efficiency, and at the same time economise the public money. The present Establishment,. notwithstanding its heavy expense, has admittedly shown itself unequal to its executive duties curtailed as they have been by the stoppage of new works. What then is to be done? Will Government increase still more the numbers and expense of the Establishment, or will it seek economy and efficiency by correcting the weak points of the present system?

21. I do not pretend in this Minute to exhaust the subject or even to enter far into its details. I have limited myself to noticing some of the salient points of a question in which the interests of the State and the character of our adminstration are deeply concerned.

(Signed) E. MALTBY.

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No. 361. MINUTE BY THE HONORABLE THE PRESIDENT, DATED 7TH JUNE 1860.

Although there is much force in many of Mr. Maltby's observations, I am clearly of opinion that the present system ought to be substantially maintained.

In our sense of *present* inconvenience, we are, too apt to overlook the evils necessarily incident to *any* altered state of things. If the works of various kinds had been well provided for, and the accounts had been well kept by the old Marammat Department under the superintendence of the Collectors, the change to the existing scientific Establishment would not have been made. By a return to the former state of things the former evils would be reproduced in an aggravated form.

The present system has hardly lasted five years, and the imperfection and friction necessarily attending a new administrative machinery is one main cause of the complaints against it. The habit of co-operation cannot be immediately formed after the introduction of a new division of labor. On the contrary, jealousies and differences of opinion are likely at first to prevail; and a new system can only have a full and fair trial when it is worked by persons who have been trained under it. During my tours I exerted myself to explain the proper relations between

the Collectors and the officers of Works;* and I know that in some instances this was attended with good effect. In the case of the officer whose proceedings have given rise to this discussion, no useful impression was made and he has been removed to another district.

When the Department of Works was first created, the Executive officers were necessarily got together from various quarters, without, in many cases, any satisfactory proof of qualification. Another obstacle, which alone is sufficient to account for the backward state of the Department, is that the officer first placed at its head, although a highly honorable and accomplished man, had no talent for administration. It is only since the appointment of Colonel Bell to be Chief Engineer in the early part of last year, that any real progress had been made. Since that the Department has been continually improving; and there is every reason to expect that if no new change of system takes place, a high degree of efficiency will be attained under the present Chief Engineer, who was Colonel Bell's constant adviser and Assistant in the improvements made by him.

To replace the Department of Works under the Collectors, would be a retrograde step, not only as regards this, but also in respect to every other branch of business entrusted to those officers. It was a great practical evil of the Madras system that the Collectors were overburdened. Nothing could be well done, where functions, each of which required close individual attention according to different systems of management, were heaped upon a single over-tasked individual. In consequence of this, the Department of Works and the Police have been placed under separate European superintendence; but they ought both to be conducted under the general supervision of the Collector, whose position has, as I have elsewhere remarked, been approximated, much to the public advantage, to that of the Bengal Commissioner and the French Prefect.

The large proportion which the cost of repairs bears to the remaining expenditure, has been fully explained in a recent report of the Chief Engineer in reply to some observations on the subject in a letter from the Government of India. It must always be so in this Presidency *whatever may be the system of management*; for the maintenance of the Revenue depends upon a reticulated system of irrigation works, which stands in constant need of repair and of small extensions and improvements which are charged under that head.

For the same reason the cost of the Establishment appears large, because it is maintained in a great degree for inspection and direction, independently of actual expenditure. If there were only a few great works to be executed, "Establishment" would bear a small proportion to "Expenditure;" but the case is different where a large number of small works have to be watched and kept in order in every Sub-Division of a District. I do not see how Mr. Maltby's plan could lead to reduction of expenditure. He proposes to have *two* Establishments—one under the District Engineer and the other under the Collector—instead of only one under the District Engineer. This would not be conducive either to control of expenditure or to harmony of action. He appears to rely upon the services of

* See especially my Minute upon the Trichinopoly District, para. 5.
"The point first discussed was the management of the Irrigation works, which are the life of this, as well as of the "Tanjore District. The mutual relations of the Revenue and Public Works authorities appeared never to have been de- "fined since the last mentioned Department was placed on it's present footing. I explained that, as society advances, new "developments of the principle of the division of labor become indispensable; and that, without interfering with the "general direction and supervision vested in the Collector and Chief Magistrate, his administrative power had been "increased by improved Police and Public Works Establishments, managed by European officers. I also said, that it "was impossible that any Government department could do justice to an extensive and complex system of Irrigation "works, unless it was properly supported by the landowners, and they fully performed the part which, according to "the custom of the country, it fell to them to take."



the Tahsildars and other Native Revenue Officers being obtained without additional cost. But advantage has lately been taken of the separation of the Works and Police from the Revenue, to limit the Native officers employed upon the latter to the number really required, and to give them adequate remuneration; and, combined with this, the Taluqs or Districts in charge of Tahsildars have been enlarged. If, under these altered circumstances, the works were replaced under the Revenue Establishments, a corresponding increase must be made in those Establishments.

I entirely agree with Mr. Maltby that the landowners should be held responsible for the maintenance of the minor irrigation works; but the question is whether, in the performance of this duty, they should act under the superintendence of the Revenue officers or of the officers of the Department of Works. No doubt, it was difficult for the Raiyats, who had been accustomed to the interference of the Revenue officers with all their affairs, to begin to act with another Department; but the first difficulty has been got over, and where proper attention is paid by the District Engineer and his subordinate officers to the details of their duties, the new system is attended with satisfactory results.

In my opinion, therefore, the existing system ought to be maintained; but every possible exertion should continue to be made for its improvement; and care should be taken that the duties of the Department are conducted in each District in close concert with the Collector and with a general reference to his wishes; and that the landowners are made to do their duty in the maintenance of the minor irrigation works.

(Signed) C. E. TREVELYAN.

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No. 362. MINUTE BY THE HONORABLE W. MOREHEAD, ESQ., DATED 10TH JUNE 1860.

I agree with Mr. Maltby in the remarks which he has made in his present Minute on the Department of Public Works.

The Department is undoubtedly a crying evil and calls for greater, and more immediate reform than our late President in his Minute of the 7th instant, admits to be necessary.

The want chiefly felt is the absence of efficient check and control. At present the Heads of the Executive Department in every District, are so occupied in keeping accounts and in preparing the bills for works executed, that they have become almost exclusively a department of accounts leaving the supervision of the execution of the works, especially works of repair, to the lower subordinates of the Department.

Under such circumstances it is plain that until an effectual mode of check and supervision is introduced into the Department of Public Works, the evils detailed by Mr. Maltby must continue to exist.

The working of the present system has had a fair trial, and to persist in attempting to carry it on for a longer period and further trial, is only in my opinion to add to our present embarassments and to render improvement more difficult. In Bengal and Bombay the Chief Engineer has been made also the Secretary to Government in the Department of Public Works, and I think we should adopt the same plan. By so doing I am satisfied the work would be more satisfactorily done than at present. Much letter writing would be saved. Instead of communicating with the Chief Engineer through a Secretary, the orders of Government would be at once taken by the Chief Engineer after the subject had been discussed by the Government. The present constitution of the Central Office would require to be altered. The Deputy Chief Engineers being sent to reside in their different ranges. If another Deputy Chief Engineer were needed, under this arrangement one must be appointed, and I am inclined to think that by a reduction of the present Establishment of the Central office funds for this new appointment would be forthcoming.

As pointed out by Mr. Maltby, the Revenue Department should be the executives for all ordinary and emergent repairs, of earth work, tanks, river and channel embankments; all public buildings, main roads, bridges and masonry works being left with the Department of Public Works.

(Signed) W. MOREHEAD.

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No. 363. MINUTE BY HIS EXCELLENCY THE COMMANDER-IN-CHIEF, DATED 16TH JULY 1860.

The circumstances so clearly detailed in Mr. Maltby's Minute are conclusive as to the necessity of thoroughly investigating the working of the present Department of Public Works, in view to deciding whether the Department should be maintained as now constituted, or whether it is not expedient to revert to the previous system.

Mr. Maltby has clearly shown, it appears to me, that, while the existing system is immeasurably more expensive the work is much less efficiently performed than was the case under the old system.

So far as I can now form an opinion on this very important question, it is clear to me that both economy and efficiency would be materially promoted by adopting the suggestions Mr. Maltby has made in paras. 18 and 19 of his Minute. I am especially in favor of making the Chief Engineer Secretary to Government in Public Works Department. As Mr. Maltby well observes this course would diminish correspondence, expedite business, and which is highly desirable, place the Head of the Department in direct and personal communication with Government.

(Signed) PAT. GRANT.

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No. 364. MEMO. BY THE HONORABLE E. MALTBY, ESQ., DATED 20TH AUGUST 1860.

There are, in my opinion, two reasons for at once taking some action in this question of the Public Works Department.

1st. Even with a 1 per cent. Income Tax just laid on for Public Works, the Supreme Government has been obliged to make a further reduction of 5 Lacks in our Budget. The costliness of our Establishments comes therefore into greater prominence.

2nd. The new Code is about to issue, and if alterations in the system are to be made it would be well that they should be incorporated in the Code.

This Government might at once bring the subject before the Government of India, recommending the conversion of the Chief Engineer into a Government Secretary (as has been arranged there) and the relief of the Scientific Department from the charge of the petty Irrigation Works; expressing an opinion that such a course would tend to efficiency and economy and observing that if the Government of India are inclined to the same view, a scheme for the purpose will be laid before it. Or if deemed more advisable our principal Revenue and Engineer Officers could be consulted before we address the Supreme Government.

(Signed) E. MALTBY.

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No. 365. MEMORANDUM BY COL. W. H. HORSLEY, CHIEF ENGINEER, DATED 17TH SEPT. 1860.

In the old Maramut Department the Collector and his Department were the Executives, the Civil Engineers and their Assistants the Supervising and Directing Officers. Except in special cases, all disbursements of money were made by the Revenue Authorities and the Engineer Department measured the work and checked the expenditure.

2. Work was usually given out on a sort of contract to the Meerassadars, or principal



Ryots, who performed it under the general direction of the Talook Maistry (on the Collector's Establishment) the accounts of the same being adjusted from time to time by the Talook Goomashta, whose duty it was to keep the accounts of every work in the Talook and have the same ready for the inspection of the Engineer Department whenever they entered the Talook. There were usually one maistry to a Talook, or from 12 to 14 in a district, and as many Goomastahs, and over them all was a Maramut Superintendent, the Collector's principal subordinate in this department. His duty was to keep a general superintendence over the Talook Maistries and report to the Collector from time to time of the progress of the works, as well as to estimate for repairs whenever necessary. The Superintendent was usually one who had been brought up in the Engineer Department and understood his work well.

3. Thus, at apparently trifling expense to Government, the Collector, with the help of the Sub-Collector and Assistant Collectors, and under them the Tahsildars, with their Subordinates the Tarafdars, Peishkars, &c. aided by the Maramut Superintendent, the Talook Maistries and Goomastahs carried on the work of the District, the Engineer Department being confined to Estimating, Supervising, and directing. The latter consisted of a Civil Engineer with one and sometimes two Assistants, two or three Revenue Surveyors, and, latterly, as many Assistant Overseers. The Civil Engineer and his Assistants were constantly on the move, estimating or measuring work done, and the same was the case with the Surveyors, excepting now and then when employed in Surveying and levelling. The Assistant Overseers were engaged in superintending large masonry works in progress, or road repairs, but had nothing to do with the custody of money. This was entirely confined to the Collector's Department, the Engineer Department acting as a check on them by constant supervision and measurement.

4. This system had the advantage of securing economy as respects superintendence and Executive management, because from the Collector downwards to the lowest Revenue Officer in charge of a Sub-Division of a Taluq, all took part in the work without additional pay while the professional Establishment under the Collector was, with the exception of the Superintendent, very ill paid, a Maistry receiving from 10 to 15 Rs. and a Goomastah 7 Rupees a month. It is not to be supposed that they were satisfied with these salaries and got nothing besides, for it is well known that 10 per cent at least, of the total expenditure went back to them in the shape of gifts from the Meerassadars, &c. I should have mentioned that the Collector had the assistance of one English writer in his office to conduct the correspondence and accounts connected with the Maramut Department.

5. In the margin is given the cost of Collector's and Civil Engineer's Establishment for 10 years ending 1851 in Madura and Tinnevelly, as compared with the expenditure during the same time.

| | | |
|---|---|---|
| Collector's Establishment..... | Rs. | 69,754 |
| Civil Engineer's do. | „ | 1,74,997 |
| | | 2,44,751 |
| Expenditure..... | „ | 9,96,531 |
| Per Centage of Establishment to expenditure..... | „ | 24½ |

6. The advantage on the side of economy would not appear to have been so decided after all by the old system, and that without allowing any thing for the time and labor bestowed on the work by the Revenue Department from the Collector downwards. If a portion of their salaries were added, the old would probably be found to be more expensive than the new.

7. One advantage the old system certainly had over the new was that of constant supervision by an entirely separate Department. This caused the Revenue Authorities to be on the qui vive, and ready with their accounts whenever an officer or subordinate of the Engineer Department entered their limits, and they were always liable to these periodical visits.

8. In the new Department this constant supervision of subordinates appears to be wanting in many instances. The District Engineer complains that his office duties and the nu-

merous accounts he has to send in prevent his moving about as often as he would wish, and all his subordinates, from the 1st Assistant downwards, are either in charge of ranges, or particular works, and therefore cannot assist him in the general superintendence of the District. This is, I conceive, a fault in the new system. I would propose to correct it in some measure by removing the 1st Assistants, one or two in each District as the case may be, from the charge of ranges, and constituting them inspecting and directing Officers in conjunction with the District Engineer, and one or other of them should be constantly on the move, as in the old Department, and the other at Head Quarters, taking care that the current work of the office is kept up. I would leave the charge of ranges generally to the Upper Subordinate Class and employ the 2nd Assistant District Engineer and Sub-Engineers on special works. The Upper and Lower Subordinate Departments would thus be employed principally in estimating for and executing ordinary repairs to Tanks and water courses, roads, Buildings, &c., within their ranges, the same kind of work which used to be done formerly by the Talook Authorities, assisted by a Maistry and Goomastah; and the District Engineer and his 1st Assistant would stand towards them much in the same light that the Civil Engineer and his Assistant did to the Tahsildars and his subordinates. By going constantly from Range to Range the District Engineer, or his 1st Assistant, would be able to check the work done by actual measurement and see that it was properly brought to account. One great cause of delay in the accounts at present is the difficulty of getting them in from the Range Officers in proper time. This would, in a great measure, be obviated by the District Engineer or his Assistant overhauling the range accounts month after month, instead of their being left, as at present for months together, with no other supervision than an occasional examination of a Cash Chest and comparing it with the Cash account.

9. For all ordinary Earth and Masonry repairs, I would recommend that contracts should be made by Range Officers, under the authority of the District Engineer with the Meerassadars or Heads of Villages, leaving them to do their own works as much as possible, as under the old system, the Range Officer and his subordinates inspecting and measuring the works as frequently as possible in the presence of the Meerassadars and furnishing them with an Abstract of his measurements with the value of the same at the contract rate; and if a further advance were needed, giving a cheque for the same on the nearest Treasury. As few money payments should be made as possible.

10. Thus the new system would be assimilated to the old in all the more essential and important points, while there would not be the anomaly that there was in the old of a confessedly unprofessional Department undertaking the Executive duties of the Department of Public Works.

11. I believe the great point to be gained is to get rid of the host of low salaried Goomastahs who are still employed to a great extent in the Department under the head of Extra Establishment, and to do this, we must get the people to undertake their own repair works, which they will be glad to do if sure of proper payment. They are the parties most interested in the well being of the Tank or Channel, and they can often furnish or obtain labor, when a Goomastah sent to the Village to carry on the work would be helpless.

12. I consider a return to the former system, as a whole, to be altogether out of the question. In the first place, the Taluqs are now in many instances double the size they were; 2nd the Tahsildar has no longer Police authority, and this it was which helped him very much on the old system; 3rd the work people and ryots generally have learnt what it is to get good wages, and they would not be so ready to give up part of their earnings as they were formerly; and 4th, it would be a return to an anomalous state of things, Public Works executed by the Revenue Department. I have said nothing of forced labour, of which there was confessedly



a good deal on the old system, and I doubt very much if that system could have gone on as it did without it. But this it could not have recourse to nowadays.

13. If properly carried out I believe the new system will be found more efficient and more economical than the old one.

14. In the above sketch of the old and new systems I have said nothing about the duties of the Deputy Chief Engineers. On this subject I have already addressed Government in letters dated respectively 16th and 25th May 1860, and I have little to add to what is there stated. I feel sure that the breaking up of the Central Office of Public Works, and the sending of the Deputy Chief Engineers to reside in their Circles, involving as it does a separate Auditor * at Madras, cannot be carried out efficiently without increase of cost in the item of Establishment, whereas the great object is to reduce this item to the lowest figure. I am also of opinion that what would be gained by the apparently greater facility of frequent supervision, which the Deputy Chief Engineers would possess by residing in their Circles, would be more than counterbalanced by the delay caused by frequent references and correspondence. I will suppose for a moment that the Deputy Chief Engineer Northern Circle has his fixed Station at Dowlaishwarum, (and that is about as centrical as he can well be placed) of course all correspondence between the Chief Engineer and the District Engineers must in this case pass through the Deputy Chief Engineer—some information is required from North Canara, the Chief Engineer must write to the Deputy Chief Engineer at Dowlaishwarum, he again must write to the District Engineer of North Canara, that Officer sends the information to Dowlaishwarum, and from thence, if deemed satisfactory, it is transmitted to Madras. If not satisfactory, a second requisition will have to travel over the same ground again to the great delay of business. It will be the same with the accounts if they have to pass through the Office of the Deputy Chief Engineer, and if they do not, one great object of his being in his Circle will be lost.

No. 574 and 872.

* For Colonel Bell's opinion see para. 5, Clause 4 of letter No. 574.

15. At the first view of the subject, it certainly would seem that the Deputy Chief Engineers, if residing in their Circles, would possess greater facilities for inspection than they do by being located at Madras. But when it is considered how frequent, nowadays, are the opportunities of reaching the Northern Division in a Steamer, or sailing vessel, in less than a week, sometimes in fortyeight hours, and the Southern Division in the same way by sea to Negapatam, or by Rail to Salem, I do think that the advantages to be gained by the Deputy Chief Engineers residing in their Circles are greatly exaggerated. The fact is, it would be more difficult for the Deputy Chief Engineer of the Northern Circle to reach North or South Canara from Dowlaishwarum than it would be from Madras, and vice versa, it would be greatly more tedious for him to communicate with the Northern Division from the Western Coast, when engaged there, than it is from Madras. As respects the Centre Circle, Madras would, I conclude, continue to be the fixed Station of the Deputy Chief Engineer, so that he is just as well off now as respects the facility of inspecting the Districts included in his Circle, as he would be under the proposed system. There is nothing, in fact, to prevent his visiting works in progress as often as he may think necessary. Instead of confining his visits to isolated works, and being absent from the Central Office for a few days only at a time, I proposed that each Deputy Chief Engineer should spend at least two months continuously in making a tour of inspection, and I believe if this were done once or twice a year in each circle, that great advantage would accrue both to the Officer himself and to Government. If the Deputy Chief Engineers are to be sent to their Circles, three such Officers will not suffice. The great extent and the position of the several Districts require that there should be at least five Circle Officers, viz. two for the present Northern, one for the Centre,

and two for the present Southern Circle. This will entail additional expense for salaries and Establishments as it is not possible to do more than we have done already in reducing the number of first Class District Engineers, abolishing our 3rd Class Executives and lowering the pay of the Assistants, see 5th para. of my letter of the 16th May 1860 for Colonel Bell's opinion in this matter.

No. 574.

16. Since writing the above, I have read the Minute by the Honorable Mr Maltby dated 16th May 1860 and as directed will now proceed to offer a few remarks thereon.

17. Mr. Maltby considers that the main faults of the present system are 1st, that by disconnecting the Collector from all active part in the Department a safeguard against wasteful expenditure has been removed; and 2nd that much more expensive and less efficient Agency is now employed to look after the village roads and minor irrigation works than formerly. He proposes to remedy these faults by placing the Collector again at the head of the Department in each District, giving him a small Maramut Establishment to aid his own Revenue Servants in looking after the minor irrigation works and roads,—making the District Engineer his Assistant and adviser in the Department, with a separate efficient Establishment to enable him to execute and maintain the larger works and Trunk roads, besides aiding the Collector in the general duties of the Department. He would make the District Engineer directly responsible for his own outlay, but his Bills should have the Collector's countersignature; and, on the other hand, the District Engineer should examine the work and check the accounts of the Collector's subordinates in the Maramut Department.

18. With respect to the Central Office, Mr. Maltby proposes that the Deputy Chief Engineers should either be absorbed in the District Engineer, or if retained, that they should be stationed in their Circles, and that the Chief Engineer should either be associated with the Revenue Board, or be made Secretary to Government, as well as head of the Department, the latter, he considers, would be the better plan for reasons assigned.

19. My impression on reading this Minute is that Mr. Maltby takes too much for granted, He assumes that the old system was both economical and efficient, that it fully answered the end in view, and that, therefore, a return to it is the wisest course. He shows that in 1852, when the Public Works Commissioners wrote their report, the existing Establishment cost only Rupees 5,79,474, per annum, and that at present its cost is Rupees 13,95,252. These figures, however, do not represent the true state of the case, for in the former sum the Military allowances of Officers and Subordinates are not included, and in the latter they are to the amount of Rupees 2,49,603. It is also to be observed that the Establishment, as now charged for, includes the salaries of Mechanical Engineers sent out from England, and the cost of conservancy, which latter certainly should not be set off against the general outlay on Works in making a percentage of the cost of one to the other. No details are immediately procurable to trace what these charges amount to, but they must add considerably to the total cost of the Establishment.

20. In the former part of this Memo. I have shown that in the old 8th Division, Madura and Tinnevelly, which for some years was second only to Tanjore in the amount expended on works of Irrigation, the per centage of Establishment to expenditure was 24½ per cent, and that without taking into account the Military allowances of the Officers and Subordinates, or any share of the expense of the Establishment maintained in connection with the Board of Revenue in the Department of Public Works or allowing any thing for the time and labor bestowed on the work of the Department by the Collector and his Department. If all these items were added, I believe the per centage would fully equal, if not exceed, that of the present Establishment, including as it does every single item of expense, even the Military allowances of 7



or 8 young Officers and Probationers of the 1st and 2nd Class sent out from England lately, whose services are not yet available for work in the Department, as they have not passed in the Vernacular. The fact is, the Government now keep up a corps of Military Engineers, consisting of 3 Battalions of Officers, without charging the Military Department with anything more than the bare pay or subsistence, of those Officers, all the allowances being debited to the Department of Public Works which was not the case formerly.

| | |
|---|---|
| For works of Irrigation. | 5,75,650 |
| Roads and Buildings..... | 3,30,536 |
| | 9,06,586 |
| Superintendence..... | 2,40,674 |
| Per centage..... | 26·5 |
| 1859-60. | |
| Salaries paid by Collectors..... | 14,07,545 |
| Do. by Paymaster..... | 2,49,603 |
| Stationery..... | 16,043 |
| | 16,73,191 |
| 1859-60. | |
| New works..... | 19,97,950 |
| Repairs..... | 23,15,606 |
| Total... | 43,13,556 |
| $34\frac{3}{4}$ per cent. | |

21. By a Statement of expenses incurred on account of works of irrigation, roads, buildings, &c., and for superintendence from 1837 to 1850, submitted to Government with letter from Secretary to the Board of Revenue Department of Public Works, Number 154, dated 28th February 1853, I find that the average expenditure was as shown in the margin, and the per centage of superintendence to expenditure 26·5. In 1846 it was very nearly 34 per cent, and in 1831 it was 31·6, and that without taking into account Military allowances, while in 1859-60 inclusive of all the charges I have mentioned above, the per centage is not more than 34·75, as given marginally.

22. According to the Annual Progress Report of the year 1855-56 the expenditure on new works and repairs amounted to Rupees 59,88,241, while the outlay on account of Establishment, exclusive of Military allowances, was Rupees 768,419, which, exhibits, a proportion of 13 per cent only. If the Military allowances, amounting to Rupees 2,94,142, be added, as in common fairness they ought to be, the charge for the Establishment in 1855-56 will then amount to Rupees 10,62,561. In addition to this it is probable that a considerable sum under the head of superintendence is debited to work, and ought therefore to be deducted from the above outlay of Rupees 59,88,241, in order to ascertain the true per centage of Establishment to expenditure in the above year.

| | |
|---|---|
| New works..... | 41,60,354 |
| Repairs..... | 18,27,887 |
| Rs.... | 59,88,241 |

23. Taking every thing into account therefore, it does not appear that the former system was so economical as at first sight it would seem to have been, and there is no doubt, I think, that a return to it could not be effected on the old scale of allowances for Táluq Maistries and Gomastahs, and that, therefore, there must necessarily be an increase, and a large increase too, in the Collector's Department, while it would not be practicable to make a corresponding decrease in the District Engineer's Establishment, if they are to continue to supervise the Minor Irrigation works and road repairs executed by the Collector's Department in addition to the construction and maintenance of the larger works and Trunk roads.

18th para. of Minute.

24. As respects the efficiency of the old Department I must say that, after an experience of 15 years in charge of No. 8 Division, I cannot accord to it that degree of praise which Mr. Maltby appears to do. It greatly depended upon the Collector and Sub-Collector whether the works were attended to or not. If these Officers took an interest in them and worked cordially with the Civil Engineer all went on tolerably well, but if otherwise, the reverse was the case.

25. To ascertain what was done under the old system, we have only to refer to Appendix T, 1st Report of the Public Works Commissioners. There we find that in 1850 the total amount sanctioned for *repairs* to *irrigation* works for the whole Presidency was only Rupees 5,64,575. Mr. Maltby, when he compares this outlay with that of 1859-60 (Rupees 16,82,270), surely

would not wish it to be inferred that he considers the former sum sufficient for the thorough repair and preservation of the numerous irrigation works of this Presidency from which the Government then derived a revenue of 150 lacs per annum. In some Districts, as per margin, the works of irrigation can hardly be said to have been attended to at all formerly; and as respects the degree of attention paid to such works by the Tahsildars and their subordinates, I would refer to the 101 para. of the above report, where it is written, "we have already said that in former times when tank repairs were chiefly in the hands of the Tahsildar, all such improvements" (new tank sluices, Calingulas, &c.) were neglected and the work done was for the most part confined to heaping earth on tank banks, or digging it out of channels without much regard to its disposal in the former case, or to the judicious excavation in the latter, and attention being very rarely given by the best intentioned Tahsildar to any improvement. Such improvements as are here referred to are now carried out very largely in every District from the repair funds, and must necessarily tend to the safety and greater efficiency of the works of irrigation. Again, in the 658 para, the Commissioners say that "they "found the sum devoted to the repair and preservation of the works of irrigation too small, "and that this was proved by the fact that in every District the tanks and channels then "watered less than they did formerly, in consequence of their having been allowed to fall into "disrepair." This opinion was confirmed by the testimony of the Civil Engineers. Mr. Maltby considers that the minor works and repairs connected with irrigation are still greatly neglected, notwithstanding the increased outlay upon them. I am not aware, however, that this is the case generally, and I think before such a conclusion is arrived at, it would be well to hear what the District Engineers can say in their defence. The returns of revenue from irrigation and other sources do not, as far as I am informed, show any falling off, but rather an increase, in some Districts a considerable increase. If this be true and that it is so, a Statement of Cultivation and Revenue for 10 years ending Fusli 1263, which I have obtained from the Government Office fully proves, it would tend to show that the Country generally is in an improved state; and seeing how greatly its prosperity depends upon the state of its irrigation works, this could hardly be the case if these works were in a more neglected condition than formerly. The present expenditure for Minor works and repairs, (Rupees 16,82,270) large as it appears in comparison with that of former years, is, after all, only 10 per cent, upon the total revenue now derived from the works in question, and but one per cent on the capital invested in their construction assuming that to be 1,700 lacs of Rupees, or 17 millions sterling, which is in the same proportion to the present revenue as the Public Works Commissioners reckoned it to be in para. 234 of their report. Moreover, as before stated, a considerable sum, not less, I should say than one-fourth of the whole, is spent in improvements to existing works, and must in the end tend to diminish the expenditure on repairs to these works, but then, on the other hand, as new works are executed in various Districts, allowance must be made for their maintenance, and therefore what is saved on one set of works will be required for another set. For bonâ fide repairs to existing works I do not think that more than ¾ths of the sum mentioned above or say Rupees 12,61,701 was spent last year which is less than 7½ per cent upon the income.

| | | |
|---|---|---|
| Cuddapah..... | Rs. | 12,633 |
| Ganjam..... | „ | 11,347 |
| Kurnool... .... | „ | 7,060 |
| Nellore..... | „ | 17,229 |
| Salem..... | „ | 10,327 |
| Vizagapatam.. | „ | 4,767 |

Rupees 168,60,740.

26. As respects the then state of the roads, Trunk and District, the Commissioners certainly did not report in favorable terms, see paras. 669 and 670 of their first report. They state "that "nearly all the most important lines for commerce, being those connecting the coast Districts with the interior, still remain entirely neglected, and that even of the great Military lines, which have "received a larger share of the attention of Government there are but very few in good "order, while the greater part are in an utter state of ruin, or more properly speaking, have "no existence at all as roads, being unmade, unbridged and intercepted by frequent swamps "and drains."



27. Mr. Maltby appears to think that the roads in the Presidency generally are in a worse state now than they were formerly, and as a proof that they are so, he brings forward the testimony of His Lordship the Bishop of the Diocese. It is possible they may be worse in some Districts, Madura for instance, where a former Collector, the late Mr. Blackburne, paid very great attention to the roads and got a great deal done by village labor, which cannot be attempted now. But there are other Districts, I have no doubt, where the reverse is the case. In Ganjam, for instance, the roads have been vastly improved of late years and the revenue from exports and from salt has risen greatly, the latter three hundred per cent, if I mistake not? In Salem also, the roads are reported by the District Engineer* (and his report is confirmed by the Collector) to be in very fair order. As respects the roads in Tanjore, adverted to by Mr. Maltby, the District Engineer, in reply to the charge brought against their condition by the Collector, writes as follows:—

* No 11, dated 19th May 1860. No. 82, dated 25th July 1860.

"States that neither the roads or tanks in the Puttoocotta Tâluq have been utterly "neglected during the past year. The expenditure incurred in "closing breaches in the Tanks in the year 1859-60 was Rs. "21,084 and that incurred in repairing roads was Rupees 2,477.

Extarct from letter from the District Engineer of Tanjore, dated 11th of August 1860, No. 127.

"I cannot endorse the Collector's statement that the roads have deteriorated considerably since their "transfer to the Department of Public Works, and I have no hesitation in saying that, with the exception "perhaps of those in the Southern Range, they are at this moment in far better order than "they were when I was an Assistant in this District in 1856. If the Collector is called upon "to state what roads, and to what month the following remark refers, viz.—"In many places "they have not been repaired at all and where repaired the materials made use of are of "such a description as to make matters worse," I shall be happy to report particularly upon "the state of the road at that time, and upon its present condition, &c."

"The roads in the Delta are now repaired with material procured from the adjoining "fields and with good river sand from the beds of the larger rivers, and I am not aware that "they have ever been repaired with other materials, in fact, no others are forthcoming."

28. It is true that there has been a considerable rise in the rates of late years and that this has tended to increase the cost of repairs, &c. But I think this can be accounted for in other ways besides those mentioned by Mr. Maltby in the 11th para. of his Minute, though I by no means mean to say that frauds have not been committed by the subordinate servants of the Department. The change from partially forced labor to entirely free necessarily involved a rise in the rates of payment; and subsequently the competition with the Railway Department, and at the Presidency with private Builders, has tended to raise the rates for Materials and labor. In Bellary, at the present time the District Engineer reports that the rates paid by the Irrigation Company's Officers are much higher than his rates and that the latter will have to be raised in proportion in order to secure labor for the Government works.

Letter No.11, dated 12th May 1860

29. It is not to be supposed that a return to the old system will alter this state of things. Tahsildars will have to pay a fair day's wages for a fair day's work, and there is no reason to think that their subordinates will be superior in a moral point of view to those of the present Department, many of whom are, in fact, the old servants of the former Collector's Establishment.

30. Under all the circumstances of the case therefore, I am decidedly of opinion that

a return to the former system would only be productive of harm to the Revenue and disappointment to the Government.

31. The present system has many advantages over the old, though, as I have shown above, it has its defects also. Minor works of improvement, as well as all repairs within the amount of Revenue derived from the work can now be sanctioned by the Collectors and District Engineers conjointly, instead of having to be submitted, as formerly, for the sanction of Government. The Collector has, or ought to have, full cognizance of all that is going on in his District, and if he finds from the Progress Reports which are ordered to be sent to him monthly, that there is any unusual delay in the execution of work, he can either bring it to the notice of the District Engineer direct, or he can report the circumstance to the Board of Revenue or to the Chief Engineer and request their interference. There is no reason why the Collector should not be equally acquainted with and be as much interested in works in progress in his District now as he was formerly, and I believe he is so in most cases.

32. With regard to Mr. Maltby's proposition to make the District Engineer Assistant to the Collector, and yet, at the same time, to hold him directly responsible for his own outlay, my opinion is, that it is not a position in which a professional Officer should be placed in reference to the work of his own Department, and certainly is not one that will be relished by the District Engineers generally, if by any one of them. The consequence will be general discontent and bad feeling between those who ought to work cordially together for the common good of the Country. Besides, if the District Engineers are to be Assistants to the Collectors, in what relation will they stand to the Chief Engineer their proper head? They will have two Masters, and the Chief Engineer no proper subordinates, as it seems to me. I would much prefer the District Engineers remaining as they are, independent of and yet, at the same time, joint custodians with the Collectors of the Public Works, for it is only with the Collector's consent that a single Rupee can be laid out even on repairs at present.

33. As respects the change in the position of the Chief Engineer advocated by Mr. Maltby I hardly like to offer an opinion. There may be advantages no doubt attending his transfer to the Government Office as Secretary in the Department of Public Works and Head of the Department, but, at the same time, I believe it will be attended with additional expense, as the business could not be done efficiently without two, at least, Professional Assistants and an additional Officer as Auditor of the accounts, and where is the money to come from? Colonel Bell asks the same question in the 8th Clause of para. 5 of my letter No. 574, dated 16th May 1860, and shews clearly in the 9th and 10th clauses that the proposed change must involve an additional charge on the State.

34. The present system with the changes I have suggested in the former part of this Memo. in view to secure more efficient supervision would, I believe, be found to work well in practice and be as economical, if not more so in the long run, than any one that has yet been suggested.

(Signed) W. H. HORSLEY, Lieut. Col.
*Chief Engineer.*

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No. 366. **MEMORANDUM BY J. D. BOURDILLON, Esq.**
*Secretary to Government.*

Dated *26th September* 1860.

As directed some time ago, I sent to the Chief Engineer the Minutes recorded by Mr. Maltby and other Members of the Government, on the present state and organization of the Public Works Department and the means of amending both, and I now circulate a Memorandum by him on the subject. The early part of that Memorandum was written before seeing the Minutes, having been begun, I believe, in consequence of a conversation with the President. In circulating these papers I beg to add some remarks.

2. The purport of Mr. Maltby's Minute was that in comparison with the old Maramut system, the present Public Works Department is excessively costly; and that as regards the ordinary irrigation repairs and the District roads, it would be better to return to the old system. He proposes that the District Engineer shall be made an Assistant to the Collector for Public Works; to be his adviser, but not to have charge of the executive, except in the case of large works.

As respects the higher parts of the Department, he proposes that the Deputy Chief Engineers shall be either absorbed in the District Engineers to be on the footing above stated, in other words, shall be abolished; or that they shall be stationed out in their circles. (Para. 19). And as respects the Chief Engineer, he would either re-associate him with the Board of Revenue or make him Secretary to Government, preferring the latter plan.

3. The Chief Engineer treats of all these subjects, and I will not repeat what he says. In paras. 21 to 23, he speaks of the comparative cost of the old system and the new; and he seems to shew clearly that the advantage of economy was by no means so much on the side of the former, as is assumed. It must be added also, that the universal complaint at that time was that the Collector's servants (Maramut) were underpaid and were too few in number. It is possible that the new establishments went somewhat too far the other way; but no one would think now of proposing such an establishment as a Collector was obliged to work with then.

4. The question of efficiency is considered in paras. 24 to 30; of which, the first two relate chiefly to irrigation works, and paras. 26 and 27 chiefly to roads. Here, too, I cannot but say that while the old system was in operation there were loud and constant complaints of it from all quarters; that the Revenue executives were ignorant and corrupt, that work was ill done and money wasted, and that fraud abounded. The state of things was such, indeed, that it was allowed urgently to need a remedy, and many schemes with that object were brought forward. Now, however, when the failures of that system are out of sight, they seem to be forgotten, and only its supposed advantages are dwelt on. The Public Works Commissioners examined the system with much care, and took all the means available to form a fair judgment of it. Their opinion will be found in their first Report at paras. 59 to 63, and para. 67; and in more detail in Section III of the second Report; especially in para. 160, as to delay of work; para. 165, &c., as to the bulky and confused character of the accounts; paras. 202 to 203, as to the fraud prevalent; and para. 205, &c., as to the enormous delays in closing the accounts and preparing the bills. The opinion of the Commission as thus recorded ought to be fully studied, before any resolution is formed to restore the old system.

5. In para. 25, of his Memorandum, Colonel Horsley refers to a Statement of revenue from irrigated land, with which I had furnished him. This Statement was drawn up at my request by the Sarishtadar of the Board of Revenue; but after Colonel Horsley saw it, I had to have it corrected by deducting permanent and yearly remissions, so as to bring it nearer to the actual truth. I append the Statement thus corrected, and with the addition of the latest year, viz., 1859-60; making eleven in all. It will be seen that in that period the cultivation of irrigated land increased from 20 lacks of acres to 27 lacks, or 35 per cent.; while the revenue derived therefrom increased from 115 lacks to 146 lacks, or 27 per cent. I am well aware that the increase is not to be ascribed wholly to the state of the works; but at least it may be fairly concluded that their condition cannot have fallen off as Mr. Maltby supposes, when they water more land by above one-third than they did ten years ago. On the contrary, I think it may justly be assumed that the efficiency of the works has improved.

The reason why the increase in the revenue is not equal to that in the extent of cultivation, is explained in the note appended to the Statement.

I may remark here that only a very small part of the increase shewn in the statement, is due to the works on the Godavery, for the simple reason that almost the whole of the increase accruing by those works appears in the augmented amount of the "joint village rents" prevailing in that District, and is not shown in the accounts under the head of Irrigated Revenue at all.

6. As respects the state of the roads under the old system, also, I must appeal to the Public Works Commission. The Commissioners examined the Reports of all the Collectors and Civil Engineers on the Roads of their Districts for several years; and the result is given in paragraphs 329 to 375 of the first Report. I am well aware that the great cause of the state of things there depicted is that so very little money was given by Government to roads. But still such was their condition, and the unfavorable comparison now sometimes drawn of their present state with former times, in fact refers to their state within the last three years since the restrictive order of July 1857, compared with the preceding few years. During the four or five years which preceded the issue of the order referred to, much had been done in many Districts to improve the roads; but when that order issued, it was for some time understood to prohibit even necessary repair, and, as a matter of course, the roads fell off greatly. But, as bearing on the proposal now in question, I must notice that the road improvements above referred to, were in general executed by Overseers under the Engineers' orders, and not by the Collectors' establishments.

7. Colonel Horsley gives it as his opinion (para. 12) that it would be impossible to return to the old system; his reasons being that the Táluqs are now greatly increased in size, and that the Tahsildars have not now the advantage of Police authority, which enabled them to command forced labour. To these two reasons a third may be added, viz., that the Tahsildars' establishments are now much reduced in numbers, to suit their actual work. With regard to the second of these reasons, it is well known that it was a common practice for Tahsildars to send for the Monigars and head ryots of a village where work was to be done, and detain them in the Cutcherry till they consented to sign an engagement to do the work at the estimate rates, and to receive an advance, subject to the usual deduction for the Táluq servants.

8. Considering all these circumstances, I quite think with Colonel Horsley that the old system could not be restored; but if it could, I doubt whether it would be much more economical than the present one. Let any one set himself to sketch out an executive establishment for a District, bearing in mind that little aid could now be given by the Táluq establishments either for out-of-door work or for accounts, and assigning to the various servants such rates of salary as are now universally considered necessary, and I believe he would find that he would gain little or nothing in point of economy. On the other hand, he would bring back to the Revenue establishments a branch of work not only very harassing, but which was, I believe, generally admitted to be the most demoralizing of all divisions of their duties, except the Salt Department.

9. For these reasons I consider a return to the old executive system to be highly inexpedient, even if it were possible. But I think a good deal may be done to improve the practical efficiency of the existing system. One want is more efficient inspection. Some of the District Engineers make their in-door work a plea for neglecting the constant mobility which an active Civil Engineer in old times considered to be his duty, and with the most active it must be some impediment to active inspection. The measure proposed by the Chief Engineer in para. 8, viz., to relieve the 1st Assistant in each District from executive duties, and make him an Assistant to the District Engineer for general duties, would be, as it seems to me, a suitable and effectual remedy. The Chief Engineer could then insist that either the District Engineer or his Assistant should be always out on inspection.

10. Another reform also proposed by the Chief Engineer (paras. 9 to 11), is to abandon the plan which now seems to prevail, of executing earth work and other ordinary repairs by means of contractors unconnected with the village, or badly paid temporary Gomastahs, and adopt the plan of contracting with the village people, under suitable security. This latter plan, so vastly superior to both the others when properly and efficiently worked, is being largely acted on by the very able District Engineer of Nellore, Captain Greenaway, and with the best results, and it may be introduced in all Districts, only needing fairness, judgment, and moderation in its working.

11. In para. 8, Mr. Maltby mentions it as one of the main faults of the present system, that the disconnection of the Collectors from all active part in the department, has removed a safeguard against wasteful expenditure. If this remark relates to the control of works to be undertaken, or the amount of estimates, it is founded on mistake. The Collector has now in every respect as full a control in both particulars as he ever had; no works can be undertaken (except under sudden emergency) without his previous approval. If some Collectors from mistake of their duty or other cause have stood aloof and omitted to exercise this power, the fault is not that of the system.



12. If however, it is meant that the Collector as head of the executive, had better means of preventing waste or fraud in the executive, I think the proposition may certainly be contested. The Collector in fact could do but little himself, and his chief means of checking abuse was the aid and information of the Engineer. Where the latter was an active and able officer, and the Collector worked cordially with him, things went on pretty well; but where that was not the case, matters were very different. No doubt the supervision by the Engineer department, when that Department became strong enough as it did in later years, was a most valuable check on the Revenue executive; and the measures now proposed by the Chief Engineer, will supply a similar check over the present executive. There is one important difference, as respects the Collector, between present and former arrangements. Formerly all his Revenue subordinates were interested in representing things as favourably as possible; now, jealousy of the new department inclines them exactly the opposite way. It is no wonder then, if some Collectors entertain hard opinions of the existing executive.

13. I must remark too that much has already been done within the last 18 months to correct the evils which were before so conspicuous in the working of the Department. And as it is now proposed to abandon the present system as a failure, it is necessary to dwell on its past history at some length. It is argued by Mr. Maltby that the new system has been tried under favorable circumstances, inasmuch as the operations of the Department during the last three years have been on a reduced scale. It must be remembered however that simultaneously with the restriction of the expenditure on works, the executive part of the Department was reduced by one-third of its numbers. And with this weakened establishment, the department was suddenly called on in three Districts, to perform on emergency and without any delay, in consequence of extensive floods, an amount of work far beyond what had ever been contemplated even for the original strength.

| | Number before the reduction. | Number after the reduction |
|---|---|---|
| Engrs. below Dist. Engrs. | 92 | 62 |
| UpperSubtes. | 204 | 138 |
| LowerSubtes. | 690 | 335 |
| Total | 986 | 535 |

14. If the whole of the case is fairly looked at, I think it must be admitted that the new system has been tried under extremely unfavorable conditions. It was brought into operation suddenly, and without sufficient preparation; many very young officers were put in charge of Districts, without the necessary training and experience. It was the same with subordinate classes, a sufficient number of trained men was not forthcoming for the classes of Overseers and Sub-Overseers, and too little discrimination was exercised by many Officers in admitting into those classes, persons who had been writers, gomastahs, or maistries, of the Collector's department, often without any training for the duty. This want of efficient subordinates was one of the main defects of the department for some years; and it was certainly increased by the rule which made the appointments and promotions in those classes depend on the Chief Engineer, not on the local head of the department. And it must be added that these and other evils were much aggravated by the absence of vigorous administration in the Central Office. As a matter of course the department fell into a very low state of inefficiency; and it is no wonder that under the heavy strain suddenly brought on it in 1858, as noticed at the end of the preceding paragraph, some irregularities and waste occurred.

15. But early last year steps were taken to correct these defects. The control of the subordinates was given to the District Engineer, and an able officer was placed at the head of the department; the Audit Department was reformed and put on a new footing; and the whole system of accounts was carefully reconsidered, and amended in points where it seemed to need it; more care was exercised in respect of all promotions and appointments; the more inefficient of the subordinates have been gradually weeded out, and means have been established (in the Engineering College and the local apprenticeships) for selecting and training men for these classes; discipline has been enforced by several examples in all grades; and a vigorous administration has infused life and energy throughout the department.

16. Such is the condition of the Department at present; and I have no hesitation in saying that it is steadily increasing in efficiency. And it must not be overlooked that all the faults displayed as above briefly noticed, were not faults of system but of administration. It was justly said by Colonel Bell, in one of his letters last year, that a system ought not to be tried by its worst results but by its best, and that all its members should be required to work up to that best. All the instances of inefficiency and irregularity brought forward by Mr. Maltby in paras. 15 and 16, belong to the period antecedent to the commencement of reform. As to excess of expenditure over estimates, of which instances are given in para. 16, such occurrences are not peculiar to Madras, either under the old system or the new. However censurable, they are found in every system of Public works that I ever heard of; and I believe in point of magnitude, Madras by no means comes up to Bengal or to the Railway works in England.

17. I may here notice a remark in the first para. of Mr. Maltby's Minute; he speaks of the neglect of the District Engineer of Trichinopoly, to repair the road from Tanjore, as an illustration of the failure of the system. I think he will admit, on reflection, that that affair does not in fact touch the *system*. It was an instance of gross neglect or incapacity; but neglect or incapacity may occur under any system. The proper remedy and preventive was applied in this instance, when the offending officer was promptly removed to an inferior and less important post.

18. In para. 11, Mr. Maltby says that the District Engineers not being directly responsible for the revenue as the Collectors are, neglect the repair of the irrigation works on which the existing revenue depends, and devote their attention to more striking projects, such as anicuts, bridges and canals. No examples are given, and I will merely say that I think the statement in any general sense cannot be sustained. It will not be denied that it is the duty of the District Engineer to project works of improvement, as well as simply to maintain existing works; but in point of fact scarcely any such projects come up now, because it is well known that funds for them are not available. I do not deny that some of the District Engineers are less attentive than they ought to be to their duty of all kinds; but I fully believe that, as a general rule, they are diligent and laborious, and that they give a full share of attention to repairs.

19. Colonel Horsley replies in para. 28, to Mr. Maltby's remarks in para. 13, on the subject of the increased cost of work of late years. The great rise that has taken place within the last 6 or 7 years all over the country, in the prices of all kinds of produce and in the wages of labor, is well known to all persons. This is sufficient to account for a large part of the increase; and the substitution of voluntary for forced labor is a further cause. It appears also that in all Districts the Government Engineers work more cheaply than those of the Railway Companies or of the Irrigation Company.

20. For the Engineer branch of the Department in the Provinces, Mr. Maltby proposes (para. 18) that the District Engineer shall be made an Assistant to the Collector; with a separate and efficient establishment for large works, of which he is to have the executive control. His bills to be countersigned by the Collector; and the work of the Collector's subordinates and their accounts, to be inspected by him. It is not stated to be the intention that the District Engineer's pay should be reduced. The Chief Engineer objects to this plan (para. 32) that the position is not one suitable to a professional officer in reference to the work of his own Department, and that the arrangement would cause general discontent among the Engineers. I cannot but think so too, nor can I see the advantage of thus lowering the status of the local head of the Professional Department. If indeed his pay was to be reduced there would be a motive. But the saving by any such reduction would be insignificant; and in my opinion that reduction, as still more lowering the District Engineers, would make the plan still more objectionable. It was formerly proposed indeed that each Collector should have an Engineer officer as an Assistant for the Public Works Department; but such Officers were to be juniors, the local head of the Department was still to be the Civil Engineer, of whom there were ten in all.

The Chief Engineer also objects to the plan that it would in fact totally annihilate the Public Works Department.

21. As respects the Chief Engineer, Mr. Maltby makes two alternative proposals (para. 19) but that which he prefers is that the Chief Engineer should be made the Secretary to Government in the Public Works Department. He also proposes that the Deputy Chief Engineers should be either abolished, or be stationed out in their circles.

22. With regard to this change in the position of the Chief Engineer, I must say that I should regard it as a death-blow to the efficiency of the Department. If discipline and efficiency are to be upheld in a numerous and widely scattered body of public servants such as the Public Works Department consists of, it is quite necessary in my opinion that it should have a head. This is admitted and acted on in all other departments of the administration; and I am ignorant of any reason to make the department of Public Works an exception. The Revenue, the Judicial, the Police, and the Education Departments, the Accounts, the Medical and Marine, the Commissariat, the various branches of the Military Staff, the Survey, and the Settlement, all these Departments have each its head; why should it be thought that the widely ramified Department of Public Works, with its professional duties, its very multifarious employments, and its numerous classes of servants, should stand less in need of the control of a single authority. Has it ever been proposed to abolish the Revenue Board, the Sadr Adálat, the Superintendent of Police, and the Heads of the other departments, and substitute any number of Secretaries to Government. Can it be conceived possible that Government could be carried on upon such terms; and if the proposition thus enlarged is seen to be an absurdity, why should it be deemed reasonable when applied to a single Department, and that one among the most complicated, extensive, and professional, of the whole number?



23. It appears to me that the function of a Head of a Department and of a Secretary to Government are essentially distinct. That of the former is to control the body of Public servants composing the department, to uphold discipline and keep every man up to his work, and to bring before Government special or reserved cases. That of the Secretary is to lay such cases before Government in a proper form for decision, with other cases connected with the department coming from other quarters, and to convey the orders of the Government thereon. And these functions cannot be combined. In so extensive a department there must be a vast mass of departmental references and correspondence of various kinds; the Government cannot possibly attend to this, and the Secretary would certainly find his proper work sufficient fully to occupy him; and the departmental work would either be left undone or be done by an uncontrolled subordinate; while the Government would lose the responsible head of the department, since, of course, the Secretary cannot find fault with himself as Chief Engineer.

24. I am aware that this very plan has recently been adopted in Bengal; but if that is cited as a precedent, I reply;

1st. It is yet new and untried; and it remains to be seen whether it will be found to work well.

2nd. The work of our Public Works Department is far more extensive and various than that of the Bengal Department.

3rd. Under the new arrangement there are seven Superintending Engineers in Bengal, each of whom must, I maintain, be in a great measure free from Departmental control. I should think it a fatal blow to our Department to have it thus cut up into so many independent Departments.

NOTE.—Since this paper was written I have seen the General Report of the Chief Engineer for Bengal, for the year 1859-60. I there find that it has actually been recommended, (para. 120), that all the seven Superintending Engineers shall be vested, within their respective circles, with the powers given by the Code to the Chief Engineer. Thus the union of the functions of Secretary to Government and Chief Engineer has actually been found in practice to be incompatible. It is no part of my duty to give an opinion as to the working of arrangements in Bengal; but I must reiterate my conviction that such absence of central control would be fatal to efficiency here.

25. Whether or not it would be wise to have a professional Secretary to Government for the Public Works Department, including the Railways, is a different matter. I have often thought that as the business of the Department is so much increased and is increasing, this may be a proper and necessary arrangement. But in my opinion a separate head of the Department must certainly be kept up.

26. The only other point in the Minute, which I will notice is the proposal to station the Deputy Chief Engineers in their circles. This plan, which is not brought forward for the first time, is discussed by Colonel Horsley in paras. 14 and 15 of his Memorandum. Colonel Bell also carefully considered it, and recorded his opinion upon it with his usual fulness of thought; and that opinion is embodied by Colonel Horsley in his letter of the 16th May.* To that paper I beg to refer the Members; and I see that it contains also a brief expression of Colonel Bell's opinion on the subject of making the Chief Engineer the Secretary to Government, to which plan he is opposed.

*See Govt. Pro. of June 23rd.

27. Colonel Bell strongly objects to the plan of stationing the Deputy Chief Engineers in their circles, on the grounds of;

1st. Great injury to the discipline of the department, para. 7.

2nd. Great increase of cost, para. 9.

3rd. Large increase of correspondence, para. 14.

28. Colonel Horsley fully agrees with Colonel Bell; and he adds (paras. 14 and 15 of his present Memorandum) that the change would cause great delay in the transaction of business; and he points out also that its advantages, as regards facility of inspection, are not nearly what might at first sight be supposed. The Government Proceeding of June 23rd, contains a Memorandum by Colonel Lawford, combatting Colonel Bell's arguments. I may add that the question came up for decision last year; and the Government then resolved that the proper place for the Deputy Chief Engineers is the Central office. See order of June 8th, 1859, paras. 5 and 6.

29. Before closing this Memorandum I will take the opportunity of making a few remarks on certain observations of the Secretary of State in his late Despatch of the 15th June, No. 39, when reviewing the Report of the Public Works Department for the year 1858-59.

The observations which I wish to notice refer to two points; the large cost of establishments, in comparison with the expenditure on work; and the large amount devoted to repairs out of the entire outlay on work.

30. On the former it is noticed (para. 2) that while the whole outlay on labour and materials did not much exceed £4,50,000, the charges of all kinds for superintending and executive officers and subordinates, amounted to £1,66,478, or 36 per cent. on the amount expended. It is remarked indeed that one cause of this disproportion is that the expenditure is now on a reduced scale; but it is argued that unless there is a prospect of an early enlargement of the outlay, it is desirable that the department should be re-modelled on a more moderate scale.

31. Colonel Horsley has gone carefully, in his present Memorandum, into the subject of the cost of establishments at present, in comparison with the old system. And I have already said that I agree with him in doubting whether any material saving could be effected by the means proposed by Mr. Maltby.

Paras. 19 to 23.

32. I must say also, I doubt whether any considerable amount could be saved by reductions in the department. Some reductions I believe might be made; but not, I think, to any great extent. The peculiarity of the Madras works, as compared with other parts of India, is that they are so widely scattered. They are not like the Trunk roads or the embankments of Bengal, or the canals of the North-West Provinces; our tanks and District roads extend, it may be said, into every village. This of itself makes superintendence expensive. A lack of Rupees expended on 300 small works of repair, spread over an area of 5,000 square miles, obviously needs much more proportionate superintendence than if it were laid out in the maintenance of a hundred miles of continuous canal. And the same remark applies to new works. This, however, is the actual condition of things; we cannot alter it, and we must do the best we can to meet it.

33. Further, it must not be forgotten that our Department of Public Works is one of conservancy as well as of mere work. A large part of its time is taken up in looking after works, and seeing that they are taken care of and small injuries remedied in time. Much expense is thus saved, and it is surely better to pay for such care than for the repair of breaches afterwards.

34. Our Public Works Department is, in fact, little more than a frame work. Except in the Districts of Godavery, Kistna, and Tanjore, where works are thickly spread over the country, the members of the Department are few and far between; and I think a careful examination of their distribution and their salaries, will shew that little can be done, if a Department is to be maintained at all, to reduce either their numbers or their emoluments.

A comparison is made by Mr. Maltby with Bengal; but Colonel Horsley in a late paper pointed out that the executive divisions there are only half the size of our Districts, while the subordinate executive charges are very much smaller again than the Madras ranges. Comparing these facts, and the liberal salaries given in many cases in Bengal, with the total sum set down as the cost of the Establishments there, I am induced to think that a considerable part of the real amount may perhaps be charged as temporary or extra Establishments.

Letter July 19th, No. 2793, para. 12.

35. Again, taking the Public Works Department in comparison with other departments, I do not think it can be thought extravagant. Here is an extensive and for the most part thinly peopled country, which for the purposes of Government must be reached in every part by certain branches of the administration; Revenue, Judicial, Police, Public Works. The yearly cost of all these is given in the margin; and it will be seen that the cost of the last mentioned is very small beside that of the others. Of course it is supposed that an equivalent value is received in each case; but it is not more correct to value the Public Works Department solely by the amount of money expended, than to value the Police by the number of offences detected, or the Judicial by the number of convictions, or of actions brought. The hidden or less tangible results in the form of prevention are also of

| | Annual cost. Rupees. |
|---|---|
| Revenue, exclusive of Tentage.. | 31,36,076 |
| Judicial.. | |
| Police (as estimated by Mr. Robinson).. | 20,23,795 |
| Public Works, exclusive of Travelling allowance.. | 31,00,000 |
| | 16,01,454 |



value; and in the case of public works there is still another test. Besides the public buildings which must be cared for and the roads of the whole country, an existing revenue of 150 lacks yearly depends on this Department, and this revenue as noticed above (para. 5) has materially improved within the last few years. And this only by the ordinary operations of the Department, for, in consequence of the financial difficulties of the Empire, very little has been done of late years in the way of extending or creating works.

36. The other point noticed in the Despatch, is the large proportion of the entire outlay which is spent on repairs; it is remarked that nearly thirty lacks were spent in that manner, out of a total expenditure of 45 lacks. It appears to me that there is a very easy and simple answer to this. A moment's reflection will shew that the supposed comparison is, in fact, no comparison at all. The new works undertaken are not those which are repaired, and have no connection with them; what inference then can be drawn from placing the two in antithesis.

37. We have here a vast number of works of irrigation; they are formed in great part of earthen embankment exposed to the weather, and of course are subject to continual decay, and need frequent reparation. If the revenue is to be kept up, these repairs must be attended to, as already observed; if every thing else had to be neglected for want of money, it would still be the duty of the Government to attend to these repairs. Last year the cost of repairs was 30 lacks out of 45. If the Government of India were to cut down the whole expenditure to 35 lacks, the repairs must still be attended to, and the proportion of their cost would probably be doubled. And when, on the other hand, the state of the finances shall admit of 65 lacks being devoted to expenditure instead of 45, the amount given to repairs will not be increased, except as the creation of new works may, in course of time, lead to it, and of course the proportion of the repair outlay will greatly fall.

38. I would not be understood to mean that the present amount of the irrigation repairs cannot be at all reduced. It has been greatly increased lately in certain Districts by particular causes, viz., by destructive floods in Nellore, Tanjore, and Trichinopoly, and in some other Districts it is very high. I think it may be reduced on the whole without detriment to the works, and especially that it may be reduced for the present, so as to gain a little money for the most urgent of the many projects of new works now in abeyance. But still the comparison instituted in the Despatch is equally unsound.

39. The preceding remarks relate to the repair of works of irrigation, which takes the largest share of the entire repair expenditure. There is an equally effective reply respecting the road repair, which constitutes about a third of the entire repair outlay. These works, too, are in their very nature liable to continual decay, from the joint action of the weather and of traffic. The repair in fact is not so much repair in the proper sense, as a keeping up of the works; they might, perhaps, be partially neglected without such serious consequences as the works of irrigation; but it would still be bad economy to allow existing roads to go to ruin in order to get money to spend in making new ones.

40. The repair of buildings costs much less than of either irrigation works or roads. Here too the comparison of this outlay with that on new works is no real comparison. A just comparison would be of the cost of annual repair with that of original cost, if the latter could be ascertained, which it cannot. It would not, however, be a comparison of much practical use.

41. There are one or two minor points in the Despatch, on which I beg to offer a few remarks. It is stated in para. 3 that "it is alleged" that in Tanjore at least, irrigation works are not maintained in better condition than formerly; and that minor repairs are neglected, in consequence of Collectors being deprived of the power to sanction them. In October 1858 and again in April 1859, Tanjore was visited with most destructive floods, such as had not been known for forty years. The damage done all over the District was immense; and with a very limited time to repair it, so as to have the works ready for the next freshes, it is no wonder that the work was not all efficiently done. I doubt, however, if any other department would have stood so heavy and so sudden a strain on its resources much better. But I must add that the Department in Tanjore, from the causes enumerated above in para. 12, was not then in so efficient a condition as it might have been, or as it is now.

42. The second point noticed above is a mistake. The power of Collectors to sanction repairs has not been in any degree lessened. On the contrary it is much larger now than under

the former system. The whole of the ordinary irrigation repairs which then required the previous sanction of the Board of Revenue, to be applied for months beforehand, may now be sanctioned by the Collector and executed immediately.

43. The change made in Trichinopoly, as noticed in the same para. of the Despatch (para. 3,) was not of the importance which the passage might seem to indicate; such as it was, it was rendered expedient by the extremely unpopular character of the District Engineer, his contempt of the people and their interests, and his neglect of the works.

44. The 12th para. of the Despatch seems to indicate some misapprehension of the facts. The canal from Madras to Durgarazapatam is the only one which pays its expenses, because it is the only one on which any toll at all is levied. But if the expression is intended to signify that this canal does no more than pay its expenses, it is erroneous. The receipts are sufficient not only to pay for the necessary repair of the canal, but to carry on material and progressive improvements.

45. No information was given in the report respecting the traffic on the Sadras canal, because there was no toll, and therefore no means of ascertaining the traffic. The traffic is very much limited on this canal, as well as on the Durgarazapatam extension, by the fact that both canals stop short of a proper terminus; yet there is traffic on both, as noticed in Reports which have been sent home. When the Sadras canal is connected with the Kúwam, it will be quite proper to levy a toll on boats, and it may be confidently expected that it will fully pay for all costs of maintenance at least.

Despatch May 14, 1860. No. 26.

(Signed) J. D. BOURDILLON,
*Secretary to Government.*

*Proceedings of the Madras Government, Public Works Department,*
*24th December* 1860.



Statement referred to in Para 5 of the Memo., shewing the extent of Nunjah Cultivation and Revenue for a series of years, from Fasli 1259 to Fasli 1269 being A. D. 1849-50 to 1859-60.

*Proceedings of the Madras Government, Public Works Department, 24th December 1860.*

*Statement referred to in Para. 5 of the Memo., shewing the extent of Nunjah Cultivation and Revenue for a series of years, from Fasli 1259 to Fasli 1269, being A. D. 1849-50 to 1859-60.*

| Districts. | Fasli 1259. | | Fasli 1260. | | Fasli 1261. | | Fasli 1262. | | Fasli 1263. | | Fasli 1264. | | Fasli 1265. | | Fasli 1266. | | Fasli 1267. | | Fasli 1268. | | Fasli 1269. | | Districts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Extent. | Assessment. | Extent. | Assessment. | Extent. | Assessment. | Extent. | Assessment. | Extent. | Assessment. | Extent. | Assessment. | Extent. | Assessment. | Extent. | Assessment. | Extent. | Assessment. | Extent. | Assessment. | Extent. | Assessment. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| | Acres. | Rupees. | Acres. | Rupees. | Acres. | Rupees. | Acres. | Rupees. | Acres. | Rupees. | Acres. | Rupees. | Acres. | Rupees. | Acres. | Rupees. | Acres. | Rupees. | Acres. | Rupees. | Acres. | Rupees. | |
| Ganjma..... | 67,931 | 2,03,663 | 68,203 | 2,34,166 | 68,220 | 2,33,655 | 1,24,487 | 3,57,342 | 1,27,554 | 3,70,129 | 1,08,024 | 3,08,611 | 1,08,821 | 3,13,122 | 1,12,578 | 3,21,350 | 1,16,952 | 3,32,669 | 1,25,563 | 3,53,370 | 1,29,968 | 3,62,848 | Ganjam. |
| Vizagapatam. | 12,701 | 1,07,196 | 12,044 | 92,074 | 14,124 | 1,01,596 | 11,393 | 85,532 | 12,397 | 92,125 | 14,034 | 1,02,173 | 12,853 | 93,596 | 13,703 | 1,10,987 | 13,671 | 1,10,692 | 13,884 | 1,11,843 | 14,252 | 1,18,569 | Vizagapatam. |
| Rajahmundry | 1,30,784 | 4,31,140 | 1,32,472 | 4,38,014 | 82,882 | 4,15,194 | 1,36,080 | 4,81,403 | 1,31,061 | 4,49,924 | 1,30,654 | 4,53,855 | 1,29,723 | 4,62,083 | 1,70,483 | 6,04,420 | 1,31,683 | 4,66,671 | 1,32,432 | 5,54,579 | 1,32,460 | 5,56,736 | Rajahmundry |
| Masulipatam. | 25,606 | 1,15,250 | 34,609 | 1,57,760 | 63,430 | 2,22,987 | 1,11,422 | 3,15,591 | 1,09,721 | 3,65,392 | 1,07,606 | 2,86,976 | 1,12,585 | 2,89,135 | 1,30,992 | 3,46,433 | 1,20,841 | 2,63,466 | 1,14,214 | 2,96,876 | 1,76,728 | 6,38,706 | Masulipatam |
| Guntoor..... | 14,470 | 98,070 | 21,080 | 1,36,237 | 22,038 | 1,45,395 | 24,916 | 1,56,067 | 23,365 | 1,45,147 | 26,435 | 1,43,171 | 23,995 | 1,24,918 | 38,141 | 2,05,706 | 43,414 | 2,06,314 | 51,171 | 2,85,918 | | | Guntoor. |
| Nellore..... | 91,419 | 5,46,119 | 89,031 | 5,39,460 | 1,00,204 | 6,13,331 | 98,911 | 5,99,170 | 54,063 | 1,85,270 | 76,267 | 4,44,366 | 1,04,085 | 5,80,304 | 1,08,631 | 5,95,020 | 82,543 | 3,18,461 | 1,17,371 | 5,48,731 | 1,24,534 | 6,34,425 | Nellore. |
| Cuddapah. ... | 68,248 | 5,66,827 | 78,586 | 6,36,900 | 81,396 | 6,41,112 | 82,854 | 6,46,742 | 67,333 | 4,91,575 | 76,173 | 6,09,000 | 71,262 | 5,45,111 | 86,626 | 7,06,461 | 72,075 | 6,07,471 | 81,933 | 6,76,915 | 87,873 | 7,27,528 | Cuddapah. |
| Bellary..... | 88,758 | 6,80,163 | 89,201 | 7,08,993 | 81,386 | 6,41,248 | 84,236 | 6,72,560 | 69,623 | 5,50,946 | 94,370 | 7,11,977 | 85,687 | 6,01,437 | 82,398 | 5,88,535 | 83,451 | 4,78,743 | 1,49,589 | 8,08,818 | 1,42,758 | 7,25,979 | Bellary. |
| Kurnool..... | 6,437 | 43,018 | 6,458 | 60,810 | 6,687 | 66,544 | 6,701 | 65,915 | 6,691 | 50,816 | 6,779 | 62,448 | 6,759 | 48,094 | 6,699 | 61,898 | 6,376 | 45,404 | 6,128 | 49,013 | 7,088 | 62,823 | Kurnool. |
| Chingleput... | 1,41,730 | 5,31,089 | 1,36,452 | 5,93,278 | 1,71,077 | 8,53,036 | 1,72,841 | 8,15,877 | 1,45,108 | 5,48,107 | 1,57,571 | 7,05,391 | 1,59,704 | 6,00,659 | 1,90,042 | 8,47,835 | 1,72,824 | 6,66,577 | 1,93,810 | 9,19,323 | 2,08,058 | 9,73,492 | Chingleput. |
| North Arcot. | 1,25,429 | 9,43,786 | 1,52,940 | 11,61,751 | 1,58,348 | 12,27,080 | 1,56,135 | 11,87,097 | 1,34,601 | 9,07,858 | 1,41,301 | 9,98,748 | 1,51,250 | 10,63,630 | 1,70,891 | 12,35,318 | 1,63,198 | 9,43,783 | 1,90,478 | 11,09,932 | 1,96,514 | 11,53,204 | North Arcot. |
| South Arcot. | 1,17,258 | 8,29,436 | 1,60,366 | 11,29,506 | 1,73,489 | 12,45,933 | 1,64,926 | 11,74,401 | 1,55,330 | 10,03,134 | 1,77,453 | 10,27,378 | 2,09,524 | 12,32,992 | 2,32,719 | 13,37,172 | 2,34,158 | 8,94,333 | 2,48,005 | 14,63,679 | 2,45,323 | 14,68,817 | South Arcot. |
| Tanjore..... | 6,76,079 | 31,66,739 | 6,74,691 | 32,08,233 | 6,92,152 | 32,72,193 | 7,07,610 | 35,61,152 | 7,03,464 | 36,98,426 | 7,04,266 | 38,91,138 | 6,98,472 | 41,35,411 | 7,00,679 | 37,73,940 | 6,88,308 | 39,32,290 | 6,67,059 | 37,61,210 | 6,94,342 | 34,64,756 | Tanjore. |
| Trichinopoly. | 1,26,215 | 7,52,327 | 1,27,913 | 7,54,112 | 1,27,094 | 7,38,297 | 1,24,766 | 7,28,949 | 1,25,125 | 7,02,078 | 1,28,960 | 6,92,058 | 1,28,136 | 6,42,741 | 1,33,024 | 6,24,430 | 1,30,795 | 5,66,543 | 1,32,952 | 5,43,620 | 1,39,474 | 6,37,206 | Trichinopoly. |
| Madura..... | 61,548 | 3,58,732 | 67,129 | 4,57,653 | 75,950 | 3,27,183 | 84,918 | 4,37,242 | 87,070 | 4,21,243 | 86,390 | 4,16,202 | 86,119 | 3,80,592 | 87,300 | 3,94,863 | 82,392 | 1,96,541 | 91,486 | 4,56,856 | 1,22,991 | 5,68,389 | Madura. |
| Tinnevelly.... | 1,30,498 | 12,04,265 | 1,31,807 | 11,44,248 | 1,11,703 | 11,92,202 | 1,28,928 | 12,60,092 | 1,20,751 | 11,09,701 | 1,49,194 | 15,20,429 | 1,28,459 | 16,91,775 | 1,24,887 | 15,23,788 | 1,33,083 | 19,49,363 | 1,46,109 | 22,29,107 | 1,49,068 | 15,67,776 | Tinnevelly. |
| Coimbatore... | 67,355 | 5,06,488 | 70,721 | 5,26,662 | 67,568 | 5,11,170 | 70,073 | 5,27,730 | 58,463 | 4,51,748 | 73,657 | 5,30,113 | 71,137 | 4,96,111 | 72,544 | 4,94,742 | 75,542 | 5,02,807 | 76,933 | 5,49,428 | 78,371 | 5,66,275 | Coimbatore. |
| Salem..... ... | 54,455 | 4,06,967 | 49,752 | 3,62,203 | 48,235 | 3,13,164 | 50,998 | 3,28,693 | 45,639 | 3,23,104 | 49,754 | 3,48,610 | 53,204 | 3,56,953 | 58,575 | 3,93,505 | 55,025 | 3,18,802 | 60,822 | 4,18,532 | 64,572 | 3,87,247 | Salem. |
| Total... | 20,06,921 | 1,14,91,275 | 21,03,455 | 1,23,42,060 | 21,46,003 | 1,27,62,400 | 23,42,195 | 1,34,01,555 | 21,77,359 | 1,18,66,723 | 23,08,808 | 1,32,52,644 | 23,41,775 | 1,36,58,664 | 25,20,912 | 1,41,66,403 | 24,06,331 | 1,28,00,930 | 25,99,939 | 1,51,37,750 | 27,14,374 | 1,46,14,776 | |

NOTE.—The falling off in the revenue in the last year of the series, while there is an increase in the extent of land cultivated, is due almost wholly to the abolition of the Oolungoo system in Tanjore and Tinnevelly, (by which change the gain by rise in price is given up to the Ryots there as elsewhere,) and to reductions of assessment in some other Districts. In the Districts not affected by these changes there is an increase of revenue, amounting in the aggregate to above four lacks of Rupees, corresponding with the increase of cultivation. In the previous year (1858-59) the increase of revenue was considerably larger than that in the cultivation.

No. 367. MINUTE BY THE HONORABLE E. MALTBY., Esq.

*Dated 23rd October* 1860.

1. I have read with attention the Chief Engineer Colonel Horsley's Memorandum in which he alludes to my Minute of the 16th May, on the present state of the Public Works Department. Colonel Horsley argues that the Department does not now cost really more in proportion to the work performed, than before its separation from the Revenue Branch of the Service, and he is opposed to my suggestions for restoring it in part to its old footing and for converting the Chief Engineer into a Secretary to Government. Colonel Horsley's arguments deserve careful attention, and though they have not produced conviction in me, I am far from wishing my views to be accepted without full enquiry. My object has been to draw attention to the state of this Department, into which I think that a thorough enquiry ought to be made.

2. In circulating Colonel Horsley's Memorandum the Revenue Secretary Mr. Bourdillon has sent round a detailed Memorandum of his own, controverting my opinions; and I proceed to make a few remarks on these two papers.

3. It is argued, and especially by Mr. Bourdillon, that the late considerable increase in the Land Revenue derived from Wet cultivation proves the efficiency of the Public Works Department in its new shape, and while implying that the improvement shown in his Revenue table is mainly due to this cause, he observes, "I am well aware that the increase is not to be ascribed wholly to the "state of the works; but at least it may be fairly concluded that their condition cannot have "fallen off, as Mr. Maltby supposes, when they water more land by one third than they did 10 years "ago. On the contrary I think it may be justly assumed, that the efficiency of the works has im-"proved." Here I must first object to Mr. Bourdillon's phrase "as Mr. Maltby supposes." I have carefully avoided writing any thing on supposition, and founded my Minute on the public records. The fact that repairs of tanks have been often neglected, notwithstanding the great increase in the cost of the Public Works establishments is shown on the Government Proceedings, in the reports of Collectors, and in the complaints of the ryots.

That in many local instances, the Revenue has been raised by the improvement of the minor Irrigation works which are now under discussion, I am far from denying, and I am also ready to admit that the lavish expenditure in the Public Works Department, even when misdirected in regard to its own immediate end, has indirectly, benefitted the Revenue by circulating money in the provinces and thus increasing the means of the people to take up new land. But I entirely deny that the increase of Revenue in Mr. Bourdillon's statement is mainly or to any considerable degree attributable to the Public Works Department. The cause is far different as can be shown from the writings of Mr. Bourdillon, and other officers. Thus Para. 315 of the first Report of the Public Works Commissioners, states as follows:

"There is another sort of inequality in the assessment which acts still more injuriously; viz., that in several Districts the best soils are so heavily taxed as to be kept permanently out of cultivation, while labour and water are applied to inferior soils, more lightly assessed in proportion to their capabilities. This fact has long been known, and the evil of it admitted; but under a system of centralization which requires, that before any change every minute detail shall be previously explained to the satisfaction of the controlling Board and of the Government, no progress we believe has yet been made in rectifying it. The remedy required is, to reduce the assessment of such over-taxed lands; and this reduction would not involve loss, even supposing no extension of cultivation to ensue, for high class land now waste would then come into cultivation in place of inferior land. And the exchange would give the Ryot a larger return for the same amount of labour, while the receipts of Government would not be diminished, and perhaps increased."

The evil alluded to in this passage was pressed on the notice of Government by myself, when Collector of South Arcot, as regards that province, in the following words. "It thus appears "that of the Nunjah lands *for which irrigation has been supplied*, one half bearing an assessment of "nearly 9 Lacs of rupees remains uncultivated" and again "at present one half of these lands is "waste in consequence of their high assessment, although from their superior quality and eligibility "of situation there is no question but that they would otherwise be cultivated." See paras. 13 and 24 of Report dated 17th December 1853, and printed in No. 22, of Selections from the Records of Government.

In the same spirit Mr. Bourdillon afterwards wrote of North Arcot.

"There is no doubt that the heavy assessment itself has actually kept valuable lands out of "cultivation in every part of the District. But its operation in keeping waste whole classes or "large proportions of whole classes of the best land is seen most in the 5 Taluqs South of the "Palaar. In those Taluqs it is the general rule that the best lands are permanently waste. I "*have stood on the bunds of numberless tanks and seen the land immediately contiguous to the bund* "*waste*, and the cultivated land commencing at some distance; and on asking why the best lands "were thus abandoned, the reply was, that these were first class, or first and second class, as if "that were of course a natural and sufficient explanation." See Para. 2, of Report dated 23d October 1854, and printed in No. 12, of Selections from the Records of Government.

Similar representations were urged from Salem, Nellore, Trichinopoly and other Districts, and induced the Government to sanction important modifications of the land tax. The immediate consequence was an immense spread of cultivation, which included those superior Nunjah lands which although supplied with irrigation had been left waste in consequence of over assessment, and these results of the modification of the assessment are detailed in the Report dated 19th March 1859, No. 956, called for by Government from the Revenue Board at the close of Lord Harris' administration. An enlarged Nunjah cultivation was thus clearly possible, although the condition of the tanks might have in some degree deteriorated, and it would be a serious error to attribute to changes in the Public Works Department, that increase of Revenue which has arisen from the reduction of the land tax.

4. The next point is Colonel Horsley's and Mr. Bourdillon's argument, that the Public Works Department under the present system is not really more expensive than under the old. I have shown in contrast the former and present outlay on repairs and establishments, and instead of entering into controversy now will leave this point for the full enquiry which will, I presume, be made into the state of the Department. As however Colonel Horsley makes a special reference to Madura and Tinnevelly in his Memo., I will invite attention to the past and present Establishment of Tanjore.* In that Province the repair of the Irrigation Works was well cared for and the local officers and land-owners deprecated change, yet the new system was introduced at an annual cost of Rupees 68,200 for establishment, instead of Rs. 26,302. But whether the old or the new system is the more costly in proportion to the work performed, forms only a part of the subject. The really interesting question is, whether Government get their money's worth from the immense outlay which they now make on the Department, and whether, even if no change of system takes place, greater economy cannot be practised. I believe it can, and would instance the salaries of the subordinate servants raised above corresponding grades in the Revenue Department and the double establishment lately given to Canara, on its being divided into 2 Collectorates, although one is in my opinion sufficient. All these details are however a subject for careful and separate scrutiny.

* See Appendix to this Paper.

5. I come now to the next point, viz., whether the District Establishments which have been so largely increased under the new system are efficient for the end in view. I maintained they are not efficient, and besides adducing acknowledgments from the public records on the point observed that the estimates for new works, even of a small size, have usually contained an item for "Superintendence" so that the amount paid by Government for superintendence is by no means limited to the cost of the regular establishment, an important point which neither Colonel Horsley nor Mr. Bourdillon has noticed. When therefore I asked what was to be done, were we to enlarge our already very costly establishments, or revert in part to the old system, my proposal for the 2nd course is argued against, and yet both Colonel Horsley and Mr. Bourdillon, have themselves no remedy to propose except a return to the old practice, though in a different form. They recommend that the ordinary earth works for the repairs of tanks, &c., should be given over on contract to the Villagers! Why then was this practice so objected to in the First Report of the Public Works Commissioners as leading to dilatoriness, bad work, and the misappropriation of advances to payment of Revenue? What superiority has a contract entered into with an officer of Department Public Works over a contract entered into with the Collector? I always thought that the means at the Collector's command for executing common earth work, in the repair of tanks were too much depreciated (though unintentionally) in consequence of a natural bias on the part of the professional Department towards a change of system and the enlargement of its own authority, and now one of the authors of the first and second Reports, and the present head of the Department, recommend the re-employment of those means which previously to the change of system, were argued against.

Note.—In the North Arcot District where alone the new system has been closely scrutinized the Committee of enquiry into Public Establishments estimated the cost of Superintendence to be from 50 to 60 per cent., on the work performed,

Mr. B. P. 10.

Note.—Regarding Village labor see Section II. Part III. of the 1st Report.

After speaking in unfavorable terms of the results of village contracts, the Commissioners observe in Para. 64. "We believe however, that the most effectual means of checking this and other malpractices, will be the extended execution of works *by European Agency*." See also Para. 100, and Para. 160 of the second report.

6. The next point is, whether it is now possible to restore the minor irrigation works and district roads to the Collector's care as proposed by me. Some momentary embarrassment must always be found in retracing mistaken steps, but on this occasion I believe that little difficulty would be experienced in returning to what is generally considered the natural order of things. I have

the less hesitation in offering an opinion on this point because Collectors can have no wish for the burden of the charge except to promote the good of their Districts, and save the money of the State, and one experienced Engineer officer, whose opinions had much influence in bringing about the new system, has apparently seen cause to change his views. I allude to Colonel Pears, C. B., whose Memorandum forms Appendix A to the 2nd Report of the Public Works Commissioners. He is now Chief Engineer in Mysore and recently told me that he had found it advisable to leave the repair of the smaller works in that country to the Revenue Department. Other Engineer officers have expressed to me their opinions that the present system, costly as it is, does not answer its purpose, and the course proposed by me is not without some support even from the Public Works Commissioners. In Para. 104 of their first Report, they observe regarding the Maramat Department "we believe the main "defect of the Department to be, not the impossibility of fixing responsibility, but the want of "sufficient officers. The present division of duties is correct, as far as it goes the projection and "inspection of works are invested in one Department, and the execution of them in another." They then point out the danger of leaving "the projection, execution, and inspection" of these small scattered works "in the same Department" and yet this is the state of things which the new system has introduced! especially as to "execution and inspection"!

In Para. 11 of his Memorandum Mr. Bourdillon asserts that the Collectors have the same control as before over the estimates and expenditure, but I would ask how can they check estimates for tank repairs when all their Maramat servants have been taken from them? The real consequences of the present system have just been illustrated in Mr. Bourdillon's Memo. of the 3rd Instant. In that paper he shows how the charges for repairs have gone on increasing, in some districts without "special occasion" while in others there has been apparently "much waste." Although therefore the order to reduce our current Budget by 5 Lacs has greatly reduced the amount available for repairs. Mr. Bourdillon thinks that a further sum of one Lac of Rupees can be taken from the Repair funds allotted to the different Districts and be applied to other purposes such as the unfinished works in the Godavery and Kistna Deltas, the Bellary Artillery Barracks, &c. But even if the small Irrigation works and roads could now be restored to the care of the Collectors, Mr. Bourdillon joins Colonel Horsley in questioning whether any saving of expense would result. This is a matter of opinion, and I have certainly been led to entertain a strong one on it from the comparative expense of the Public Works Establishment now and before the change. I do not however seek to press my views without full enquiry. All I wish is, that the whole subject should be thoroughly sifted—and I will only observe, that as it is now found that the ordinary tank repairs can be made over on contract to the villagers, a less expensive agency to estimate for and inspect this common description of work seems practicable.

To cover this reduction, 18 per cent. was I understand clipped from the sums assigned to the different Districts for repairs.

7. The next point relates to the District Engineers. In Para. 18 Mr. Bourdillon objects to my remark that these officers prefer giving their attention to great projects, which would *bring* their names into repute, rather than to the humbler office of keeping petty tanks and channels in repair. Since the restrictive order such projects certainly do not come up to Government, but I believe that a search for new projects and Estimates in the Chief Engineer's office would support my remark. But this is not necessary, since the point can be shown in another way. Experienced officers feel regret that the useful old practice which was followed by the District Engineers of moving about their Districts among the people to see every thing with their own eyes has so greatly declined, and Colonel Horsley alludes to the point in the 8th Para. of his Memorandum in the following words. "The District Engineer "complains that his Office duties and the numerous accounts he "has to send in prevent his moving about as often as he could wish."

Mr. Bourdillon admits the same in Para. 9 of his Memorandum.

Now why is he thus prevented? I will give the explanation as I have heard it from Engineer officers. They know that their character at Madras is judged of less by the unseen internal state of their Districts, than by the regularity and correctness of their official returns, and consequently they remain at their head station to get through their office duties instead of moving about to inspect the state of the tanks and channels and the works in progress. When I observed that attention was naturally given to what would tend most to bring an officer's name into repute, I did not consider that I was making any reflection on a meritorious and honorable class of public servants. The principle to which I alluded will always have influence on human conduct, and my strictures were directed against the system which seemed to me to place the District Engineers in a wrong position.*

* Since writing this Minute, an Officer of the Engineer Corps has addressed Government in the following terms:—

"For the recent organisation of the Public Works Department it is a mistake I am sure to try and combine in each Executive Officer the duties of an Engineer and Accountant, and to make his proficiency in Accounts an important element in his future prospects as an Engineer. The result is that in most cases *self-interest obliges a man to devote to the desk that time which ought to be spent in the field in order to secure his own advancement*, and to satisfy the expectation of ensuring what cannot but be always a doubtful economy, for after all the most accurate accounts cannot ensure the durability or correct execution of a work on which besides the Government Revenue the welfare of thousands depends.

Captain Rundall—Consulting Engineer for Irrigation Company, to Government—25th October 1860, No. 77, Para. 30.



Colonel Horsley and Mr. Bourdillon further object to my proposal for returning to the principle of the old system by making the District Engineer an Assistant to the Collector in the D. P. W. and observe that such an arrangement would cause discontent and be inconsistent with the enlarged salary and higher position which have been lately given to these officers. The arguments against my measure are detailed in Para. 20 of Mr. Bourdillon's Memo. and I will not pursue the subject now because the status and salaries of the District Engineers may be altered so as to remove some of the objections offered by Colonel Horsley and Mr. Bourdillon if the plan for converting the Chief Engineer into a Secretary to Government, and stationing the Deputy Chief Engineers (probably increased in number) in their circles should be carried out. I will however remark that my proposal was intended to place the District Engineers practically and clearly in that position, which by the recent orders of Government they hold nominally. When offering their opinion on Chapters V to XI, of the Code under preparation for the Public Works Department, the Revenue Board observed.

"In the opinion of the Board the District Engineer should be bound specifically to attend to "any and all of the suggestions and proposals of the Collector, and *should in fact be subordinate to* "*him* except as regards the actual professional execution of work." Government assented to this view in the following words.

"The Collector is the head of the local administration, and *it is necessary that the District* "*Engineer should be in a subordinate position to him* in all matters, except such as are purely pro- "fessional and Departmental" in which he is "subject to the Chief Engineer alone."

See Para. 5 Government order dated 5th October 1860, No. 2065, on letter from Chief Engineer of 22nd June 1860.

8. The remaining point consists of the proposal to convert the Chief Engineer into a Secretary to Government. This course is recommended to save the delay and expense which now arises from the correspondence between the Central office and the Government. Colonel Horsley refrains from expressing an opinion on the subject, but suggests (Para. 33), that the change would perhaps be found to lead to additional expense. I cannot however share in this apprehension. The saving of correspondence with the Government would, I believe, enable the Central office to be reduced in strength, while the Deputy Secretary to Government and a large portion of the Revenue Secretary's establishment would not be required. Again although it would, I fully perceive, be necessary to increase the number of circles to five or even six if Deputy Chief Engineers are to be employed up-country, the District Engineers would under such an arrangement consist of the younger officers of the Corps and salaries more in accordance with their subordinate position and the old scale of remuneration might be assigned to them. Their Subordinates too might, it appears to me, be placed on a less expensive footing and yet be above the level of the Revenue branch of the Service.

Para. 22. Mr. Bourdillon urges other objections than those of expense to the conversion of the Chief Engineer into a Secretary to Government. But the Chief Engineer would still be the head of the Department, and he would have more leisure for control, when senior and experienced officers were placed in the provinces over the different circles and relieved him of much professional and departmental detail. Under such an arrangement I should not expect discipline to be relaxed, on the contrary, if the change led to complaint I should anticipate the tenor of the complaint being that the Chief Engineer was vested with too much influence and authority.

As this plan appears to be successful in Bengal and the N. W. Provinces, I am not aware that there is any essential reason why it should not answer here. The real difference between this Presidency and Bengal, consists in the net work of petty village tanks and channels which our administration has to keep in order. No similar duty falls on the Government in any other Presidency, and here it had been performed by the Revenue servants. Hence I argued that the principle under which the whole Public Works Department including these petty tanks and channels, was transferred to professional officers, does not suit the state of things in this Presidency and has led to unnecessary inconvenience and expense. On this point however I was met by the observation, that it is desirable to maintain our system in uniformity with that of the rest of India.

9. One part of the subject remains on which it is necessary for me to make a brief remark. In Para 11 of his Memorandum Mr. Bourdillon observes, "it is argued by Mr. Maltby that the "new system has been tried under favourable circumstances inasmuch as the operations of the "Department during the last 3 years have been on a reduced scale." Mr. Bourdillon then points out that in 1857 or "simultaneously with the restriction of expenditure on works, the executive "establishment was reduced by one-third of its strength" and afterwards (Para. 14) goes into detail to show that "the new system has been tried under extremely unfavourable conditions. It was "brought into operation suddenly and without sufficient preparation, &c." Now I must be permitted to observe, that this is beside the mark as respects my argument, which has not been correctly stated in the first of the above extracts. I was not speaking of the new Department *generally*

but of one part of it only, and remarked that the transfer of the petty village irrigation works and roads from the Collector to the Professional Department had not proved successful, though *this experiment* had been tried under favorable circumstances. In proof of these favorable circumstances I pointed out that even after the reductions of 1857 the establishment of the Department more than doubled its cost previous to the transfer, and that this costly establishment was able to concentrate its attention on repairs in consequence of the restriction placed upon the construction of new works. It was surely a legitimate inference that if the Professional Department could ever look well after the petty and scattered irrigation works, they would be able to do so under such circumstances. The Government at least came to a similar conclusion, for their Proceedings of 23rd March 1859, No. 677, contain this passage which I quoted in my Minute. "The restriction on new works greatly narrowed the operations of the Department, and as a consequence left "the Engineer Officers little else to attend to than *the repair and maintenance of existing works*, "and the continuation of some works already in progress."

I will only add in reference to Mr. Bourdillon's remark about the new Department having been called into existence "suddenly and without sufficient preparation," that the Government saw cause to act on the views of Colonel Faber, the Chief Engineer, who declared that he was ready for the change, although the Revenue Board, on being consulted, suggested a delay. (Ex: Min: Consultation, 9th July 1855, No. 320).

10. In conclusion let me observe that the subject under discussion is not a mere speculative comparison of the merits of the old and new systems, but embraces the important consideration of whether the resources of the State are now being turned to a proper account. There may be differences of opinion about the measures proposed by me, but I do not see how there can be any regarding the facts upon which my Minute was based, as they were taken from the public records and belong to no old period but to the recent year 1859. I showed that the Establishment before the change of system cost rather less than 6 Lacs per annum, while its present cost, after the reductions made in 1857, closely approaches to 14 Lacs (Rs. 13,95,292). This sum is for salaries only and does not include travelling allowances, batta, and contingencies, to which charges the item for *extra Superintendence*, entered in most of the Estimates, has to be added. So great does the cost of Superintendence thus become, that the Commission* for investigating Public Establishments estimated it at from 50 to 60 per cent. in North Arcot where they examined the state of the Public Works Department. I attributed this great increase of cost, in a main degree, to the professional Department having received from the Collectors the charge of all the petty irrigation works and district roads. But on my proposing the retransfer of these minor works to the Revenue Department, Colonel Horsley and Mr. Bourdillon argue, among other objections, that no saving of expense would be thus secured. If this is so, the question at once arises what does the Government gain to compensate for its present costly Establishments, especially when Colonel Horsley attributes the shortcomings of the Department to a want of servants, and states that the demand for more is general? Surely such a state of things demands a full and sifting enquiry as strongly as the facts stated in my Minute and the light thrown on the working of the Department by the report on North Arcot to which I have just referred. I will only add, that I had looked forward to our late lamented President Sir H. Ward giving his attention to this important subject, and I deeply regret that an enquiry into the Department cannot now have the aid of his ability, experience, and freedom from all local bias.

(Signed) E. MALTBY.

* See their proceedings dated 12th March 1859, Para. 50.



# APPENDIX.

I adjoin here two statements showing the past and present Tanjore establishments to which I have alluded in para. 4. These statements were prepared in the Chief Engineer's Office, and came up with Colonel Horsley's letter of 20th September last.

In both the Military pay is included and the result gives the annual cost of the establishment as Rs. 26,302 in 1852 and as Rs. 68,200 at present.

To obviate the unfavorableness of this comparison Colonel Horsley has attempted to show that the charge on the work performed was 13½ per cent. in 1852 and only 14 per cent. on the average of the last 3 years.

But I cannot acknowledge this to be a fair or complete statement. The enormous outlay for he repairs after the storms amounting in 2 years to 11½ Lacks of Rupees have been included by Colonel Horsley in his table of work performed, although no mention is made of *the extra Superintendence employed to accomplish this mass of work.*

How large that extra expense must have been may be surmised from the facts that the new establishment was framed to meet the work of ordinary years, and is weak in numbers according to Colonel Horsley even for that purpose. Now Colonel Lawford who is thoroughly acquainted with the province lately told us at the conference held to consider the Repair Funds for the Presidency, that the average for Irrigation repairs in Tanjore used to be a Lack per annum, and that a Lack and a half is enough now for ordinary years. If therefore the extra servants lately employed are not to be included in the cost of superintendence, the Irrigation repairs in Colonel Horsley's 3 years should be taken at an annual average of a Lack and a half, when it would be seen how high the cost of our present establishment is.

In the current year when the proposed expenditure has sank more to its ordinary level, the per centage charge of establishment is admittedly 23½, *or* 10 *per cent. more than it was under the former system.*

I require therefore clearer proof before I can join in the opinion that on a full enquiry "the old would probably be found more expensive than the new" system. (See Col. H.'s memo. p. 6.)

(Signed) E. MALTBY.

*Present Establishment of the Tanjore District compared with the Expenditure thereon.*

| | | Rates of Civil Salaries. | Establishments. | Total. |
|---|---|---|---|---|
| | | Rs. | Rs. | Rs. |
| 1 | District Engineer | 900 | 444 | 1,344 |
| 1 | Assistant District Engineer | 500 | 120 | 620 |
| 2 | Assistants {250 / 150} | 400 | 240 | 640 |
| 2 | Sub-Engineers | 500 | 127 | 627 |
| 2 | Assistant Supervisors | 300 | 102 | 402 |
| ½ | Overseers | 300 | 81 | 381 |
| 4 | Assistant Overseers | 320 | 108 | 428 |
| 24 | Sub-Overseers | 810 | ..... | 810 |
| | | 4,030 | 1,222 | 5,252 |
| | Neranakum Establishment | ..... | ..... | 431 6 |
| | | | | 5,683 6 |
| | | | | 12 |
| | | | Annually..... | 68,200 8 |

| Expenditure in. | New work. | Repairs. | Total. |
|---|---|---|---|
| | Rs. | Rs. | Rs |
| 1857-58 | 46,338 | 2,33,148 | 2,79,486 |
| 1858-59 | 18,132 | 5,18,603 | 5,36,735 |
| 1859-60 | 13,129 | 6,41,820 | 6,54,949 |
| | 77,599 | 13,93,571 | 14,71,170 |
| Average ..... | 25,866 | 4,64,524 | 4,90,390 |

Establishment..... 68,200 Average Expenditure. 4,90,390 — 14 per Cent.

Establishment..... 68,200 Proposed for 1860-61. 2,88,320 — 23½. ,,

(Signed) W. H. HORSLEY, Lieut. Colonel.
Chief Engineer.

Establishment in the Tanjore District in the year 1852, compared with the Expenditure in that year.

| | | Salary. | Establishment. | Total. |
|---|---|---|---|---|
| | | Rs. A. P. | Rs. A. P. | Rs. A. P. |
| Civil Engineer | | 700 0 0 | 148 0 0 | 848 0 0 |
| 1st Assistant Engineer | | 200 0 0 | 91 0 0 | 291 0 0 |
| 2nd Assistant do. | | 100 0 0 | 56 0 0 | 156 0 0 |
| Sub Assistant Surveyor | | 103 8 8 | ..... | 103 8 8 |
| 3 Assistant Overseers | | 131 13 3 | ..... | 131 13 3 |
| Moiety of above | | 1,235 5 11 | 295 0 0 | 1,530 5 11 |
| Military Pay omitted. | | 617 10 11 | 147 8 0 | 765 2 11 |
| 1 Captain | 293 10 0 | | | |
| 2 Lieutenants | 391 8 0 | | | |
| 3 Overseers | 75 0 0 | | | |
| Moiety... | 760 2 0 | 380 1 0 | ..... | 380 1 0 |
| | | 997 11 11 | 147 8 0 | 1,145 3 11 |
| Collector's Establishment. | | | | |
| Marahmut Establishment | | 194 8 0 | 132 0 0 | 326 8 0 |
| Taluk Establishment | | 91 0 0 | 126 0 0 | 217 0 0 |
| Neranakum Establishment | | ..... | 503 2 0 | 503 2 0 |
| | | 285 8 0 | 761 2 0 | 1,046 10 0 |
| Total..... | | 1,283 3 11 | 908 10 0 | 2,191 13 11 |
| | | | Annually... | 26,302 7 0 |

Expenditure in Tanjore in the year 1852.

| | Irrigation | Roads. | Navigation and Ports. | |
|---|---|---|---|---|
| Total..... | 1,83,623 — | 5,458 — | 4,112 — | 1,93,193 |

Establishment.. 26,302, Expenditure 1,93,193 = 13¼ per cent.

or

(Signed) W. H. HORSLEY, Lieut. Colonel,
Chief Engineer.

No. 368. MINUTE BY THE HONORABLE THE PRESIDENT.

*Dated 12th November* 1860, *and concurred in by His Excellency the Commander-in-Chief, 23rd November* 1860.

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I have carefully considered all the papers connected with this question and I feel assured that the estimate formed by Mr. Maltby of the worthlessness and expensiveness of our Public Works is correct.

The subject has now been fully discussed, and in submitting to the Supreme Government, our proposed alterations, it would be well I think to forward to them the papers connected with this subject which have been written by Mr. Bourdillon and Colonel Horsley, and by so doing at once put the Supreme Government in possession of the different views that have been elicited during the discussion.

The immediate changes, which on a further consideration of the subject, I desire to suggest, are in their nature, more comprehensive, as respects the Deputy Chief Engineers, than those I pointed out, as being advisable, in my Minute of the 16th of June last. The position also, which it now, seems to me, judicious, that the Executive Engineer of the District should occupy in regard to the Collector, will I consider, render it less necessary for the Revenue Department to be so immediately charged with the execution of the ordinary and emergent repairs of earthwork as was contended for by me in the Minute, to which I have already referred.

The following are the changes which I think it would be well for this Government, to advocate.

1st. The amalgamation of the Offices of Chief Engineer, and Secretary to Government—a step which has been approved of by the authorities in India and England. The grounds assigned for the above measure, in the 6th and 7th paras. of the Governor General's letter to the Secretary of State for India dated 28th January 1860, appear to me to be unanswerable.

2nd. The establishment of a separate Office of Account and Audit. A measure which I believe could with proper care and arrangement be carried out without any increase of expenditure.

3rd. In each District there is to be an Executive Engineer.

4th. The present Deputy Chief Engineers to be abolished and ten Superintending Engineers to be created.

The functions to be exercised by these Officers would be nearly similar to those exercised by the former Civil Engineers. They should reside in their circles, a circle to consist of two Districts. The operations carried on by the Executive Engineers would be under their control and supervision. The Executive Engineer would however act under the immediate orders of the Collector as regards the works, or repairs to be undertaken. But in respect to all professional questions connected with the execution of works, the Executive Engineer, should act of his own authority, or in consultation with the Superintending Engineer of his circle.



The accounts to be kept in the principal District office, that is the Collector's.

The financial result, as it bears upon establishments, I cannot of course detail, but I feel confident that the cost would be less than at present.

In other respects the advantages which I anticipate from the adoption of the above measures are the following.

1st. The saving of all correspondence between the Government and the Professional Head of the Public Works Department. The concentration of all questions connected with the Railway, Military Buildings, and the Irrigation Company, into one Secretariat office the Chief Engineer's.

2nd. The condensation and improvement of the Audit and Account Department, and the insurance of uniformity in its control.

3rd. The separation of Executive from the Inspecting Department, a point of such vital importance, that unless effected, all attempts at check must fail.

4th. The saving of correspondence between the Revenue and Executive Officers, and the more complete acquaintance of both Departments with the state of works in their Districts.

5th. Improved means of remitting, or paying money for work, and much greater control over subordinates.

I have had prepared a rough comparative statement of the present and of my proposed establishment of the Officers in the Department of Public Works, which shows a diminution of cost amounting to 55,392 rupees per annum,

As a means also of effecting a saving in time, trouble, as well as in money, I would suggest that every Officer in the Department should hereafter be paid a consolidated salary, and thus all bills and items for extra charges would be done away with. The Executive and Superintending Engineers being responsible that their Subordinates did their work. If salaries were thus consolidated, an appointment would be taken with all its liabilities fully understood, and no just cause for complaint could therefore exist, whereas the system of extra allowances leads too frequently to fraud, and almost invariably occasions discontent and endless references.

I append to this Minute the Statement to which I have referred.

W. MOREHEAD,
P. GRANT.

COMPARATIVE STATEMENT of the present and proposed Office Establishment of the Department of Public Works.

| Department to which the pro-position relates. | Nature of Charges. | Present Sanctioned Scale. | | Proposed Scale. | | Increase per month. | | Decrease per month. | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Rs. A. P. | | Rs. A. P. | Rs. A. P. | | Rs. A. P. | |
| Public Works Department. | 1 Chief Engineer..... | 1 | 2,250 0 0 | 1 | 2,250 0 0 | ..... | | ..... | |
| | 3 Deputy Chief Engineers at 800..... | 3 | 2,400 0 0 | 3 | 2,400 0 0 | ..... | | 2,400 0 0 | |
| | 1 Assistant to the Chief Engineer..... | 1 | 500 0 0 | ..... | ..... | ..... | | ..... | |
| | | ..... | ..... | do. ..... | 500 0 0 | ..... | | ..... | |
| | | ..... | ..... | 1 Auditor and Controller of Public Work's Accounts..... | 800 0 0 | 800 0 0 | | ..... | |
| | | ..... | ..... | 3 Superintending Engineers at 800 Rs. | 2,400 0 0 | 2,400 0 0 | | ..... | |
| | | ..... | ..... | do. at 700 Rs. | 2,800 0 0 | 2,800 0 0 | | ..... | |
| | | ..... | ..... | do. at 600 Rs. | 1,800 0 0 | 1,800 0 0 | | ..... | |
| | | ..... | ..... | 1 Civil Architect and Garrison Engr... | 700 0 0 | ..... | | 50 0 0 | |
| | | ..... | ..... | 1 Special Executive Engr. Upper Gody. | 700 0 0 | ..... | | ..... | |
| | | ..... | ..... | 3 Executive Engrs. 1st Class at 600... | 1,800 0 0 | ..... | | 300 0 0 | |
| | 1 District Engineer at the Presidency... | 750 0 0 | | | | | | | |
| | 1 Do. do. Upper Godavery... | 700 0 0 | | | | | | | |
| | 3 Do. do. 1st Class at 700... | 2,100 0 0 | | | | | | | |
| | 1 Do. do. 2nd Class 900 } | | | | | | | | |
| | 16 Do. 2nd do. at 600 2,500 } | 10,500 0 0 | 10 | Do. do. 2nd Class at 500... | 5,000 0 0 | ..... | | 5,500 0 0 | |
| | 1 Executive Engineer Bangalore 600 | | | | | | | | |
| | 1 Asst. Dt. Engr. 1st Class Presy. 350 | | | | | | | | |
| | 7 Do. do. 1st do. at 500 3,500 | | | | | | | | |
| | 19 Do. do. 1st do. at 300 5,700 | 10,150 0 0 | 7 | Do. do. 3rd do. at 400... | 2,800 0 0 | ..... | | 7,350 0 0 | |
| | 1 Do. do. 2d do. 300 | | | | | | | | |
| | 12 Do. do. 2d do. at 250 3,000 | | | | | | | | |
| | 4 Do. do. 2d do. at 150 600 | | | | | | | | |
| | | 3,900 0 0 | 35 | Asst. Ex. Engrs. at 200 on (average). | 7,000 0 0 | 3,100 0 0 | | ..... | |
| | 7 Probationary Assistant Engrs. at 100 | 700 0 0 | 7 | Probationary Asst. Engrs. at 112... | 784 0 0 | 84 0 0 | | ..... | |
| | 1 Supt. Dowlaishwarum Workshop..... | 600 0 0 | 1 | Supt. Dowlaishwarum Workshop..... | 600 0 0 | ..... | | ..... | |
| | 1 Do. Paumben ..... | 200 0 0 | 1 | Do. Paumben ..... | 200 0 0 | ..... | | ..... | |
| | Total Rupees per mensem. ... | 34,750 0 0 | | Total Rupees per Month ..... | 30,134 0 0 | 10,984 0 0 | | 15,600 0 0 | Total saving per month Rs. 4,616 |
| | Total of Officers. 81 | Total Annual Charges..... 4,17,000 0 0 | | Total No. of Officers. 79 | Total Annual Charges Rupees..... | 1,31,808 0 0 | | 1,87,200 0 0 | Total saving per annum Rs. 55,392. |

W. MOREHEAD.

ORDER THEREON, 24TH DEC. 1860, No. 2652.

Ordered that the above papers do lie over for the present.

(Signed) J. D. SIM, *Acting Secretary.*

No. 369.

Q. 51

Central Office of Public Works
Chepauk 26th April 1860.

No. 12753.

From

The Chief Engineer.

To

The Secretary to Government,
Public Works Department.

"Public"

Sir,—

I have the honor to bring to the notice of Government that on receiving from the Collector of Trichinopoly a letter dated 20th March last, giving cover to one from the Collector of Tanjore of the 17th Idem, represent-ing the "disgraceful and dangerous state" of the road between the capitals of those Districts within the boundaries of Trichinopoly, I — directed the District Engineer to report on the road in question and the steps he had taken or intended to take for its repair.

2 Captain Moberly in reply stated that the repairs had been placed under Sub Overseer Punniswami Pillai, but that he had been obliged to remove him to Vetticutte to prepare Estimates for irrigation repairs, —

adding

No. 42.
No. 68.
Enclosures 4
1 Letter from Collector Tanjore No. 342 dated 20th March ult 60 with 1 enclosure.
2 Letters from Dy. Engr. No. 1395 & 1551, dated 30th March and 10th April 1860.

× No. 11726 dated 26th March 1860.

⁰ No. 1395 dated 30th March 1860.

Public Works Letter 1860 Dept
Report from Dy. Engr. for Dec.

No.

Memo: by the Secretary to Government
Public Works Department
Dated 28th April 1860.

No. 2052 2 to 4 Dec.

No. 3130
Minute by the Hon. the Chief Engineer
Dated 3rd May 1860.

No. 3131.
Minute by the Hon. the Chief Engr.

Observing that if the Collector's and the Chief Engineer's and Surveyor's estimates were sent direct to Government, time would be saved.

No. 3132
Minute by the Hon. the Chief Engineer.

Concurred in by the Hon. the Chief Secretary and Hon. the Senior Member.

Agreed with all the Minutes in this record and the Chief Engineer's Minute and observing that the Account Table be prepared for reform.

P. 354 to 358.

adding that the Sub Overseer had returned and was then organizing measures for carrying on the work which was also impeded by the necessity of clearing the Weyacondan Channel and by the demand for labor on the Railway.

3. Considering this explanation unsatisfactory I required the District Engineer* to submit a more complete one which is now afforded in his letter of the 10th Instant, here-with submitted in which there is little more information than in the former. Captain Moberly states that the sanctioned Estimate for the road repairs was received by him in February, when he was obliged to employ the Sub Overseer charged with the work elsewhere, but there was no reason why he should not have commenced these repairs much earlier in anticipation of sanction, and employed on them a temporary superintendent reporting his proceedings which would certainly have been approved of.

* No 1243 dated 5th April 1860.

* No 1351

4. The statements contained in Paras 4. 8. and 9 are in my opinion irrelevant to the question nor do they justify the District Engineer for having so evidently neglected to adopt vigorous measures for repairing a road

of such great importance as the one referred to.

5. There is no District in which the same difficulties as those complained of by Captain Moberly have not been felt, but they have generally been met by expedients which might have been adopted in Trichinopoly.

6. The District Engineers are all well aware that it is their duty to give immediate attention to the repair of roads when injured by the weather and the control of this Office has never been so exercised as to hinder their action in cases of necessity.

7. I do not know why the District Engineer considered that the works referred to in his last para had been deferred for want of money. All of them except the Carur Road were properly repairs, and a large allowance for that purpose had been expressly made to Trichinopoly in the allotment of September 10th 1859.

I have the honor to be,
Sir,
Your Most Obedient Servant
J. A. Bell, Colonel,
Chief Engineer

Central Office of P.W.
Chepauk
26th April 1860.

L. L. Dt Colonel.
Dy Chief Engr in ch. Sn Circle
Dt Library

(6)
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Minute by the Honorable the President

I cannot see that any of the responsibility which attaches to the District Engineer can justly be transferred to the Collector. The Collectors of Tanjore and Trichinopoly made a strong representation to the Chief Engineer in March last upon the dangerous and disgraceful state of disrepair of this Road; and it is probable that, before they appealed to his Official Chief, they remonstrated with the District Engineer himself. If they did not, it may have been because they knew that the state of the road had been inadvertently upon in January when I was there.

As regards the general question raised by Mr Hatley, I will only observe that, after full experience and mature consideration, it was determined, some years ago, to establish a separate organisation for the execution of Public Works throughout the whole of British India; that, if there is one branch of the Public business more than another, which requires a separate division of labor, it is the scientific, professional work of the Engineer and Builder; that, up to the beginning of last

year,

Rd 18th 1860 Retd 28th
Rec'd from Govt Nº 1041
from the Chief Engineer
for the Secretary to Government
Public Works Department

Dated 26th April 1860.
Rec'd 27 Nº 1253
3 Enclosures.

Submitted with the opinion
expressed on the enclosed
from the State of Repair
Roads under the Limits
Trichinopoly.

No 353.

Asst C.E. 30th April 1860
Q.P. Nº 1253

year, the Madras Department of Public Works had no fair trial, owing simply to defective administration; but that since Colonel Bell has been placed at the Head of it, its discipline and tone have been restored, its regulations have been revised, and many improvements have been made in its practical working. It is true that at the present moment the expense of the Establishment bears a large proportion to the cost of the work done; but this is owing to the low state of the finances; and if we maintain our Professional Establishment, we shall soon have plenty of occupation for them in several important works which will be commenced as soon as Funds are available. It must also be remembered that much the largest portion of the expense of the Corps of Military Engineers, who must at any rate be maintained for defensive purposes, is included in that of the Department of Public Works.

Under these circumstances, it appears to me very inadvisable to reopen the general question of the mode in which the Public works of the Country should be provided for.

Under every possible system there will be instances of neglect and incapacity of which due notice should be taken, as will be done in this case. It is also possible that arrangements may be gradually made for transferring local works to local superintendence. I made an arrangement of this sort at Trichinopoly whereby the temporary Irrigation works and the Distribution of the Water were placed under the charge of the Land owners assisted and directed by the Revenue Authorities; but it is questionable how far this would have been necessary if an able, popular Officer had been in charge. Every opportunity should be taken for promoting sound Municipal action; but I deprecate any change which would unsettle the Department of Public Works. On the contrary, we should steadily continue our efforts for its improvement.-

I have the honor
Sir
Your most obedient
humble Servant
(Signed) H. B. Morgan

Madras
8 May 1860.

Mr. Mellis observed in Council that while the work was [illegible] the case above was as it was for which the Establishment was increased to the extent of [illegible] annually. If this can be established the sooner the old system is restored the better.

9 May 1860.

It is not to much to expect that Sabyard
to - as the Chief of the Department a State
vehicle in any Special case or Exigent pour
that may occur, but they habitually use my
Organization - or Mode of working.
Much may be done. I am inclined to
think. by Cautery to the old mode of
carrying out ordinary repairs -
I'm afraid to exclude no person left while is
needed. If this were done the reduction
Staff would be considerable, while it is
not now, on all occasions when
required

W[illegible]

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Published by the Lower Canada Legislature, at Quebec, [illegible]

Public Works 1860 Dept.
Pro: of Govt for December

No 3133.

Minute by H.E. Sir Charles Trevelyan.
D/8th May 1860.

Observes that he cannot see that any of the responsibility which attaches to the Dt Engr can justly be transferred to the Collr and deprecates any change in the mode in which Public Works are at present provided.

No 3134.

Minute by H.E. Sir Patrick Grant Commr in Chief.
D/9th May 1860.

Observes that if it can be established that while the work was not so well done now as it was formerly the cost was increased annually, the sooner the old system in the P.W.D. is reverted to the better.

N 357 + 358.

No 2652 — 21st Dec.

Memo.

There are, in my opinion, two reasons for at once taking some action in this matter of the Public Work Dept.

1st. Even with a 1 per cent. Income tax just laid on for Public Works, the Supreme Govt has been obliged to make a further reduction of 5 Lacs in our Budget. The cost of our Establishments comes therefore into greater prominence.

2nd. The new Code is about to issue, & if alterations in the system are to be made it would be well that they should be incorporated in the Code.

This Govt might at once bring the subject before the Govt of India, recommending the conversion of the Chief Engineer into a Govt Secretary (as has been arranged there) & the relief of the Scientific Dept. from the charge of the Public Works. - ~~Govt~~ expressing an opinion that such a course would tend to efficiency & economy, & bearing that if the Govt of India are inclined to this course, a scheme for

Public Works Dept 1860 Dept of Govt for Dam

No 333.

Minute by the Honble Mr Howard &c &c &c

Dated 10th May 1860.

Read 25th Dec 2152

Observing that minds may be more by Governor in Council on the whole of Contingent and ordinary Expenditure with regard to which no saving right shall be needed

No 359.

Dated 10th May 1860.

Secretary to Govt

the purpose will be laid before it.-

2 If deemed more advisable meas-
ures the Revenue & Engineer Officers could
be consulted before we address the Supreme
Govt.

E Thackeray

20 Augt 1860.

Public Works Dept
Proc: of Govt for December
1860

No 3120.

Memo: by the Revenue Member
dated 25th August 1860.

No 2052 - 24th Dec:

Observes that the Govt
might at once recommend
to the Govt of India the Conversion of the Chief Engineer into a Govt Secretary and the relief of the Secretaries Department from the charge of the Public Works

No 3064

Minute

1. I was led to make the Remark which has produced the Presidents Minute of the 8th Instant because the Chief Engineers letter of the 26th Ult. Reporting the neglect to repair the main Road between the towns of Tanjore & Trichenapoly is another illustration of the failure of a system which has long appeared to me as disappointing in its results as it has been expensive to the State.

2. The present financial crisis demands that no public money should be wasted and it seems to me therefore an imperative duty to enquire whether the Department of Public Works cannot be conducted on more economical & efficient principles.

3. In 1857 when the Commissioners on Public Works wrote their Reports, the existing Establishment cost 5,79,474 Rs. per annum. The Commissioners recommended an enlargement which would have raised the annual cost to Rs. 14,69,070 they proposed to entrust the execution of all works to the professional Department, but the Revenue Officers were still to take an active interest in the Department and it was to be presided over by a Board of Works composed of both branches of the service. Subsequently however it was determined by the Govt of India to separate the Department entirely from the Revenue Branch of the service. In August 1858 a Central Office was established with a Chief Engineer aided by Deputy Chief Engineers, and a separate executive agency was provided at the large annual cost of upwards of 16 Lacks of Rupees.

4 The President Remarks that this arrangement was

* In the Chief Engineers Administration Report for 1857/8 the amount is stated at Rs. 16,01,454 - But this appears to be for salary only, without office Establishments &c.

was part of a system deliberately decided upon "to establish a separate Organisation for the execution of Public Works throughout the whole of British India" and he expresses his opinion that "a separate division of labor" is especially necessary for the scientific professional work of the Engineer & Builder". To this I would reply 1st that although the new system may be applicable to Bengal & other parts of India where the only public works are isolated in their character and of an important description, such as Bridges, Roads, Canals & public buildings, it is not suited to our Presidency which depends for its prosperity on an artificial irrigation of a peculiar character composed of thousands of small tanks & water courses. The successful maintenance of such petty Works requires an immense Establishment when entrusted to a separate agency, and cannot be so promptly, cheaply, & efficiently carried out as by the Collector with the aid of the Taluk & Village servants and a small Muramut Establishment. 2dly I admit the advisability of entrusting the construction of all important works to professional hands, but believe that this object could be attained more advantageously & cheaply than at present, and without separating the two Departments. For example I would assign an Engineer officer with a suitable Establishment to each District; but while holding him directly responsible for the execution of new works of importance would place him in the position of assistant to & general adviser of the Collector, the Head of the District in the P. W. Department.

5. It is alleged that the check given to the construction of Public Works by the financial pressure has prevented the Department in its new form showing its full usefulness, and that it has been crippled by Reductions of its Establishment in 1857. But in the official year 1858/9 the cost of the mere Establishment after those Reductions was Rs. 13,95,292 and the total charge including travelling allowances, Batta, & contingencies amounted to Rs. 16,64,788 being a percentage of no less than 36926 to the value of work performed. If it is argued that this heavy cost of Superintendence arises from the stoppage of new works on account of financial pressure while it is still necessary to keep up an expensive profession Establishment the reply is that in that case the Establishment would have been more than sufficient for the ~~smaller~~ diminished quantity of work which remained to be performed. But instead of this being so, complaints have been numerous of the insufficient number of Servants, & the shortcomings of the Department have been commonly attributed to this cause, as in the present instance of the neglect to repair the Trichinopoly and Tanjore Road. Moreover it has been found necessary to include an item for extra Servants on most of the Estimates, so that the percentage cost of the Regular Establishment to the value of the work performed, large as it is, does not really show all which Government has now to pay for superintendence.

Among other papers on this subject see Administration Report for 1858-59 Paras 205-207 & 213. The Chief Engineers Report of 31st August 1859. P. 101. 173 & 178 & D. M. C. 13th Nov. 1858 No. 2386. P. 3 & 5.

6. The heavy expense of the Establishment has attracted the attention of the Govt. of India and called forth the following Recent Remarks.

Letter from Sec. Govt. Gen. dated 30th July 1859 No. 5136.

P. 3. "No specific information is given as to the estimated amount of Establishment, but it is stated that in the year 1857-58 it reached a ratio of 40% on the outlay". + + + +

P 4. It is stated that the Establishment cannot be reduced

"Reduced to a lower scale, & that a reduction of expenditure is not ne-
"-cessarily accompanied by a proportional diminution in the e-
"-pense of Establishment, for a larger proportion of highly paid
"officers must be retained on the list, and the area to be supervised
"is not diminished by a decrease of Establishment. There is
"much truth in all this, still 40 per cent appears even under
"these circumstances to be excessive, and is half as much
"again as the cost of Establishment in any other Presidency."

In another letter from Lieut. Col. Yule dated 18th July 1859 No. 4879 it is Remarked. "The Governor General
"has not been insensible of the pains exhibited in the
"preparation of the Madras Budget to keep down expendi-
"-ture on construction. But the Items for Repairs and
"Establishments are very heavy, and with these the Govt.
"of Madras can only deal effectually. The Governor
"General in Council places the matter in the hands
"of that Govt. with confidence that every means will
"be taken to bring the expenditure (allowed for that year)
"within the indicated amount of 67 Lacks."

7. With this confidential duty entrusted to us by the Supreme Government and with the additional data which we now have for judging the cost and results of the new system, it appears to me that the time has come for thoroughly examining the present constitution of the P.W. Dept. and considering whether it cannot be placed on a more economical & efficient footing. At a time when the Govt. is involved in financial difficulty and new and harassing taxes are proposed to be laid on the people, it is more than ever necessary to check that waste of the public resources which is now notorious throughout the Presidency and it should be kept in remembrance that as economy is attained in the cost of Establishments and other expenditure, larger funds will be available for the construction





construction of those new Works of irrigation & communication which are now in abeyance, but on which the advancement of the country greatly depends.

8. The main faults of the present system in my opinion are 1st. that by disconnecting the Collector from all active part in the Department a safeguard against wasteful expenditure has been Removed. And 2nd. that a much more expensive and less efficient agency is now employed to look after the Village Roads, and those numerous small irrigation works which abound in our Districts & form the peculiar feature of this Presidency.

This part of the Public Work Department is a humble one, & calls for no great Scientific Knowledge, but on its careful superintendence the prosperity of the Country and the comfort of the people in an high degree depend. Both the faults which I have thus alluded to are closely connected with each other, and I shall offer a few Remarks on each, commencing with the second.

9. It is chiefly from taking the petty Irrigation works and District Roads from their natural custodians the Revenue Officers, and attempting to place them under a separate agency that our present Public Work Establishment is so expensive compared with the period before 1852 and costs half as much again as the Establishment of any other Presidency according to the Remark of the Supreme Government. It becomes therefore a serious subject of consideration whether any adequate advantage has been derived from this large additional outlay for Superintendency. The trial of the new System has been made under favorable circumstances for altho' the Establishment was reduced in 1857, it still more than doubles the cost of that in 1852 and as observed by Govt: the restriction on new works, greatly narrowed the operations of the Department and as a con-

* Jn. C. 23 March 1859 No. 677. P.W. Dept.

† C. in C. 23 March 1859. No. 677. P.W. Dept.

"consequence left the Engineer Officers little else to attend
"than the Repair & maintenance of existing works & the continu
"of some works already in progress" But according to general opi
instead of any advantage having arisen from the new arran
-ments these District Works are less efficiently kept in rep
than they used to be, and this unfortunate state of things
not based on public opinion only. About eighteen months
the restrictive order of 17th July 1857 No. 1372, had left the
Department more at liberty to attend to this branch of
duty, the Govt: reviewed its working, and was obliged to
that thus far it had proved a failure & led to general co
-plaints of the Irrigation Works being neglected. After expressing
this opinion, the Govt: observed. "The attempt at improvement
"may perhaps have been made on too large a scale for imp
"and this had led to great difficulty, but the Govt: co
"believe that the principle is correct & must ev
succeed". I cannot however join in this opinion
experiment failed after a favorable trial, & the
of Govt: on that occasion show permanant
new system must be less efficient than the old
"the Revenue officers worked with the inhabitants
"locality who had a direct interest in urging on
"an interest which paid subordinates never
"and again" It appears impossible, even if the
"at its full strength, that its subordinates sh
"personally every small breach or injury in every
"-nate for, and see to its repair. It often happens
"very many of these repairs require to be seen
"time, and injury accrues from what cannot be
under the present agency Viz: that the

E.M.C. 13th Nov: 1858
No. 2386. C.W. Dept

Some must be delayed untill that of others has been completed. Under the old Regime each Village looked after its own work all at the same time"

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The importance of this point will be apparent when it is recollected that delay in Repairing a tank or channel throws the land out of cultivation for that season to the impoverishment of the Village & the loss of the public Revenue.

10. Govt: ~~further~~ proposed on the above occasion as a remedy for the admitted defects of the new system that the Collectors should interfere & undertake Repairs in cases of emergency. But after Collectors have been deprived of their Muramut servants, & seen this Department transferred from them to an indepen-dent & separate agency, it is vain to expect that they will be continually interfering, especially when their interference may lead to disputes about its necessity. Besides if their services are thus valuable why em-ploy at an immense expense to the State a new agen-cy, which has been shown to be unsuccessful & which is less acceptable to the landowners whose interests de-pend on the efficiency of the Department & who are consequently the best judges of the merits of the two systems.

11. But the subject may be persued further as one which has an important bearing on the public interests and which affects the general condition of the Public Work Department, beyond merely the prompt Repair of the Irrigation Works and District Roads.

The Engineer officers are not directly responsible like the Collector for the Land Revenue of the District and instead therefore of giving their attention to keeping the numerous small, but valuable tanks & channels in order

order, they not unnaturally leave this drudgery in a considerable degree to their subordinates and prefer occupying themselves with projects & works of more conspicuous interest, such as annicuts, Canals, Bridges &c. which will bring their names into pro-minence with Govt. and the public. The consequence of the new system therefore is not only that the Establishment is much more expensive, and that ordinary repairs are delay-ed or neglected, but also that these repairs cost much more than they used to do. Being executed at distances from the Head Station and under little check the Subordinate servants have the opportunity to charge for materials & labor at enhanced rates, and unfortunately a foundation is thus given for similar overcharges in the construction of the more important works. It is I believe chiefly in this manner that the Department has fallen low in public estimation and the Records of the Govt furnish but too much ground for the charge.

For the fact that high prices have been thus charged whatever explanation may be assigned to it see the Chief Engineers administration Report for 1857-58 Para 8.

12. The Collector on the other hand has a lively & direct interest both in the maintenance of the Land Revenue and in the prosperity & contentment of the people of his District. His continual attention was therefore given to the Tanks and Channels & aided by the Village and only a small Muramut Establishment he was able to keep these Works and the minor Roads in order more effectually, and far more economically than at present. I am of opinion therefore that Recourse should be had to the old system, but enlarged & improved in its details. The Commissioners on Public Works acknowledged that under this Presidency the class of Officers "most conversant with the wants of the Country as respects both works "of irrigation and Roads are the Collectors" and their competency

Note. Observations of Engineer Officers on Revenue &c. Instructions of Government &c. "Extracts from Minutes of Consultation &c. 16 Sept 1858 - 7 April 1859 "Extracts from Minutes of Consultation &c. 16 Sept 1858 - 7 April 1859 "

First Report Para 212.



competency to undertake the repair of the Village tanks & roads is shown by the general wish of the people that the charge should be restored to them & by the recent example of Tanjore. Alluding to the labor of repairing the injuries done by a violent storm in that District, the chief Engineer observed: "In this they (the Public Work Dept:) "were assisted by the Revenue Department to which was "entrusted in the first place, the Repairing of the breaches "in the River banks & irrigation works, but subsequently "the communications, the department of Public Works, un-"-dertaking the restoration of embankments and masonry "works. As therefore an efficient & more economical agency "is at our command, & experience has shown that the "small Irrigation Works & District roads have deteriorated "since they were taken from the care of the Collectors, and "placed under a separate & more expensive agency, it seems to me "high time to consider the propriety of retracing in some degree at "least, our steps."

Report of 31st Augt 1859. at No. 2436. Pa. 149.

13. I have mentioned the bad state of the District roads as being a fact of general notoriety. Among others the Bishop of Madras lately conversed with me on the subject. His Lordship's tours give him much knowledge of the Presidency, and when in Madras 2 months ago he lamented to me that the roads had become worse & worse, since they were taken from the Collectors.*

*The Salem District used to be noted for its roads (see the Report of the Commissioners on Public Works in 1852) but now Govt has had to call for explanation regarding their bad state, and the District Engineer Capt: Gahagan writes in Reply, as follows to the Deputy Chief Engineer of the Southern Circle. "I can assure you that the local Offi-"cers do their best to keep the roads in decent order.

Instances

"Instances of bad work & inefficient control are, I am
"painfully aware only too common, but these must continue
"to occur as long as the subordinates are so much overworked
"as they are now, and have been since the restriction
"orders of 18th July 1857." Letter of 9th may 1860. As the Esta-
-blishment of the Public Work Department now
costs in salary 14 Lacks per annum instead of 6 Lacks
as in 1862 and the restriction on expenditure makes it
less occupied with new works than was intended, this
result is surely unsatisfactory & suggests grave reflections
a new agency has been appointed at a great increase of expense and yet fails in dealing with the ordinary Repairs.

14.- The Remedy which I suggest would be, in my opinion, to secure several important advantages. If the small irrigation works and District roads on which the prosperity of the Country so deeply depends were Restored to the care of the Collector they would be Kept in more prompt & efficient repair and thus would be achieved at far less expense than at present partly by a more active control over the details of the expenditure - partly by the check of the Revenue Establishment strong Claims to a few Muramut Masters, and partly by the force of taking their proper part in the execution of petty repairs according to the usage of the Country the landowners are bound to aid in keeping up but since the change of system the Department no longer works with the people and the consequence is squabbling & inefficiency instead of co-operation. Govt have given repeated orders to the landowners to perform their duty, but until the charge

The most recent orders are those of Govt 20th March 1860. No. 596.
Do 5th May 1860 No. 940
Do 7th June 1860 No. 1190
&c.

(K) 17

See also Do letter from Chief Engineer 25th June 1860 No. 1005.

of these works is restored to the Revenue Dept: with which they are so closely blended, I cannot anticipate real compliance. In addition to the above advantages, the professional officers when Relieved from attending to those minor details, would have more time for the construction & maintenance of the greater works of the District. Thus appears to me the really sound "division of labor" and until it is adopted I fear that no satisfactory progress will be made in putting that check on overcharges and in introducing that punctual & regular system of accounts which is so much needed.

15. I have already observed that the opportunity given under the present system to the Subordinates to make + overcharges in the Repair of tunnels, tanks, & embankments appears to me the main cause which has brought the Depart: into so much public obloquy. The enhanced prices charged for materials & labor in the Bills for these petty Repairs are naturally carried upwards to more important works - the body of the Dept: thus becomes tainted, and hence those lamentable disclosures which fill the public Records of the last 2 years, and confirm the unfavorable verdict passed on the Department by public opinion. The cases in which the Govt: has had to dismiss servants for fraud & Record displeasure are too numerous for detail on this occasion, but the real rottenness of the present system may be seen in the exposure of the Dept: in North Arcot by the Commission for investigating Public Establishments

+ In remarking on Mr. Mc Cullay's case in Trichinopoly the Govt: have just observed Paras 5 "If practices at all resembling those disclosed in these papers prevail in other Districts it is easy to see why the amount expended in Repairs has so much increased within the last few years" Order of Govt: No. June 1860.

See order of Govt:— No. 811. 5th April 1859 } Establishments. There is no reason to suppose that this was an isolated case, or that the Dept: was worse in that district than others. Similar cause for distrust has indeed been discovered in other places also, thus in Tanjore our most important province where there are the largest Establishment and annual outlay, Govt: have had to record a belief that "there is + Systematic fraud in the Dept." × In another Dist: (Bellary) Govt: found

See Res: of Govt: on Letter from Chief Engineer dated 22nd Dec: 59. No. 8603.

Govt: order No. 278 31st Jany: 1859 — indications of "culpable laxity in the system of accounts and employment of the funds" and when dismissing some servants for fraud in Madura, Govt: remarked that the subordinates of the Dept: kept their accounts "very incorrectly" that they were improperly allowed to draw & hold large sums of money and that but little vigilance had been exercised over them. In Trichinopoly also the management constitution of the Dept: caused Govt: "a very painful feeling"

Govt: order of 5th April 59. No. 789.

(See order on Mr. McCleghs June 60) It is however unnecessary to cite more instances, as the Govt: published some grave strictures of the Secretary of State on the Public Work Dept: in Bengal with the following observation.

"The Governor in Council regrets to remark that instances have occurred to show that the cautions & admonitions of the Secretary of State will not be out of place as addressed to the members of the Madras Public Work Dept: He trusts that they will have due effect."

Govt: order No. 364 9th July: 1859

16. Even in the construction of those large works which form the particular duty of the professional officers the working

× The importance of the remark of Govt: will be apparent when it is recollected that the expenditure in Tanjore during the 2 last official years amounts to Rs. 11.61.523. This sum was chiefly for Repairs after 2 severe floods



the working of the Dept: has not been satisfactory since its separation from & independence of the Revenue Dept: Thus the Kindree Bridge in Kurnool was originally estimated for at Rs. 30,743— a revised estimate was next submitted for Rs. 49,443, and yet a farther supplemental estimate of Rs. 28072, was required to complete the work. The Palaar Bridge was originally estimated for at Rs. 72,673— But the cost was swelled by 3 supplemental estimates to Rs. 134663.

Govt: order 10th July 1859 No. 372

Govt: order 10th Sept: 1859. No. 2927

The Murthaar under tunnel in Trichinopoly exceeded its estimate of Rs. 10720. by 70 per Cent.

Govt: order 9th March 1859. No. 447.

The Salem Jail & Court House were sanctioned at a cost of Rs. 62,500. but the additional outlay amounted to Rs. 50.170.

Letter from Chief Engineer 20th Jany: 1860 No. 185

In these and other instances Govt: have had to express its extreme censure, and to degrade or dismiss some of the executive servants. My object in alluding to these cases is to illustrate my remark in P 15 that the absence of the Collectors control has swelled the charges for the Repairs of the small Irrigation Works & as a necessary consequence led to increased expense in the construction & maintenance of the larger works to the great detriment of the public interests.

17. I readily concur in the Presidents remark that the late able Chief Engineer Colonel Bell has done much to diminish confusion in the Dept: but I feel convinced that under the present system the Establishment must cost far more than is necessary, and that no adequate Control can be placed over the expenditure in the

construction

construction & repair of works. As proofs of laxity which still prevails in the Dept. I would observe that the accounts of the Godavery Anicut, the Dowlaishwaram Workshop, & the Tanjore Repairs after the two storms of 1858 & 1859 have apparently yet to be received.

The Records of the current year contain grave complaints on the part of Govt. of imperfect accounts, irregularity in drawing money, and heavy arrears of bills, and the general laxity of the Dept. may be seen in Major (now Lieut. Colonel) Horsley's† Reports of his recent tour, in Ganjam & the Godavary, Krishna Districts. It is unnecessary for me to remark on the irregularities therein detailed, but it is a significant point that the Reports led Govt. to single out Capt. Phillips from the other officers of the Department for special praise because his accounts have the unusual, but what ought to be the common place merit of being kept with correctness. As the Dept. to which Capt. Phillips belongs is Recommended to be entrusted in this year with the expenditure of 54 Lacks of Rupees (See Budget for 1860/61.) a state of things fills me with uneasiness, and calls to demand the serious attention of Government.

18. In my opinion the right course to be taken would be to place the Collector again at the head of the Dept. in each District, giving him a small establishment to aid him in his own Revenue branch. The Executive Engineer should be his assistant and adviser in the Irrigation works & roads. The Dept. with a separate & efficient establishment would enable him to render the construction & maintenance of the larger works & Trunk roads, besides exercising a better check in the general duties of the Dept.

† The Govt. has just remarked in their Pro: on the Chief Engineer's letter of 21st June 1860. No. 1861. that the accounts of the Dept: submitted to them are irregularly kept "imperfect and are many months in arrear in several Districts.

† dated 27th Jany 1860.
do. 28 March do.

Govt. order No. 30 9th July 1859

† The inference will be apparent the expenditure in these years amounts to Rs 11,61,523.



Engineer should be directly responsible for his own outlay, but his bills should be sent to Madras with the Collector's countersignature, and on the other hand the District Engineer should examine the work & check the accounts of the Collector's subordinates in the Muzamut Dept. By this arrangement the Coltr. & District Engineer would be placed I believe in a more satisfactory position than at present, while each branch of the Dept. would act as a check on the other & provide in an important degree that control over the expenditure which is now so much wanted. Less expensive establishments would then be sufficient, and I believe that the construction & repair of works would be effected much more cheaply than at present.

19. The course which I suggest would entail some change in the Central office but not of a kind to create difficulty or expense. With respect to the Deputy Chief Engineers I should propose their being absorbed in the District Engineers, or if retained that they should be stationed in their circles. The Chief Engineer might be re-associated with the Revenue Board under arrangements which would leave to him the scientific details & ordinary Routine of the Dept. though I believe the superior plan would be to make him Secretary to Govt. as well as head of the Dept. This course would diminish correspondence, expedite business, & supply that direct & personal communication with the Head of the Dept. which is now so often felt to be wanted in the Council chamber. With the members of the Govt. to hold the scale even between the Revenue & Engineer

Engineer officers, and with the Revenue Board at hands to consult when necessary. I should not anticipate that this arrangement would lead to Departmental difficulties or jealousies.

20. As the Collectors & their Subordinate servants are being Relieved from Police duties a partial Return to the old system in the Public Works Dept would not now be attended by those objections which might have otherwise been urged & I would also point out that the minute & peculiar irrigation of this Presidency requires a different system from that which is found to answer elsewhere. For the sake of uniformity of system with the other Residencies the public money now wasted on the present state of the Finances, we cannot afford the expense of separate Revenue & Public Works Establishments for the purpose of carrying out a principle which however sound in theory has not been found to succeed in practice after a treal of several years. The main points to which I would invite attention are as follows.

1st The present Establishment costs half as much again as any other Presidency & the Departmental charges without including extra Establishments amount to 40 per cent of the value of the work performed.

2nd The annual cost of the Establishment in salary is now Rs. 13,95,252 against 5,79,474 in 1852. Yet it is confessedly unequal to maintaining the Irrigation Works & Roads in order, although the stoppage of New Works has temporarily relieved the Dept. at leisure for this duty. After alluding to the present state of the Finances, & the restriction placed for financial Reasons on new Works, I quote a Govt. recently observed. "Meanwhile the Dept. is unable to perform the humbler but equally important duties of repairing roads & stopping breaches in tank bunds & works which if much longer

E.M.C. 13th. Nov. 1858. No. 2586 Para 5.

(aa) 83

neglected for the immediate welfare of the people & the maintenance of the Revenue"

3rd Notwithstanding the complaints of neglected repairs, the expense under this head has greatly increased. Before the Irrigation works were taken from the charge of the Collectors the repairs + cost as follows

| | | Rs. |
|---|---|---|
| * See appendix V Commissioners 1st Report | 1849/50 | 9,71,999 |
| | 1850/51 | 10,84,092 |

Since the separation the cost has been

| | Rs. |
|---|---|
| In 1857/8 | 12,70,656 |
| 1858/9 | 19,27,764 |
| 1859/60 | 17,01,935 |
| Estimate for Budget of 1860/1 | 17,16,491 |

Allowance has undoubtedly to be made for the higher cost of labor & materials & for injuries from Storms in Tanjore and Trichinopoly, but still this increase of charge accords ill with that neglect of the Irrigation Works which is so much complained of.

5th The sanctioned cost of the Dept. in the last official year 1859/60, was 67 Lacks of Rupees of which 17 Lacks were appropriated to Establishment and 50 Lacks reserved for expenditure on Works. The Dept thus absorbs of the Revenues of the Presidency & its efficient working is therefore a matter of the highest importance.

It is under these circumstances that the state of the Dept. appears to me to call for investigation, with a view to improve its efficiency, and at the same time economise the public money.

21. I do not pretend in this Minute to exhaust the subject or even to enter far into its details. I have limited

* See former Establishment which it is hoped will be kept down as it is to be hereafter limited by the stoppage of new works. Work ten Lacks more increase over 1858 & expense of the number & expense of the Establishment to be kept down by correspondence.

limited myself to noticing some of the salient points of a question in which the interests of the [redacted] the character of our administration are deeply concerned.

16 May 1860.

U Grant

(12)

The circumstances as clearly detailed in Mr Mattes' Minute are conclusive as to the necessity of thoroughly investigating the working of the present Dept. of Public Works, in view to deciding whether the Dept. should be maintained as now constituted, or whether it is not expedient to return to the previous System.

Mr Mattes has clearly shown, it appears to me, that while the existing System is unnecessarily expensive the work is not done more efficiently performed than in the case under the old System.

So far as I can draw from an opinion on this very important question it is clear to me that both economy and efficiency would be

(11)

Materially promoted by adopting the suggestions Mr Mattes has made in paras 18 & 19 of his Minute. I am especially in favor of making the Chief Engineer Scientific to Govt. in P.W. Dept.— As Mr Mattes well observes this would avoid Numerous Correspondence & specific business, and place the Head of the Dept. in direct and personal communication with Government.

Madras
16 July 1860

U Grant

Public Works 18bo Dept.
Pro: of Govt for Dec.

No 3136.

Minute by the Hon: Mr
Maltby.
D/16 May 160

Makes observations on the present Systems in the Dept of Public Works and suggests the restoration of the Dept to in part to its old form and the conversion of the Chief Engineer into a Secretary to Govt

No 3139-
Minute by His Excellency
Commander-in-Chief
D/16 July 160.

Observes that the circumstances detailed in Mr Maltby's Minute are conclusive as to the necessity of investigating the working of the present Dept of Public Works, and that he is specially in favour of making the Chief Engineer Secretary to Govt in the D. P. W.

No 2652 - 24 Dec.

No 360 & 363.

1.

Minute by the Honorable the President

Although there is much force in many of Mr Maltby's observations, I am clearly of opinion that the present system ought to be substantially maintained.

In our sense of present convenience, we are too apt to overlook the evils necessarily incident to any altered state of things. If the works of various Kinds had been well provided for, and the accounts had been well kept by the old Maramma Department under the Superintendence of the Collectors, the change to the existing scientific Establishment would not have been made. By a return to the former state of things the former evils would be reproduced in an aggravated form.

The present system has hardly lasted five years, and the imperfection and friction necessarily attending a new administrative machinery is one main cause of the complaints against it. The habit of co-operation cannot be immediately formed after the introduction of a new division of labor. On the contrary jealousies and differences of opinion are likely at first

first to prevail; and a new system can only have a full and fair trial when it is worked by persons who have been trained under it. During my tours I exerted myself to explain the proper relations between the Collectors and the Officers of Works; and I know that in some instances this was attended with good effect. In the case of the Officer whose proceedings have given rise to this discussion, no useful impression was made, and he has been removed to another District.

When the Department of Works was first created, the Executive Officers were necessarily got together from various quarters, without, in many cases, any satisfactory proof of qualification. Another obstacle, which alone is sufficient to account for the backward state of the Department, is that the Officer first placed at its head, although a highly honorable and accomplished man, had no talent for administration. It is only since the appointment of Colonel Bell to be Chief Engineer in the early part of last year, that





that any real progress has been made. Since that the Department has been continually improving; and there is every reason to expect that, if no new changes of system take place, a high degree of efficiency will be attained under the present Chief Engineer, who was Colonel Bell's constant Adviser and Assistant in the improvements made by him.

To replace the Department of Works under the Collectors, would be a retrograde step, not only as regards this, but also in respect to every other branch of business entrusted to those Officers. It was a great practical evil of the Madras system that the Collectors were over-burdened. Nothing could be well done, where functions, each of which required close individual attention according to different systems of management, were heaped upon a single over-tasked individual. In consequence of this, the Department of Works (to which have been placed under separate European Superintendence; but they ought both to be conducted under the general supervision of the Collector, whose position as elsewhere

elsewhere remarked, been approximated, much to the public advantage, to that of the Bengal Commissioner and the French Prefect.

The large proportion which the cost of repairs bears to the remaining expenditure, has been fully explained in a recent report of the Chief Engineer in reply to some observations on the subject in a Letter from the Government of India. It must always be so in that Presidency whatever may be the system of management; for the maintenance of the Revenue depends upon a Reticulated system of irrigation works, which stands in constant need of repair and of small extensions and improvements which are charged under that head.

For the same reason the cost of the Establishment appears large, because it is maintained in a great degree for inspection and direction, independently of actual expenditure. If there were only a few great works to be executed, Establishment would bear a small proportion to Expenditure; but the case is different where

2. (dd) 93

a large number of small works have to be watched and kept in order in every Sub Division of a District. I do not see how Mr. Matthey's plan could lead to reduction of Establishments - one under the District Engineer and the other under the Collector - instead of only one under the District Engineer. This would not be conducive either to control of Expenditure or to harmony of action. He appears to rely upon the services of the Tahsildars and other Native Revenue Officers being obtained without additional Cost. But advantage has lately been taken of the separation of the Works and Police from the Revenue, to limit the Native Officers employed upon the latter to the number really required, and to give them adequate remuneration; and, combined with this, the Talugs or Districts in charge of Tahsildars have been enlarged. If, under these altered Circumstances, the works were replaced under the Revenue Establishments, a corresponding increase must be made in those Establishments.

J

I entirely agree with Mr. Stuart
that the Land owners should be held res-
ponsible for the maintenance of the
minor irrigation works; but the question
is whether, in the performance of this duty,
they should act under the superintendence
of the Revenue Officers or of the Officers
of the Department of Works. No doubt,
it was difficult for the Ryots, who had
been accustomed to the interference of the
Revenue Officers with all their affairs, to
begin to act with another Department;
but the first difficulty has been got over
and where proper attention is paid by the
District Engineer and his subordinate Officers
to the details of their duties, the new
system is attended with satisfactory
results.

In my opinion, therefore, the
existing system ought to be maintained, but
every possible exertion should continue to
be made for its improvement; and care
should be taken that the duties of the
Department are conducted in unison

with the Collector and with a general reference to
his wishes; and that the Land owners
are made to do their duty in the
maintenance of the minor irrigation works.

I have &c.

Madras June 7th
1860.

J. Thomson

I entirely agree with Mr. Mallby that the land owners should be held responsible for the maintenance of the minor irrigation works; but the question is whether, in the performance of this duty, they should act under the superintendence

[illegible]

system is attended with [illegible] results.

In my opinion, therefore, the existing system ought to be maintained, but every possible exertion should continue to be made for its improvement; and care should be taken that the duties of the Department are conducted in such a

Public Works. 1861 Depth
Pro: of Govt. for December

No. 3137.

Minute by H. E. Sir Charles
Trevelyan. Governor.

Dy. June 1860.

No. 2652 — 24th Decr.

Observes that altho' there
is much force in many of Colo.
Maltby's observations, he is clear
of opinion that the present system
in the Public Works Depth ought
to be substantially maintained
but every possible exertion
continued to be made for its
improvement.

No. 361.

Copies of the Minutes of the 99
Remarks which he has made
in his present Minute on the
Report of Public Works
Department.

The Department is undoubt-
edly a very expensive & calls for
special & more immediate report
than what has been adverted
to is necessary by the late Regi-
lations in his Minute of the 7th
Dec. in his Minute of the 7th
Dec.

2 Point

The most sensible part is
the Appendix [illegible] & touch-
Heads of the 1st Report the Executive Depart
ment is very distinct, as to
faulty & [illegible] in keeping accts
& the purchase of the Cattle &
how they executed - that they have
become almost exclusively a
Department for accounts

leaving the supervision of the
execution of the works & specially
works of repair to the Executive
Ordinates of the Department.

Under such circumstances Doubts
it is plain, that until an Act
passed Chief & Supervision
can be introduced into the
Department of Public works,
all the evils detailed by Mr
Hall by must continue to exist
The present has had a
bad & fair trial & the present
in always ready to carry it on for
a year the trial. is only to add
to the present embarrassment
& to render improvement
difficult.

In Bengal & Bombay they have
made the Chief Engineer a Secre-
tary to Govt in the Department of
Public works. Hence the
Govt adopt the same plan.
by so doing Govt obtain the
work would be more satisfac-
torily done than at present.
Much letter writing, would be
saved & the Chief Engineer
taking with the Chief Secretary
& a Secretary to
Govt. would be always
at Govt. hence the delays
between the C.E. & the Govt
in Questions had been discussed
& finally laid before Govt
The establishment of the Central
Office as now would be taken
also be altered. The Deputy
C.E. being sent to reside in
Mair

different Lamps. The amount
D-C-E- was needed - one
thousand be appointed - The
Deduction of the Judgment taken
with Interest of the Contract specified
under Juvenile Laws to be
now effected -

As provided out of the Needful
the Revenue Department shall
be the receiver Local authority
Intelligent Agents, Local Works
Banks, Vibration Telegraph and
Municipality Public Buildings,
Main Roads, Bridges & Harbours
by Non Interest bearing debt to the
Department of Public Works
In this Manner - There no deduction
to do more than calculate to the
Treasury Clerk of the Peace

MINUTE BY THE HONORABLE W. MOREHEAD, ESQ., DATED 16TH JUNE 1860.

I agree with Mr. Maltby in the remarks which he has made in his present Minute on the Department of Public Works.

The Department is undoubtedly a crying evil and calls for greater, and more immediate reform than our late President in his Minute of the 7th instant, admits to be necessary.

The want chiefly felt is the absence of efficient check and control. At present the Heads of the Executive Department in every District, are so occupied in keeping accounts and in preparing the bills for works executed, that they have become almost exclusively a department of accounts leaving the supervision of the execution of the works, especially works of repair, to the lower subordinates of the Department.

Under such circumstances it is plain that until an effectual mode of check and supervision is introduced into the Department of Public Works, the evils detailed by Mr. Maltby must continue to exist.

The working of the present system has had a fair trial, and to persist in attempting to carry it on for a longer period and further trial, is only in my opinion to add to our present embarassments and to render improvement more difficult. In Bengal and Bombay the Chief Engineer has been made also the Secretary to Government in the Department of Public Works, and I think we should adopt the same plan. By so doing I am satisfied the work would be more satisfactorily done than at present. Much letter writing would be saved. Instead of communicating with the Chief Engineer through a Secretary, the orders of Government would be at once taken by the Chief Engineer after the subject had been discussed by the Government. The present constitution of the Central Office would require to be altered. The Deputy Chief Engineers being sent to reside in their different ranges. If another Deputy Chief Engineer were needed under this arrangement, one must be appointed, and I am inclined to think that by a reduction of the present Establishment of the Central office funds for this new appointment would be forthcoming.

As pointed out by Mr. Maltby, the Revenue Department should be the executives for all ordinary and emergent repairs, of earth work, tanks, river and channel embankments; all public buildings, main roads, bridges and masonry works being left with the Department of Public Works.

W. MOREHEAD.

# Memorandum

In the old Maramut Department the Collector and his Departments were the Executives, the Civil Engineers and their Assistants the Supervising and Directing Officers. Except in special cases, all disbursements of money were made by the Revenue Authorities and the Engineer Department measured the work and checked the expenditure -

2- Work was usually given out on a sort of Contract to the Meerasdars or principal ryots, who performed it under the general direction of the Talook Maistry (on the Collector's Establishment), the accounts of the same being adjusted from time to time by the Talook Pyomashta, whose duty it was to keep the accounts of every work in the Talook and have the same ready for the

ordinary

No 162

Rs. 1806 Rupees
Received Cowle for Rupees
Rs: 3138.
Received by the
Sheristadar of the Revenue Dept.
Collr's Office
Dated 1st June 1806.
Rec'd

Letter with the remainder
Bullock Hire remaining
on the Collr's Establishment
Bullock Hire and allowance
Cattle in Repair &c
Equipage Repair &c
Road Repair made also
Road Repair to Pourshi
Road to Pourshi
Road to and the
Road Pourshi
Road Pourshi
adopt the same
Road that are having
out the Establishment
the Establishment are
the Executive for all
ordinary Purposes
replaced at Pallacherry
Land Revenue Clerk
Land Revenue.

No 2052 - 24 Dec.

inspection of the Engineer Department whenever they entered the Talook. There were usually one Maistry and one Goomastah to a Talook, or from 12 to 14 in a District, and as many Gomastahs, and over them all was a Maramut Superintendent, the Collector's principal Subordinate in the Department. His duty was to keep a general superintendence over the Talook Maistries and report to the Collector from time to time of the progress of the works, as well as to estimate for repairs whenever necessary. The Superintendent was usually one who had been brought up in the Engineer Department and understood his work well.

3. Thus, at apparently trifling expense to Government, the Collector, with the help of the Sub Collector and Assistant Collectors, and under them the Tahsildars,



Tahsildars, with their Subordinates the Tarafdars, Peechkars &c aided by the Maramut Superintendent the Talook Maistries and Gomastahs carried on the work of the District, the Engineer Department being confined to Estimating, Superviseing and directing. The latter consisted of a Civil Engineer with one and sometimes two Assistants, two or three Revenue Surveyors, and, latterly, as many Assistant Overseers. The Civil Engineer and his Assistants were constantly on the move, estimating or measuring work done, and the same was the case with the Surveyors, excepting now and then when employed in Surveying and levelling. The Assistant Overseers were engaged in superintending large masonry works in progress, or road repairs, but had nothing to do with the custody of money. This was entirely confined to

ordinary

to the Collectors Department
the Engineer Department acting
as a check on them by constant
supervision and measurement.

4— This system had the advan-
=tage of securing economy as respect.
superintendence and Executive ma.
=nagement, because from the Collector
downwards to the lowest revenue
Officer in charge of a Sub Division
of a Taluq, all took part in the
work without additional pay, while
the professional Establishment
under the Collector was, with the
exception of the Superintendent,
very ill paid a Mistry receiving
from 10 to 15 Rs., and a Jemadar
=dah 7 Rs. a Month. It is not
to be supposed that they were
satisfied with these salaries and
got nothing besides, for it is well
known that 10% at least, of the
total expenditure went back to them
in the shape of Gifts from the Merras-
=sadars &c. &c. I should have mentioned that



that the Collector had the assis-
=tance of one English writer in
his Office to conduct the corres-
=dence and accounts connected
with the Maramut Department.

5— In the margin is given
the cost of Collectors and Civil
Engineers Establish-
=ment for 10 years
ending 1851 in
Madura and
Tinnevelly, as
compared with the expenditure
during the same time.

| | |
|---|---|
| Collectors Establishment Rs | 69,754 |
| Civil Engineers - do - | " 174,997 |
| Rs | 2,44,751 |
| Expenditure - | 996,531 |
| Per centage of Establishment to expenditure - | 24½ |

6— The advantage on the side
of economy would not appear
to have been so decided after all
by the old system, and that
without allowing anything for the
time and labor bestowed on the
work by the Revenue Department
from the Collector downwards.
If a portion of their salaries were
added, the old would probably
be found to be more expensive than

ordinary

the new.

7 One advantage the old system certainly had over the New was that of constant supervision by an entirely separate Department. This caused the Revenue Authorities to be on the qui vive, and ready with their accounts whenever an Officer or Subordinate of the Engineer Department entered their limits, and they were always liable to these periodical visits.

In the New Department this constant supervision of Subordinates appears to be wanting in many instances. The District Engineer complains that his Office duties and the numerous accounts he has to send in prevent his moving about as often as he would wish, and all his Subordinates, from the 1st Assistant downwards, are either in charge of ranges, or particular works, and therefore cannot assist him in the general



superintendence of the District. This is, I conceive, a fault in the New system. I would propose to correct it in some measure by removing the 1st Assistants, one or two in each District as the case may be, from the charge of ranges, and constituting them inspecting and directing Officers in conjunction with the District Engineer, and one or other of them should be constantly on the move, as in the old Department, and the other at Head Quarters, taking care that the Current work of the Office is kept up. I would leave the charge of ranges generally to the Upper Subordinate Class and employ the 2nd Assistant District Engineer and Sub Engineers on special works. The upper and lower Subordinate Departments would thus be employed principally in estimating for and executing ordinary repairs to Tanks and water courses, roads Buildings &c &c within their ranges, the

ordinary

the same kind of work which used to be done formerly by the Palook Authorities, assisted by a Maistry and Gomastah; and the District Engineer and his 1st Assistant would stand towards them much in the same light that the Civil Engineer and his Assistant did to the Tahsildars and his subordinates - By going constantly from Range to Range the District Engineer, or his 1st Assistant, would be able to check the work done by actual measurement and see that it was properly brought to account. - One great cause of delay in the accounts at present is the difficulty of getting them in from the Range Officers in proper time - This would, in a great measure, be obviated by the District Engineer or his Assistant overhauling



overhauling the Range accounts — month after month, instead of their being left, as at present, for Months together, with no other supervision than an occasional examination of a Cash Chest and comparing it with the Cash account.

9— For all ordinary Earth and Masonry repairs, I would recommend that Contracts should be made by Range Officers, under the authority of the District Engr., with the Meerassadars or Heads of Villages, leaving them to do their own works as much as possible, as under the old system the Range Officer and his subordinates inspecting and measuring the works as frequently as possible in the presence of the Meerassadars and furnishing them with an Abstract of his measurements with the value of the same at the Contract rate

ordinary

rate; and if a further advance were needed, giving a cheque for the same on the nearest Treasury — As few money payments should be made as possible —

10 Thus the New system would be assimilated to the old in all the more essential and important points, while there would not be the anomoly that there was in the old of a comparatively unprofessional Department undertaking the Executive duties of the Department of Public Works.

11 I believe the great point to be gained is to get rid of the post of low salaried Goomastahs who are still employed to a great extent in the Department under the head of Extra Establishment, and to do this, we must get the



the people to undertake their own repair works, which they will be glad to do if sure of proper payment — They are the parties most interested in the well being of the Tank or Channels, and they can often furnish or obtain labor, when a Goomashtah sent to the Village to carry on the work would be helpless.

12 — I consider a return to the former system, as a whole, to be altogether out of the question. In the first place, the Talays are now in many instances double the size they were; 2nd the Tahsildar has no longer Police authority, and this it was which helped him very much on the old system; 3rd the work people and ryots generally have learnt what it is to get good wages, and they would not be so ready to give up part of their earnings as they were formerly

ordinary

— If there is true how are they best to get on — they having is [illegible] authority & why could not the Collr employ the Talayer, as recommended in Pg 6 ?

formerly, 3 and 4th, it would be a return to an anomalous state of things, Public Works executed by the Revenue Department. I have said nothing of forced labour, of which there was consequently a good deal on the old system, and I doubt very much if that system could have gone on as it did without it. But this it could not have recourse to now a days.

13— If properly carried out I believe the new system will be found more efficient and more economical than the old one.

14— In the above sketch of the old and new systems I have said nothing about the duties of the Deputy Chief Engineers. On this subject I have already addressed Government in letter dated respectively 16th and 25th May 1860, and I have little to add to what is

Nos 574 & 872



is there stated. I presume that the breaking up of the Central Office of Public Works, and the sending of the Deputy Chief Engineers to reside in their Circles, involving as it does a separate Auditor at Madras, cannot be carried out efficiently without increase of cost in the item of Establishment, whereas the great object is to reduce this item to the lowest figure. I am also of opinion that what would be gained by the apparently greater facility of frequent supervision, which the Deputy Chief Engineers would possess by residing in their Circles, would be more than counterbalanced by the delay caused by frequent references and correspondence. I suppose for a moment that the Deputy Chief Engineer Northern Circle has his fixed Station at Dowleshwaram, (and that is about as central as he can well be placed) of course all correspondence between the Chief Engineer and the ordinary

for Colonel Bell's opinion see para. 5 Clause 4 of letter No. 3/1

the District Engineer must in this case pass through the Deputy Chief Engineer - Some information is required from North Canara, the Chief Engineer must write to the Deputy Chief Engineer at Dowleish-weram, he again must write to the District Engineer of North Canara, that Officer sends the information to Dowleshweram, and from thence, if deemed satisfactory, it is transmitted to Madras - If not satisfactory, a second requisition will have to travel over the same ground again to the great delay of business - It will be the same with the accounts if they have to pass through the Offices of the Deputy Chief Engineer, and if they do not, one great object of this being in his Circle will be lost -

15

At the first view of the subject, it certainly would seem that



the Deputy Chief Engineers, if residing in their Circles, would possess greater facilities for inspection than they do by being located at Madras - But when it is considered how frequent, now a days, are the opportunities of reaching the Northend Division in a Steamer, or Sailing vessel, in less than a week, sometimes in forty eight hours, and the Southend Division in the same way by Sea to Negapatam, or by Rail to Salem, I do think that the advantages to be gained by the Deputy Chief Engineers residing in their Circles are greatly exaggerated. The fact is, it would be more difficult for the Deputy Chief Engineer of the Northend Circle to reach North or South Canara from Dowleishweram than it would be from Madras, and vice versa, it would be greatly more tedious in for-

ordinary

for him to communicate with the Northern Division from the Western Coast, when engaged there, than it is from Madras. As respects the Centre Circle, Madras would, I conclude, continue to be the fixed Station of the Deputy Chief Engineer, so that he is just as well off now as respects the facility of inspecting the Districts included in his Circle, as he would be under the proposed system. There is nothing, in fact, to prevent his visiting works in progress as often as he may think necessary. Instead of confining his visits to isolated works and being absent from the Central Office for a few days only at a time, I proposed that each Deputy Chief Engineer should spend at least two months continuously in making a tour of inspection, and I believe if this were done



once or twice a year in each Circle, that great advantage would accrue both to the Officer himself and to Government - If the Deputy Chief Engineers are to be sent to their Circles, three such Officers will not suffice - The great extent and the position of the several Districts require that there should be at least five Circle Officers, viz two for the present Northern, one for the Centre, and two for the present Southern Circle - This will entail additional expence for salaries and Establishment as it is not possible to do more than we have done already in reducing the number of 1st Class District Engineers, abolishing our 3rd Class Executives and lowering the pay of the Assistants, see 5 para of my letter of the 16 May 1860 No 574 for

Colonel

ordinary

Colonel Bell's opinion in this matter.

16. Since writing the above, I have read the Minute by the Honorable Mr. Maltby dated 16th May 1860 and as directed will now proceed to offer a few remarks thereon.

17. Mr. Maltby considers that the main fault to of the present system are 1st that by disconnecting the Collector from all active part in the Department a safe guard against wasteful expenditure has been removed; and 2nd that much more expensive and less efficient Agency is now employed to look after the village roads and minor irrigation works than formerly.

I do



I do proposes to remedy these faults by placing the Collector again at the head of the Department in each District, giving him a small Maramut Establishment to aid his own revenue Servants in looking after the minor irrigation works and roads, — making the District Engineer his Assistant and Adviser in the Department, with a — separate efficient Establishment to enable him to execute and maintain the larger works and Trunk roads, besides aiding the Collector in the general duties of the Department. He would make the District Engineer directly responsible for his own outlay, but his Bills should have the Collector's countersignature; and, on the other hand,

the

ordinary

the District Engineer should examine the work and check the accounts of the Collector's Subordinates in the Maramut Department.

18- With respect to the Central Office, Mr. Maltby proposes that the Deputy Chief Engineers should either be absorbed in the District Engineers, or if retained, that they should be stationed in their Circles, and that the Chief Engineer should either be associated with the Revenue Board, or be made Secretary to Government, as well as head of the Department, the latter, he considers, would be the better plan for reasons assigned.

19- My impression on reading this Minute is that Mr. Maltby takes too much for granted





He assumes that the old system was both economical and efficient, that it fully answered the end in view, and that, therefore, a return to it is the wisest course. He shows that in 1852, when the P.W. Commissioner wrote their report, the existing Establishment cost only Rs. 5,79,474 per annum, and that at present it costs Rs. 13,95,252. These figures, however, do not represent the true state of the case, for in the former sum the Military allowances of Officers and Subordinates are not included, and in the latter they are to the amount of Rs. 2,49,603. It is also to be observed that the Establishment, as now charged for includes the salaries of Mechanical Engineers sent out from England, and the cost of conservancy, which latter certainly should not be set off against the General outlay on Works in making a percentage of the cost of one to the other. No details

ordinary

details are immediately procurable to trace what these charges amount to, but they must add considerably to the total cost of the Establishment

20 In the former part of this Memo: I have shewn that in the old 8th Division, Madura and Tinnevelly, which for some years was second only to Tanjore in the amount expended on works of Irrigation, the per centage of Establishment to expenditure was 2½ per cent, and that without taking into account the Military allowances of the Officers and Subordinates, or any share of the expense of the Establishment maintained in connection with the Board of Revenue in the D.P.W, or allowing any thing for the time and labor bestowed on the work of the Department by the Collector and his Department. If all these items were added, I believe the percentage would fully equal, if not exceed, that of the present Establishment, including as



as it does every single item of expense, even the Military allowances of 7 or 8 young Officers and Probationers of the 1st and 2nd Class sent out from England lately, whose services are not yet available for work in the Department, nor they have not passed in the Vernacular - The fact is, the Govt now keep up a Corps of Military Engineers, consisting of 3 Battalions of Officers, without charging the Military Department with any thing more than the bare pay & subsistence of those Officers, all the allowances being debited to the D.P.W, which was not the case formerly.

21— By a Statement of expenses incurred on account of works of irrigation, roads buildings &c and for superintendence from 1837 to 1850, submitted to Government with letter from Secretary to

ordinary

to the Board of Revenue D.V.C.
No. 154, dated 28th Feb.
ruary 1853, I find that
the average expenditure
as shewn in the margin,
and the per centage of superintendence
to expenditure 26.5. In 1846 it was
very nearly 34 per cent,
and in 1831 it was 31.6,
and that without taking
into account Military
allowances, while in 1859/60
inclusive of all the
charges I have mentioned
above, the per centage
is not more than 3¼.
⅞ as given in margin.
-all.

| | | |
|---|---|---|
| For works of Irrigation - | | 575650 |
| Roads & Buildings | | 330936 |
| | | 906,586 |
| Superintendence | | 240674 |
| Per centage | | 26.5 |

1859-60.

| | Rs. | |
|---|---|---|
| New works | 1,99,792 | |
| Repairs | 2,82,794 | |
| | 4,82,586 | Total |
| | 34.3 | Per Ct. |

1859/60

| | | |
|---|---|---|
| Salaries paid by | | |
| Collectors | 14,07,545 | |
| do by Paymasters | 209,603 | |
| Stationery | 16,043 | |
| | 16,73,191 | |

22- According to the Annual Progress Report of the year 1858/59 the expenditure on

New



New works-41,60,354
Repairs - 18,27,887
Rs. 59,88,241

New Works and repairs amounted to Rs. 59,88,241 while the outlay on account of Establishment, exclusive of Military allowances, was Rs. 7,68,419 which, exhibits a proportion of 13 per cent only - If the Military allowances, amounting to Rs. 294,142, be added, as in common fairness they ought to be, the charge for the Establishment in 1858-59 will then amount to Rs. 10,62,561. In addition to this it is probable that a considerable sum under the head of superintendence is debited to work, and ought therefore to be deducted from the above outlay of Rs. 59,88,241, in order to ascertain the true percentage of Establishment to expenditure in the above year.

23- Taking every thing into account therefore, it does not appear that the former system was so economical as at first sight

ordinary

sight it would seem to have been,
and there is no doubt, I think,
that a return to it could not
be effected on the old scale of
allowances for Taluq Maistries
and Jamadars, and that, therefore,
there must necessarily be an
increase, and a large increase
too, in the Collector's Department,
while it would not be practicable
to make a corresponding decrease
in the District Engineer's Es-
tablishment, if they are to continue
to supervise the Minor Irigation
works and road repairs executed
by the Collector's Department
in addition to the construction
and maintenance of the larger
works and Trunk roads.

18 para of Minute.

24- To respect the effi-
ciency of the old Department I
must say that, after an experience of
15 years in charge of No. 8 Division,
I cannot accord to it that degree of
praise which Mr. Malthy appears to do



do- It greatly depended upon the
Collector and Sub Collector whether
the works were attended to or not-
If these Officers took an interest
in them and worked cordially,
with the Civil Engineer all went on
~~to be~~ tolerably well, but if otherwise,
the reverse was the case-

25 To ascertain what was
done under the old system, we
have only to refer to appendix
T, 1st report of the P.W. Commissioners.
There we find that in 1856 the
total amount sanctioned for
repairs to irrigation works for
the whole Presidency was only
Rs. 5,64,575. Mr. Malthy, when he
compares this outlay with that
of 1859-60 (Rs. 16,82,270 surely would
not wish it to be inferred that
he considers the former sum
sufficient for the thorough repair
and preservation of the numerous
irrigation works of this Presidency

I think the expenditure [illegible] under control [illegible] left to the [illegible] for which [illegible] to be debited [illegible] of the [illegible]

from

ordinary

from which the Government
then derived a revenue of 150
lacs per annum - In some
Districts, as per margin, the works
of irrigation can
hardly be said to
have been attended
to at all formerly;
and as respects the
degree of attention
works by the Tahsildars and their
subordinates, I would refer to the
101 para of the above report,
where it is written, "we have
already said that in former
times when tank repairs were
chiefly in the hands of the
Tahsildar, all such improvements"
(new tank sluices, Calingulas &c)
were neglected and
the work done was for the most
part confined to heaping earth
on tank banks, or digging it out
of channels without much regard
to its disposal in the former
case, or to the judicious excavation
in

| | | |
|---|---|---|
| Cuddapah. | Rs. | 12,638 |
| Ganjam - | " | - 11347 |
| Kurnool | " | 7060 |
| Nellore | " | 17,229 |
| Salem - | " | 10,327 |
| Vizagapatam | " | 4765 |





in the latter, and attention being
very rarely given by the last in-
tentioned Tahsildar to any im-
provement. Such improvements as
are here referred to are now carried
out very largely in every District
from the repair funds, and must
necessarily tend to the safety and
greater efficiency of the works of
irrigation - Again, in the 158
para, the Commissioners say
that "they found the sum devoted
"to the repair and preservation of the
"works of irrigation too small,
"and that this was proved by the
"fact that in every District the
"tanks and Channels then watered
"less than they did formerly, in
"consequence of their having
"been allowed to fall into disrepair".
This opinion was confirmed
by the testimony of the Civil
Engineers. Mr. Maltby con-
siders that the minor works
and

ordinary

and repairs connected with irrigation are still greatly neglected, notwithstanding the increased outlay upon them - I am not aware, however, that this is the case generally, and I think before such a conclusion is arrived at, it would be well to hear what the District Engineers can say in their defence. The returns of revenue from irrigation and other sources do not, as far as I am informed, shew any falling off but rather an increase, in some Districts a considerable increase - If this be true and so, a Statement of Cultivation and Revenue for 10 years ending fasli 1268, which I have obtained from the Government Office fully, proves, it would tend to show that the Country generally was in a of char improved state; and to its slow greatly its prosperity case, or now the state of its irrigation



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irrigation works, this could hardly be the case if these works were in a more neglected condition than formerly - The present expenditure for Minor works and repairs, (Rs. 16,82,270) large as it appears in comparison with that of former years, is, after all, only 10 per cent, upon the total revenue now derived from the works in question, and but one per cent on the capital invested in their construction, assuming that to be 1,700 lacs of rupees, or 17 millions sterling, which is in the same proportion to the present revenue as the Public Works Commissioners reckoned it to be in para 234 of their report - Moreover, as before stated, a considerable sum, not less, I should say, than one fourth of the whole, is spent in improvements to existing works, and must in the end tend to diminish the expenditure

Rev 69, 6074

on

on repairs to these works, but then, on the other hand, as new works are executed in various Districts, allowances must be made for their maintenance, and therefore what is saved on one set of works will be required for another set. For bonâ fide repairs to existing works I do not think that more than 3/4ths of the sum mentioned above, say Rs. 12,61,701 (which was spent last year) 7½ per cent upon the income.

26— As respects the then state of the roads, Trunk and Districts, the Commissioners certainly did not report in favorable terms as regards 6/10 of their 1st report. They state "that" nearly all the most important lines" for commerce, bringing those con- " necting the coast Districts " with the interior, still remain " entirely



" neglected, and that even of the
" great Military lines, which have
" received a larger share of the
" attention of Government there
" are but very few in good order,
" while the greater part are in an
" utter state of ruin, or more properly
" speaking, have no existence at
" all as roads, being unmade
" unbridged and intercepted by
" frequent swamps and drains."

27— Mr. Malby appears to think that the roads in the Presidency generally are in a worse state now than they were formerly, and as a proof that they are so, he brings forward the testimony of His Lordship the Bishop of the Diocese— It is possible they may be worse in some Districts, Madura for instance, where a former Collector, the late Mr. Blackburne, paid very great attention

ordinary

attention to the roads and got
so great a job done by village
labor, which cannot be attempted
now. But there are other Districts,
I have no doubt, where the reverse
is the case, in Tanjore, for instance,
the roads have been vastly improved
of late years and the revenue from
Sayer and from salt has risen
greatly; the latter three hundred
per cent, if I mistake not. In
Salem also, the roads are reported
by the District Engineer, and his
report is confirmed by the Collector* to be in very fair order. As
respects the roads in Tanjore
adverted to by Mr. Maltby, the Dis-
trict Engineer, in reply to the
charge brought against their con-
dition by the Collector writes as
follows —

"States that neither the roads
"or tanks in the Puttoocotta Talug
"have been utterly neglected during
"the past year — The expenditure

* No 11 of 19 May 60

Extract from letter from the District Engineer of Tanjore Dated 11th of August 1860 No 127



"incurred in closing breaches in the
"Tanks in the year 1859-60 was
"Rs 21,084 and that incurred on
"repairing roads was Rs 2,477.

"I cannot endorse the
"Collector's Statement that the
"roads have deteriorated con-
"siderably since their transfer
"to the D. P. D, and I have no
"hesitation in saying that, with
"the exception perhaps of those
"in the Southern Range, they are
"at this moment in far better
"order than they were when I was
"an Assistant in this District
"in 1856. If the Collector is called
"upon to state what roads, and
"to what Month the following
"remark refers viz/ —
"In many places they
"have not been repaired at all
"and where repaired the —
materials

drawing

"materials made use of are of
"such a description as to make
"matters worse", I shall be happy
"to report particularly upon
"the state of the road at that
"time, and upon its present
"condition - yes."

"The roads in the
"Delta are now repaired with
"material procured from the
"adjoining fields and with good
"river sand from the beds
"of the larger rivers, and I
"am not aware that they have
"ever been repaired with other
"materials, in fact, no
"others are forthcoming".

28 It is true that there has been a considerable rise in the rates of late years



years and that this has tended to increase the cost of repairs vide - But I think this can be accounted for in other ways besides those mentioned by Mr Maltby in the 11th para of his Minute, though I by no means mean to say that frauds have not been committed by the subordinate Servants of the Department - The change from partially forced labor to entirely free necessarily involved a rise in the rates of payment; and subsequently the competition with the Railway Department, and at the Presidency with private Builders, has tended to raise the rates for Materials and labor - In Ballarat at the present time, the District Engineer reports that the rates paid by the Irrigation Company's Officers are much higher that his rates and that the ordinary

Letter No. 11 dated 12th May/60

the latter will have to be raised in proportion in order to secure labor for the Government works.

29. It is not to be supposed that a return to the old system will alter this state of things - Tahsildars will have to pay a fair days' wages for a fair days work, and there is no reason to think that his Subordinates will be superior in a moral point of view than those of the present Department, many of whom are, in fact, the old servants of the former Collector's Establishment -

30 Under all the circumstances of the case therefore, I am decidedly of opinion that a return to the former system would only be productive of harm to the Revenue



Revenue and disappointment to the Government -

31 The present system has many advantages over the old, though, as I have shewn above, it has its defects also. Minor works of improvement, as well as all repairs within the amount of Revenue derived from the work can now be sanctioned by the Collectors and District Engineers conjointly, instead of having to be submitted, as formerly, for the sanction of Government - The Collector has, or ought to have, full cognizance of all that is going on in his District, and if he finds from the Progress Report which are ordered

ordinary

ordered to be sent to him monthly, that there is any unusual delay in the execution of work, he can either bring it to the notice of the District Engineer direct, or he can report the circumstances to the Board of Revenue or to the Chief Engineer and request their interference. There is no reason why the Collector should not be equally acquainted with and be as much interested in works in progress in his District now as he was formerly, and I believe he is so in most cases.

32- With regard to Mr. Maltby's proposition to make the District Engineer Assistant to the Collector, and yet, at the same



same time, to hold him directly responsable for his own outlay, my opinion is, that it is not a position in which a professional Officer should be placed in reference to the work of his own Department, and certainly is not one that will be relished by the District Engineers generally, if by any one of them. The consequence will be general discontent and bad feeling between those who ought to work cordially together for the common good of the Country. Besides, if the District Engineers are to be Assistants to the Collectors, in what relation will they stand to the Chief Engineer their proper head? They will have two Masters, and the Chief Engineer no proper Subordinates, as it seems to me.

I

ordinary

I would much prefer the Dis=
=trict Engineers remaining as
they are, independent of and
yet, at the same time, Joint
Custodians with the Collectors
of the Public Works, for it is only
with the Collector's consent that
a single rupee can be laid
out even on repairs at present-

33- As respects the
change in the position of the
Chief Engineer advocated by
Mr. Maltby I hardly like to
offer an opinion - There may
be advantages no doubt attending
his transfer to the Government
Office as Secretary in the P.W.D.
and head of the Department,
but, at the same time, I believe
it will be attended with ad=
=ditional expence, as the business
could





could not be done efficiently
without two, at least, Professional
Assistants and an additional
Officer as Auditor of the accounts,
and where is the money to come
from? Colonel Bell asks the same
question in the 8th Clause of para 5
of my letter No. 574, dated 16th May
1860, and shews clearly in the 9th
and 10th Clauses that the proposed
change must involve an ad=
=ditional charge on the State -

34 The present system with
the changes I have suggested in
the former part of this Memo=
=randum seems more effi=
=cient supervision would, I
believe, be found to work well
in practice and be as econo=
=mical, if not more so in the
long run, than any one

ordinary

that has yet been suggested.

Madras.
4th September 1860

Edw. B. Bradley Lt. Coll
Chief Engineer

P. W. 1860 Depart.
Pro: of Govt for Dec.

No 2318.

Memo:
From the Chief Engr.

Dated 17th } 1860.
Recvd 24th }

W.

No 2652 — 24th Dec.

Makes observations on the present state & organization of the P. W. Dept and suggests certain changes; also offers remarks in reply to the minute by the Honble Mr Maltby dated 16th May 1860.

No 365.

C. 26 Leth. R. 23 9



A
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# Memorandum.

As directed some time ago, I sent to the Chief Engineer the Minutes recorded by Mr Maltby and other Members of the Government on the present state and organization of the Public Works Department and the means of amending both, and I now circulate a Memo by him on the subject. The early part of that Memo was written before seeing the Minutes, having been begun I believe in consequence of a conversation with the President. In circulating these papers I beg to add some remarks.

2 The purport of Mr Maltby's minute was that in comparison with the old Maramut system, the present Public Works Department is excessively costly; and that as regards the ordinary

ordinary irrigation repairs and the District roads, it would be better to return to the old system. He proposes that the District Engineer shall be made an Assistant to the Collector for Public Works, to be his adviser, but not to have charge of the executive, except in the case of large works.

As respects the higher parts of the Department, he proposes that the Deputy Chief Engineers shall be either absorbed in the District Engineers to be on the footing above stated, in other words shall be abolished; or that they shall be stationed out in their circles. Para 19. And as respects the Chief Engineer, he would either re-associate him with the Board of Revenue or make him Secretary to Government, preferring the latter plan.

The Chief Engineer treats of all these subjects, and I will not repeat what he says. In Paras 21 to 23 he speaks of the comparative cost of the old system and the new; and he seems to



to shew clearly that the advantage of economy was by no means so much on the side of the former, as is assumed. It must be added also that the universal complaint at that time was that the Collector's servants (Mahamuds) were underpaid and were too few in number. It is possible that the new Establishments went somewhat too far the other way; but no one would think now of proposing such an Establishment as a Collector was obliged to work with then.

It might have been proposed instead of establishing

The question of efficiency is considered in paras 24 to 30; of which, the first two relate chiefly to irrigation works, and paras 26 & 27 chiefly to roads. I here, too, cannot but say that while the old system was in operation there were loud and constant complaints of it from all quarters; that the Revenue executive were ignorant and corrupt, that work was ill done and money wasted, and that fraud abounded. The

State

state of things was such indeed, that it was allowed urgently to need a remedy, and many schemes with that object were brought forward. Now, however, when the failures of that system are out of sight, they seem to be forgotten, and only its supposed advantages are dwelt on. The Public Works Commissioners examined the system with much

[illegible], and took all the means available to form a fair judgment of its [illegible]. Their opinion will be found in their First Report at Paras 59 to 63, and Para 67; and in more detail in Section III of the second Report; especially in Para 160, as to delay of works; Para 165 [illegible] as to the bulky and confused character of the accounts; Para 202 to 203 as to the fraud prevalent; Para 205 [illegible] as to the enormous delays in closing the accounts and preparing the Bills. The opinion of the Commission as [illegible] there recorded ought to be fully studied before

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before any resolution is formed to restore the old system.

5. In Para 25 of his Memo Colonel Horsley refers to a Statement of Revenue from irrigated land, with which I had furnished him. This Statement was drawn up at my request by the Assistant of the Board of Revenue; but after Colonel Horsley saw it I had to have it corrected by deducting permanent and yearly remissions, so as to bring it nearer to the actual truth. I append it to this Memo. It will be seen that from the Revenue year 1848/9 to 58/9 the cultivation of irrigated land increased from 20 lacks of acres to 26 lacks, or 30 per cent; while the Revenue derived therefrom increased from 115 lacks to 160 lacks, being in about the same proportion. I am well aware that the increase is not to be ascribed wholly to the state of the works; but at least it may be fairly concluded that their condition cannot have fallen off as

Mr

Mr. Maltby supposed, when they water more land by one third than they did ten years ago. On the contrary, I think it may justly be assumed that the efficiency of the works has improved.

I may remark here that only a very small part of the increase shown in the Statements, is due to the works on the Godavery, for the simple reason that almost the whole of the increase accruing by them appears in the larger amount of the "joint village rents" prevailing in that District, and does not appear in the accounts under the head of irrigated revenue at all.

6 As respects the state of the roads under the old system, also, I must appeal to the same source of information. The Commissioners examined the Reports of all the Collectors and Civil Engineers on the Roads of their Districts for several years; and the result is given in Paragraphs 329 to 375 of the First Report. I am well aware that the great cause of the state of things there depicted is



is that so very little money was given by Government to roads. But still such was their condition; and the unfavorable comparison now sometimes drawn of their present state with former times, in fact refers to their state within the last three years since the restrictive order of July 1857, compared with the preceding few years. During the four or five years which preceded the issue of the order referred to, much had been done in many Districts to improve the roads; but when that order issued, it was for some time understood to prohibit even necessary repair, and as a matter of course the roads fell off greatly. But, as bearing on the proposal now in question, I must notice that the road improvements above referred to were in general executed by Overseers under the Engineers' orders, and not by the Collectors' Establishments.

7. Colonel Horsley gives it as his opinion (Para 12) that it would

would be impossible to return to the old system; his reasons being that the Talaiyz are now greatly increased in size, and that the Tahsildars have not now the advantage of Police authority which enabled them to command forced labour. To these two reasons a third may be added, viz that the Tahsildars Establishments are now much reduced in numbers, to suit their actual work: with regard to the second of these reasons it is well known that it was a common practice for Tahsildars to send for the Monigars and Heads Ryots of a village where work was to be done, and detain them in the Cutcherry till they consented to sign an engagement to do the work at the estimate rates, and to receive an advance subject to the usual deduction for the Talaiyz servants.

8. Considering all these circumstances I quite think with Colonel Horsley that the old system could not be restored; but if it could I doubt whether







whether it would be much more economical than the present one. Each one sch himself to sketch out an executive Establishment for a District, bearing in mind that little cd could now be given by the Talaiyz Establishments either for out of door work or for accounts, and assigning to the various servants such rates of salary as are now universally considered necessary, and I believe he would find that he would gain little or nothing in point of economy. On the other hand he would bring back to the Revenue Establishments a branch of work not only very harassing, but which was I believe generally admitted to be the most demoralizing of all divisions of their duties, except the Salt Department.

Is it at all by demarcation - grad public opinion regret

9. For these reasons I consider a return to the old executive system to be highly inexpedient even if it were possible. But I think a good deal

deal may be done to improve the practical efficiency of the existing system. One want is more efficient inspection; some of the District Engineers make their indoor work a plea for neglecting the constant mobility which an active Civil Engineer in old times considered to be his duty, and with the most active it must be some impediment. The measure proposed by the Chief Engineer in Para 8, viz^t to relieve the 1st Assistants in each District from executive duties, and make him an assistant to the District Engineer for general duties, would be, as it seems to me, a suitable and effectual remedy. The Chief Engineer could then insist that either the District Engineer or his Assistant should always out on inspection.

10 Another reform also proposed by the Chief Engineer (Para 9 to 11) is to abandon the plan which now seems to prevail, of executing earth work and other ordinary repairs by



by means of contractors unconnected with the village, or badly paid temporary Gomastahs, and adopt the plan of contracting with the village people, under suitable security. This latter plan, so vastly superior to both the others when properly and efficiently worked, is being largely acted on by the very able District Engineer of Nellore, Captain Greenaway, and with the best results. And it may be introduced in all Districts, only needing firmness, judgment, and moderation in its working.

In Para 8 Mr. Maltby mentions it as one of the main faults of the present system, that the disconnection of the Collectors from all active part in the Department, has removed a safeguard against wasteful expenditure. If this remark relates to the control of works to be undertaken, or the amount of Estimates, it is founded on

an mistake. The Collector has now in every respect as full a control in both particulars as he ever had; no works can be undertaken (except under sudden emergency) without his previous approval. If some Collectors from mistake of their duty or other cause have stood aloof and omitted to exercise this power, the fault is not that of the system.

12. If however it is meant that the Collector as head of the Executive had better means of preventing waste or fraud in the executive, I think the proposition may certainly be contested. The Collector in fact could do but little himself, and his chief means of checking abuses was the aid and information of the Engineer. Where the latter was an active and able Officer, and the Collector worked cordially with him, things went on pretty well; but where that was not the case, things were very different. No doubt the supervision

supervision by the Engineer Department, when it became strong enough as it did in later years, was a most valuable check on the Revenue Executive; and the measures now proposed by the Chief Engineer will supply a similar check over the present Executive. There is one important difference between the arrangement now and formerly as regards the Collector; formerly all his Revenue subordinates were interested in representing things as favorably as possible; now, jealousy of the new Department inclines them exactly the opposite way. It is no wonder then if some Collectors entertain the opinions of the existing Executive.

13 I must remark too that much has already been done within the last 18 months to correct the evils which were before so conspicuous in the working of the Department and which now proposed to abandon

the

the present system as a failure, it is necessary to dwell on its past history at some length. It is argued by Mr Mallby that the new system has been tried under favorable circumstances, inasmuch as the operations of the Department during the last three years have been on a reduced scale. It must be remembered however that simultaneously with the restriction of the expenditure on works, the executive part of the Department was reduced by one third of its numbers. And with this weakened establishment, the department was suddenly called on in three Districts, to perform an emergency and without any delay, in conse-quence of extensive floods, an amount of work far beyond what had ever been contemplated even for the original strength.

| | Number before the reduction | Number after the reduction |
|---|---|---|
| Engrs below | 92 | 52 |
| Dist. Engrs | 204 | 138 |
| Upper Subs | 690 | 335 |
| Lower Subs | | 550 |
| Total | 986 | |

14. If the whole of the case is fairly looked at, I think it must be admitted that the new system has been tried under extremely



extremely unfavorable conditions. It was brought into operation sudd-enly, and without sufficient prep-aration; many very young Officers were put in charge of Districts, without the necessary training and experience. It was the same with subordinate classes, a sufficient number of trained men was not forthcoming for the classes of Overseers and Sub Overseers, and too little discrimination was exercised by many Officers in admitting under Surveyors and maistries of the Collectors Department, often with-out any training for the duty. This want of efficient subordinates was one of the main defects of the Department for some years, and it was certainly increased by the rule which made the app-ointments and promotions in those classes depend on the Chief Engineer, not on the local head of the Department. And it must be

be added that these and other evils were much aggravated by the absence of vigorous administration in the Central Office. As a matter of course the Department fell into a very low state of inefficiency; and it is no wonder that under the heavy strain suddenly brought on it in 1858, as noticed at the end of the preceding paragraph, some irregularities and waste occurred.

But early last year steps were taken to correct these defects. The control of the subordinates was given to the District Engineer- an able officer was placed at the head of the Department; the Audit Department was reformed & put on a new footing; and the whole system of accounts was carefully reconsidered, and amended in points where it seemed to need it; more care was exercised in respect of all promotions and appointments; the more inefficient of the subordinates have



have been gradually weeded out, and means have been established (in the Engineering College and the local apprenticeships) for selecting and training men for these classes; discipline has been enforced by several examples in all grades; and a vigorous administration has infused life and energy throughout the Department.

Such is the condition of the Department at present; and I have no hesitation in saying that it is steadily increasing in efficiency. And it must not be overlooked that all the faults displayed as above briefly noticed, were not faults of system but of administration. It was justly said by Colonel Bell in one of his letters last year, that a system ought not to be tried by its worst results but by its best, and that all its members should be required to work up to that best- all the influences

instances of inefficiency and irregularity brought forward by Mr. Maltby in Para 15 and 16, belong to the period antecedent to the commencement of reform. As to excess of expenditure over Estimates, of which instances are given in Para 16, such occurrences are not peculiar to Madras, either under the old systems or the new. However censurable, they are found in every system of Public Works that I ever heard of; and I believe in point of magnitude Madras by no means comes up to Bengal or to the Railway works in England.

- The change of system took place 5 years ago in Augt 1855, at the suggestion apparently of Colonel Faber, the Chief Engineer who intimated that he was prepared with "already experienced servants" (See his letter of Govt of 22 June 55). This had surely therefore time to put the new Dept in working order, & I sincerely took my illustrations from the accounts of the latest year viz 1859. Ede

17. I may here notice a remark in the first para of Mr Maltby's Minute; he speaks of the neglect of the District Engineer of Trichinopoly, to repair the road from Tanjore, as an illustration of the failure of the system. I think he will admit, on reflection, that that



that affair does not in fact touch the system. It was an instance of gross neglect or incapacity; but neglect or incapacity may occur under any system. The proper remedy and preventive was applied in this instance, when the offending Officer was promptly removed to an inferior and less important Post.

18 In Para 11 Mr Maltby says that the District Engineers not being directly responsible for the Revenue as the Collectors are, neglect the repair of the irrigation works on which the existing Revenue depends, and devote their attention to more striking projects, such as Anicuts, bridges and Canals. No examples are given, and I will merely say that I think the statement in any general sense cannot be sustained. It will not be denied that it is the duty

the duty of the District Engineer to project works of improvement, as well as simply to maintain existing works; but in point of fact scarcely any such projects come up now, because it is well known that funds for them are not available. I do not deny that some of the District Engineers are less attentive than they ought to be to their duty of all kinds; but I fully believe that as a general rule, they are diligent and laborious, and that they give a full share of attention to repairs.

19. Colonel Hornby replies in para 28 to Mr. Maltby's remarks in para 13, on the subject of the increased cost of works of late years. The great rise that has taken place within the last 6 or 7 years all over the country in the price of all kinds of produce and in the wages of labor, is well known to all persons. This is sufficient to account for a large part of the increase; and the substitution of voluntary for forced labor is a further cause. It appears also that in all Districts the Government Engineers work more cheaply than those of the railway Companies or of the Irrigation Company.

20. For the Engineer branch of the Department in the Province, Mr. Maltby proposes (Para 18) that the District Engineer shall be made an Assistant to the Collector, with a separate and efficient establishment for large works of which he is to have the executive control, his Bills to be countersigned by the Collector; and the work of the Collector's Subordinates and their accounts, to be inspected by him. It is not stated to be the intention that the District Engineer's pay should be reduced. The Chief Engineer objects to this plan (Para 32) that the position is not one suitable to a professional Officer in reference to the work of his own Department, and that the arrangement would

would cause general discontent among them. I cannot but think so too, nor can I see the advantage of thus lowering the status of the local head of the Professional Department. If indeed his pay was to be reduced there would be a motive. But the saving by any such reduction would be insignificant; and in my opinion that reduction, as still more lowering the District Engineers would make the plan still more objectionable. It was formerly proposed indeed that each Collector should have an Engineer Officer as an Assistant for the Public Works Department; but such Officers were to be juniors, the local head of the Department was still to be the Civil Engineer, of whom there were 10 in all.

The Chief Engineer also objects to the plan that it would in fact totally annihilate the Public





Public Works Department.

21. As respects the Chief Engineer, Mr. Maltby makes two alternative proposals (Para 19) but that which he prefers is that the Chief Engineer should be made the Secretary to Government in the Public Works Department. He also proposes that the Deputy Chief Engineers should be either abolished, or be stationed out in their circles.

22 With regard to this change in the position of the Chief Engineer, I must say that I should regard it as a death blow to the efficiency of the Department. If discipline and efficiency are to be upheld in a numerous and widely scattered body of public servants such as the Public Works Department consists of, it is quite

quite necessary in my opinion
that it should have a head.
This is admitted and acted
on in all other Departments
of the Administration; and
I am ignorant of any reason
to make the Department of
Public Works an exception.
The Revenue, the Judicial,
the Police, and the Education
Departments, the accounts, the
Medical and Marine, the
Commissariat, the various
branches of the Military Staff,
the Survey, and the Settle-
ment, all these Departments
have each its head; why
should it be thought
that the widely ramified
Department of Public
Works, with its
professional



professional duties, its very mul-
tifarious employments, and its
numerous classes of servants,
should stand less in need of
the control of a single authority.
Has it ever been proposed to abo-
lish the Revenue Board, the Sadr
adálat, the Superintendent of Police,
& the Heads of the other Depart-
ments, and substitute any num-
ber of Secretaries to Government.
Can it be conceived possible that
Government could be carried on
upon such terms; & if the profess-
ion thus enlarged is seen to be
an absurdity, why should it
be deemed reasonable when ap-
plied to a single Department, and
that one among the most compli-
cated, extensive, and professional,
of the whole number.
23 It appears to me that the func-
tions of a head of a Department, and
of a Secretary to Government are essen-
tially distinct. That of the former
is to control the body of public ser-
vants composing the Department.
to

to uphold discipline and keep every man up to his work, and to bring before Government special or reserved cases. That of the Secretary is to lay such cases before Government in a proper form for decision, with other cases connected with the Department coming from other quarters, and to convey the orders of the Government thereon. And these functions cannot be combined. In so extensive a Department there must be a vast mass of Departmental references and correspondence of various kinds; the Government cannot possibly attend to this, and the Secretary would certainly find his proper work sufficient fully to occupy him; and the departmental work would either be left undone or be done by an uncontrolled Subordinate, while the Government would lose the responsible head of the Department, for of course the Secretary cannot find fault with himself as Chief Engineer.

24 I am aware that this very plan has recently been adopted in Bengal, but if that is cited as a precedent, I reply

1st It is yet new and untried; and it remains to be seen whether it will be found to work well.

2nd The work of our Public Works Department is far more extensive and various than that of the Bengal Department.

3rd Under the new arrangement there are seven Superintending Engineers in Bengal, each of whom must, I maintain, be in a great measure free from Departmental control. I should think it a fatal blow to our Department to have it thus cut up in so many independent Departments.

25 Whether or not it would be wise to have a professional Secretary to Government for the Public Works Department, including the railways, is a different matter. I have often thought that as the business of the Department is so much increased and is increasing, this may be a proper & necessary

necessary arrangement. But in my opinion a separate head of the Department must certainly be kept up.

26. The only other point in the Minute which I will notice is the proposal to station the Deputy Chief Engineers in their circles. This plan, which is not brought forward for the first time, is discussed by Colonel Horsley in Paras 14 and 15 of his Memo. Colonel Bell also carefully considered it, and recorded his opinion upon it with his usual fulness of thought; and that opinion is embodied by Colonel Horsley in his letter of the 16th May* To that paper I beg to refer the Members; and I see that it contains also a brief & precise opinion of Colonel Bell's on the subject of making the Chief Engineer the Secretary to Government, to which plan he is opposed.

* See Govt Proc: of June 23rd

27. Colonel Bell strongly objects to the plan of stationing the Deputy Chief Engineers in their circles; on the grounds of

1st Great injury to the discipline of the Department, Para 7.

2nd Great increase of cost, Para 9.

3rd Large increase of correspondence, Para 11.

28. Colonel Horsley fully agrees with Colonel Bell; and he adds (Paras 14 and 15 of his present Memo) that the change would cause great delay in the transaction of business; and he points out also that its advantages as regards facility of inspection are not nearly what at first sight might be supposed.

The Govt Proceeding of June 23rd contains a Memo by Colonel Lawford combating Colonel Bell's arguments. I may add that the question came up for decision last year; and the Government then resolved that the proper place for the Deputy Chief Engineers is the central office. — See order of June 8/59 Paras 5 and 6.

29. The great advocate for this change is Colonel Lawford; but he is now as Colonel Horsley notices, at the very

very place where he would be stationed if the change were made, and has precisely the same liberty to inspect works as he would have then*. Yet in point of fact what has he done in the way of inspection; I believe the extent of his inspections out of Madras consist in having once or perhaps twice gone up to Vellore by rail, taken a look at the bridge, and returned. In fact Colonel Lawford regards it as a heavy aggravation of the inconveniences of a Deputy Chief Engineer, that he should be required to make periodical and systematic inspections; See para 12 of his memo above referred to.

30. Before closing this memo I will take the opportunity of making a few remarks on certain observations of the Secretary of State in his late Despatch of the 15th June, 1859, when reviewing the report of the Public Works Department for the year 1858/59.

The observations which I wish to notice refer to two points; the cost large of establishments in comparison with

* Note. Colonel Lawford has the entire circle comprising the following Districts
1 the Presidency
2 the Madras Distt.
3 Nellore
4 Cuddapah
5 North Arcot.

Paras 9 to 23

with the expenditure on works; and the large amount devoted to repairs out of the entire outlay on works.

31. On the former it is noticed (Para 2) that while the whole outlay on labour and materials did not much exceed 4,500,000£, the charges of all kinds for Superintending and executive officers and subordinates, amounted to 1,647,800£, or 36 per cent on the amount expended. This remarked indeed that one cause of this disproportion is that the expenditure is now on a reduced scale; but it is argued that unless there is a prospect of an early enlargement of the outlay, it is desirable that the Department should be re-modelled on a more moderate scale.

32. Colonel Horsley has gone carefully in his present memo, into the subject of the cost of establishments at present, in comparison with the old system. And I have already said that I agree with him in doubting whether any material saving could be effected by

by the means proposed by Mr. Maltby.

33. I must say also I doubt whether any considerable amount could be saved by reductions in the Department. Some reductions might I dare say be made, but not I think to any great extent. The peculiarity of the Madras works, as compared with other parts of India, is that they are so widely scattered. They are not like the Trunk roads or the embankments of Bengal, or the canals of the north west Provinces; but our tanks and Distict roads extend it may be said into every village. This of itself makes superintendence expensive. A lack of Rupees expended on 3000 small works of repair, spread over an area of 5000 square miles, obviously needs much more proportionate superintendence than if it were laid out in the maintenance of a hundred miles of continuous canal. And the same remark applies to new works. This, however, is the actual condition of things; we cannot alter it, and must do the best we can to meet it.

Further

34. Further it must not be forgotten that our Department of Public works is one of conservancy as well as of more work. A large part of its time is taken up in looking after works, and seeing that they are taken care of and small injuries remedied in time. Much expense is thus saved, and it is surely better to pay for such care than for the repair of breaches afterwards.

35. Our Public Works Department is in fact little more than a frame work. Except in the Districts of Godavery, Kistna, and Tanjore, where works are thickly spread over the country, the members of the Department are few and far between; and I think a careful examination of their distribution & their salaries, will shew that little can be done, if a Department is to be maintained at all, to reduce either their numbers or their emoluments. A comparison is made by Mr. Maltby with Bengal; but Colo. Horsley in a late paper published out that

the

Letter July 19th No 2793 Para 12

the executive Divisions there are only half the size of our Districts, while the subordinate executive charges are very much smaller again than the Madras ranges.

36. Again taking the PW. Dept.t in comparison with other departments I do not think it can be thought extravagant. Here is an extensive and in the most part thinly peopled country, which for the purposes of Govt. must be reached in every part by certain branches of the administration; Revenue, Judicial, Police, Public Works. The yearly cost of all these is given in the margin; and it will be seen that the cost of the last mentioned is very small beside that of the others. Of course it is supposed that an equivalent value is received in each case; but it is not more correct to value the PW Dept.t solely by the amount of money expended, than to value the police by the number of thieves detected, or the Judicial by the number

Revenue, exclusive of Salt & Excise 3,39,000
Judicial 30,76,195
Police, as estimated by Mr. Thomason 31,00,000
Public Works, exclusive of Establishment 5,60,154



number of convictions, or of actions brought. The hidden or less tangible results in the form of prevention are also of value; and in the case of Works there is still another test. Besides the public buildings which must be cared for and the roads of the whole country, an existing revenue of 150 lacks yearly depends on this Department, and this revenue as noticed above (Para 5) has materially improved within the last few years. And this only by the ordinary operations of the Dept.t, for very little has been done of late years in the way of extending or creating works.

37. The other point noticed in the Despatch is the large proportion of the entire outlay which is spent on repairs; it is remarked that nearly thirty lacks were spent in that manner, out of a total expenditure of 45 lacks. It appears to me that there is a very easy & simple answer to this. A moments reflection will shew that the supposed comparison is in fact no comparison

comparison at all - The new works
undertaken are not those which
are repaired, and have no connec-
-tion with them; what inference
then can be drawn from placing
the two in antithesis.

38. We have here a vast number
of works of irrigation; they are
formed in great part of earthen em-
-bankment exposed to the weather,
and of course are subject to conti-
-nual decay, and need frequent
reparation. If the revenue is to be kept
up, these repairs must be attended
to, as already observed; if every thing
else had to be neglected for want
of money, it would still be the
duty of the Govt to attend to these
repairs. Last year the cost of
repairs was 30 lacks out of 45. If
the Govt of India were to cut down
the whole expenditure to 35 lacks,
the repairs must still be attend-
-ed to, and the proportion of their
cost would probably be doubled.
And when, on the other hand, the
state



state of the finances shall admit
of 65 lacks being devoted to expendi-
-ture instead of 45, the amount
given to repairs will not be in-
-creased, except as the creation of
new works may in course of time
lead to it, and of course the propor-
-tion of the repair outlay will
greatly fall.

39. I would not be understood
to mean that the present amount
of the irrigation repairs cannot
be at all reduced. It has been
greatly increased lately in cer-
-tain Districts by particular causes
viz, by destructive floods in Nellore
Tanjore & Trichinopoly, and in some
other Districts it is very high. I
think it may be reduced on the
whole without detriment to
the works, and especially that
it may be reduced for the pre-
-sent, so as to gain a little money
for the most urgent of the many
projects of new works now in
abeyance.

40. The preceding remarks relate

relate to the repair of works
of irrigation, which takes the
largest share of the entire repair
expenditure - There is an equally
effective reply respecting the road
repair, which constitutes about
a third of the entire repair out-
-lay. These works too are in their
very nature liable to continual
decay, from the joint action of
the weather and of traffic. The
repair in fact is not so much re-
-pair in its proper sense, as a
keeping up of the works; they
might perhaps be partially
neglected without such serious
consequences as the works of
irrigation; but it would still
be bad economy to allow existing
roads to go to ruin in order to
get money to spend in making
new ones.

41. The repair of buildings costs much

10

much less than of either
irrigation works or roads. 191
Here too the comparison of this
outlay with that on new works
is no real comparison. A just
comparison would be of the cost
of annual repair with that of
original cost, if the latter could
be ascertained, which it cannot.
It would not, however, be a com-
-parison of much practical use.

42 - There are one or two minor
points in the Despatch, on
which I beg to offer a few re-
-marks. It is stated in para 3
that "it is alleged" that in
Tanjore at least, irrigation
works are not maintained in
better condition than formerly;
and that minor repairs are neg-
-lected, in consequence of Collrs
being deprived of the power to
sanction them - In October 58
and again in April 59 Tanjore
was visited with most destruc-
-tive

=line floods, such as had not been known for forty years. The damage done all over the Distrct was immense; and with a very limited time to repair it, so as to have the works ready for the next freshes, it is no wonder that the work was not all efficiently done. I doubt, however, if any other Dep.t would have stood so heavy and so sudden a strain on its re=sources much better. But I must add that the Department in Tanjore, from the causes enumera=ted above in Para 12, was not then in so efficient a condition as it might have been, or as it is now.

43 The second point noticed above is a mistake. The power of Collectors to sanction repairs has not been in any degree lessened - On the contrary it is much larger now than under the former system. The whole of the ordinary irrigation repairs which then required the pre=vious sanction of the Board of Revenue, to be applied for months beforehand may now be sanctioned by the Collector and executed immediately

44. The change made in Trichinopoly as noticed in the same para of the Despatch (para 3) was not of the impor=ance which the passage might seem to indicate; such as it was, it was rendered expedient by the extremely unpopular character of the District Engr., his contempt of the people and their interests, and his neglect of the works.

45 The 12th para of the Despatch seems to indicate some misap=prehension of the facts. The canal from Madras to Durgarazapatam is the only one which pays its expenses

expenses, because it is the only one on which any toll at all is levied. But if the expression is intended to signify that this canal only pays its expenses it is erroneous. The receipts are sufficient not only to pay for the necessary repair of the canal, but to carry on great improvements.

46 No information was given in the report respecting the traffic on the Madras canal, because there was no toll, and therefore no means of ascertaining the traffic. The traffic is very much limited on this canal, as well as on the Durgarazapa-
=tnam extension, by the fact that both canals slope short

Connected with the Kurnam, it will be quite proper to levy a toll on boats, and it may be fairly expected that it will fully pay for all costs of maintenance at least

Sept 22

Emma Hunts

# Statement shewing the extent of Ryotwar Cultivation & Assessment for Series of Years from July 1259 to July 1269.

| Districts | July 1264 | | July 1265 | | July 1266 | | July 1267 | | July 1268 | | July 1269 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Extent | Assessment | Extent | Assessment | Extent | Assessment | Extent | Assessment | Extent | Assessment | Extent | Assessment |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| | Acres | Rupees | Acres | Rupees | Acres | Rupees | Acres | Rupees | Acres | Rupees | Acres | Rupees |
| 1 Ganjam | 67,931 | 2,03,663 | 68,203 | 2,34,166 | 68,220 | 2,33,655 | 124,487 | 3,27,342 | 127,854 | 3,71,139 | 138,024 | 3,08,611 |
| 2 Vizagapatam | 12,701 | 1,17,196 | 12,044 | 92,074 | 14,124 | 1,01,696 | 11,393 | 85,532 | 12,397 | 92,180 | 14,034 | 1,02,173 |
| 3 Rajahmundry | 130,784 | 4,31,140 | 132,472 | 4,38,114 | 82,582 | 4,16,194 | 136,080 | 4,81,403 | 131,061 | 4,87,932 | 130,654 | 4,53,855 |
| 4 Masulipatam | 26,606 | 1,15,250 | 34,609 | 1,57,760 | 63,420 | 2,22,987 | 111,422 | 3,18,591 | 109,721 | 3,65,973 | 147,606 | 2,86,976 |
| 5 Guntoor | 14,470 | 98,070 | 21,080 | 1,36,237 | 22,088 | 1,45,395 | 24,916 | 1,56,167 | 23,368 | 1,49,127 | 26,485 | 1,43,171 |
| 6 Nellore | 91,419 | 5,46,119 | 89,031 | 5,39,460 | 100,204 | 6,13,331 | 98,911 | 6,99,170 | 84,063 | 6,55,790 | 76,267 | 4,44,366 |
| 7 Cuddapah | 63,248 | 6,66,827 | 78,886 | 6,36,900 | 81,396 | 6,41,112 | 82,854 | 6,46,742 | 67,333 | 4,94,920 | 76,173 | 6,09,000 |
| 8 Bellary | 88,738 | 6,80,163 | 89,201 | 7,08,993 | 81,336 | 6,41,248 | 84,236 | 6,72,860 | 69,023 | 5,52,184 | 94,370 | 7,14,977 |
| 9 Kurnool | 6,437 | 43,018 | 6,458 | 6,0810 | 6,687 | 66,544 | 6,701 | 65,915 | 6,691 | 58,410 | 6,729 | 62,448 |
| 10 Chingleput | 141,730 | 5,31,089 | 136,452 | 5,93,278 | 174,077 | 8,53,156 | 172,841 | 8,15,877 | 145,108 | 5,43,107 | 157,871 | 7,05,391 |
| 11 North Arcot | 128,429 | 9,43,786 | 152,940 | 11,61,751 | 158,348 | 12,27,080 | 166,135 | 11,87,097 | 134,601 | 9,93,853 | 141,361 | 9,98,748 |
| 12 South Arcot | 117,288 | 8,29,436 | 150,366 | 11,29,506 | 173,489 | 12,45,993 | 164,926 | 11,34,401 | 155,336 | 10,03,430 | 177,453 | 1,61,250 |
| 13 Tanjore | 676,079 | 31,06,739 | 674,691 | 32,08,233 | 492,152 | 32,73,193 | 707,616 | 35,61,152 | 703,464 | 36,14,278 | 704,266 | 10,27,378 |
| 14 Trichinopoly | 126,213 | 7,52,327 | 127,913 | 7,24,112 | 127,094 | 7,38,297 | 124,766 | 7,28,949 | 125,125 | 7,19,678 | 128,900 | 3,89,138 |
| 15 Madura | 61,548 | 3,85,732 | 67,129 | 4,37,653 | 75,950 | 3,27,183 | 84,918 | 4,37,242 | 87,070 | 4,49,243 | 86,390 | 6,92,068 |
| 16 Tinnevelly | 131,498 | 12,04,265 | 131,307 | 11,44,248 | 111,703 | 11,92,202 | 128,928 | 12,60,092 | 120,757 | 11,17,711 | 149,194 | 4,16,202 |
| 17 Coimbatore | 67,355 | 5,06,488 | 70,721 | 5,24,862 | 67,568 | 6,11,170 | 70,073 | 6,27,730 | 58,463 | 4,51,745 | 73,657 | 15,20,429 |
| 18 Salem | 54,455 | 4,06,967 | 49,752 | 3,62,203 | 48,235 | 3,13,164 | 50,998 | 3,28,693 | 46,639 | 3,23,114 | 49,754 | 5,30,113 |
| | | | | | | | | | | | | 3,48,610 |
| Total | 2006,921 | 114,91,278 | 2103,465 | 123,42,060 | 2146,003 | 127,62,400 | 2342,195 | 134,01,555 | 2177,359 | 118,66,422 | 2308,808 | 132,62,644 |

| Districts | July 1268 | | July 1269 | |
|---|---|---|---|---|
| | Extent | Assessment | Extent | Assessment |
| | 14 | 15 | 16 | 17 |
| | Acres | Rupees | Acres | Rupees |
| 1 Ganjam | 116,962 | 3,32,669 | 126,563 | 3,53,370 |
| 2 Vizagapatam | 13,671 | 1,10,692 | 13,884 | 1,18,143 |
| 3 Rajahmundry | 131,683 | 4,66,671 | 132,432 | 6,64,679 |
| 4 Masulipatam | 120,841 | 2,63,466 | 114,214 | 2,96,876 |
| 5 Guntoor | 43,414 | 2,06,314 | 62,171 | 2,85,918 |
| 6 Nellore | 82,543 | 3,18,461 | 117,371 | 5,48,731 |
| 7 Cuddapah | 72,076 | 6,07,471 | 82,933 | 6,76,915 |
| 8 Bellary | 83,461 | 4,78,745 | 149,589 | 8,08,316 |
| 9 Kurnool | 6,376 | 45,404 | 6,128 | 49,013 |
| 10 Chingleput | 172,824 | 6,66,577 | 193,310 | 9,19,323 |
| 11 North Arcot | 165,198 | 9,43,783 | 190,478 | 11,09,932 |
| 12 South Arcot | 234,158 | 8,94,333 | 248,105 | 14,36,779 |
| 13 Tanjore | 685,308 | 4,50,587 | 667,059 | 46,80,018 |
| 14 Trichinopoly | 136,795 | 5,66,543 | 132,952 | 6,43,620 |
| 15 Madura | 82,392 | 1,96,541 | 91,486 | 4,56,855 |
| 16 Tinnevelly | 133,083 | 1,49,368 | 146,109 | 2,29,107 |
| 17 Coimbatore | 78,582 | 5,02,407 | 76,933 | 5,49,428 |
| 18 Salem | 55,025 | 3,18,802 | 60,822 | 4,18,532 |
| | 2406,331 | 133,78,227 | 2599,939 | 166,56,888 |

E. Thurston

Memo.
On the State of the Depart.
of Public Works -

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Ch. 26 Sess. 1893 Amts.

Public Works 1860 Dept.
Pro: of Govt. for December

No. 3141.

Memo: by the Secretary to Govt.
in the Public Works Dept.
Dated 26 Sept: 1860.

No. 2652 — 24th Dec.

Circulates a Memo by the Chief Engineer on the present state and organization of the P. W. D — and adds some remarks on the subject.

No. 366.



1. I have read with attention the Chief Engineer Colonel Horsley's Memo in which he alludes to my Minute of the 16 May on the present state of the Public Work Dept. — Colonel Horsley argues that the Dept does not now cost really more than before its separation from the Revenue Dept — & he is opposed to my suggestions for restoring it in part to its old footing, & for converting the Chief Engineer into a Secretary to Govt. Colonel Horsley's arguments deserve careful attention & though they have not produced any change in my views, I am perhaps wishing might be accepted to draw attention to the state of the Dept: into which I think that a thorough inquiry ought to be made.

2. In circulating Colonel Horsley's Memorandum the Revenue Secretary Mr. Bourdillon has sent round a detailed Memorandum of his own controverting my opinions & proceed to make a few remarks on these two papers —

3. It is argued, & especially by Mr. Bourdillon that the late considerable increase in the Land Revenue is generally from wet cultivation, & that the efficiency of the P. W. Dept in its new shape is merely due to this cause. It appears to me that this is altogether a mistake. I am well aware that the increase is not to be ascribed

" wholly to the state of the works; but at least
" it may be fairly concluded that there cer-
" tainly cannot have fallen off as Mr Mattley
" supposes when they water more land by me
" thod than they did 10 years ago. - But the
" contrary I think it may be justly assumed
" that the efficiency of the works has improved"

Here I must first object to Mr Bourdillon's phrase "as Mr Mattley supposes" I have carefully avoided quoting anything as supposition and I challenge Mr Bourdillon to point out any thing in my Minute or in the public records to justify his using it. The fact that repairs of tanks have been often neglected notwithstanding the great increase in the cost of the Public Works establishments is shown in the Govt Proceedings in the reports of Collectors & in the complaints of the ryots. -

- That in many cases the revenue has been raised by the improvement of the tanks under discussion I am ready to admit but the lavish expenditure in the P.W. Dept even when misdirected in regard to its own immediate end has indirectly benefitted the Revenue by circulating money in the provinces & thus increasing the means of the people to take up new land. - But I entirely deny that the increase of Revenue in Mr Bourdillon's statement is mainly or to any considerable degree attributable to the Public Works Dept.

The case is far different as can be shown from the writings of Mr Bourdillon & other officers

Thus Para 315 of the first report of the P.W. Commissioners states as follows

"There is another sort of inequality in the assessment de

in this paper
I have referred to the evidence of Govt by myself, when respecting Mr Bourdillon's assertions as regards that province, in the following words

"It there appears that of the Nanjut lands for which irrigation has been supplied, one half bearing an assessment of nearly 9 Lacs of rupees remains uncultivated" and again "at present one half of these lands is waste in consequence of their high assessment although from their superior quality & eligibility of situation there is no question but that they would otherwise be cultivated" -

See P 13 & 24 of Report dated 17 Dec 1853 & printed in No 22 of Selections from the Records of Govt. -

In the same spirit Mr Bourdillon afterwards wrote

"There is no doubt that the heavy assessment itself has actually kept valuable lands out of cultivation in every part of the District - But its operation in keeping waste whole classes or large proportions of whole classes of the best land is seen most in the 5 Talukas South of the Palaur - In those

takes it is the general rule that the best lands are permanently waste - I have stood on the banks of numberless tanks & seen the land immediately contiguous to the bund waste & the cultivated land commencing at some distance; & on asking why the best lands were thus abandoned, the reply was that those were first class, or first & second class as if that were of course a natural & sufficient explanation"

See Para 2 of Report dated 23 Oct 1854 & printed in No 12 of Selections from the Records of Govt

Similar representations were urged from Salem Nellore Tinnevelly & other districts, and induced the Govt to sanction important modifications of the ~~Assessment~~ land tax. - The immediate consequence was an immense spread of cultivation which included those superior Punjab lands which although supplied with ~~water~~ irrigation had been left waste in consequence of over assessment, & those results of the modification of the Assessment are detailed in the * Report called for by Govt from the Revenue Board at the close of Lord Harris' administration. -

* dated 4th March 1859 No 958

~~In this~~ enlarged Punjab cultivation ~~has caused a decrease of Revenue~~ is clearly possible although the condition of the tanks might on some degree deteriorated & it would be a serious error to attribute changes in the P. W. dept that increase of Revenue which has arisen from the reduction of the land tax. -

4 - The next point is Colonel Horsleys & the Boards argument that the present system is not really more expensive than under the old. - I have shown in contrast the former & present outlay on repairs & establishments, and instead of entering into controversy now will leave this point for the full inquiry which will, I presume be made into the state of the dept by a special reference to Madras & Colonel Horsley ~~in his Memo~~ in his Memo. I will invite attention ~~Tinnivelly~~ to the past & present Establishments of Sanjore ~~which I have attached for the Chief Engineer's Office~~ ~~& appended to the Report~~. - In that Province the repair of the Irrigation Works was well cared for & the local Officers & Landowners deprecated change yet the new System was introduced at an annual cost of Rs 68.200 for Establishment - ~~which was a heavy tax on the rights & property of the people~~ But whether the old or the new system is the more costly in proportion to the work performed is only a part of the subject - The really interesting question is whether Govt get their money's worth from the immense outlay which they now make on the dept and whether if no change ~~can~~ be made, greater economy cannot be practised - I believe it can and would instance the salaries of the subordinate servants ~~recently~~ raised above corresponding grades in the Revenue dept, and the double Establishment - lately given to Canara, on its being divided into 2 Collectorates, although one is in my opinion sufficient ~~for~~ All these details are however a subject for careful & separate scrutiny. -

I come now
~~This subject leads~~ to the next point - viz whether
the District Establishments which have been
so largely increased under the new system are
efficient for the end in view - I maintain
efficient & besides, adducing reasons for my belief
they are not ~~to be fully proved~~ from the
public records in the point ~~of~~ observed
that the estimates for new works even of a simple
nature have usually contained an item for "super
intendence" so that the amount paid by Govt
by no means
for superintendence is ~~not~~ limited to the cost of
+ an important point which
the regular Establishment - A
neither Col. Hanley nor Mr Bourdillon has
noticed - When therefore I asked what was to be
done - where we to enlarge or abridge ~~the~~ new / old
Establishments or ~~change the~~ system - my proposal
for the 2nd course is argued against & yet both
Colonel Hanley & Mr Bourdillon themselves have fallen
through in a different form - They recom-
mend that the ordinary cart works for the
repair of tanks &c should be given over on con-
tract to the Villagers. Why then was this
practice to ~~continue~~ objected to in the First report of the
P.W. Commissioners, as leading to dilatoriness, bad
work & the misappropriation of advances to payment
of Revenue? What superiority has a contract
entered into with an officer of the P.W. over a contract

? I always thought that the
it the Collection convenient for executing
the repair of tanks were too much depreciated
though an intentional
of a natural bias on the part of
towards a change of system

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Note to Para 5 -

Section II Part III of the 1st Report.

- After speaking of the unfavorable terms of the
results of Village contract, the Commissioners
observe in P64 "We believe however that
"the most effectual means of checking
"these & other malpractices will be the ex-
"tended execution of works by Farmers
"Agency" See also P100 - and P160 of the
second report.

much influenced in
System, has apparently been
his views - I allude to Colonel
whose Memo forms Appendix A
Report of the P.W. Commissioners

I come now
~~This subject leads~~ to the
the District Establishments
so largely increased under
sufficient for the end in
sufficient & besides, ad

natural rate

~~to~~ the Collector? I always thought that the
~~means~~ means at the Collectors command for carrying
~~out~~ ~~the~~ ~~repair~~ ~~of~~ ~~the~~ ~~Tanks~~ ~~were~~ ~~too~~ ~~much~~ ~~neglected~~
Cauvery carte works in the repair of tanks were too much neglected
~~the~~ ~~Engineer~~ ~~entertained~~ though unintentionally on the part of
~~unintentionally~~ ~~to~~ ~~blame~~
the Engineer entertained a natural bias in favor of
the proposed ~~Dept~~ towards a change of system
the enlargement of ~~its~~ authority, and now
~~its own~~ First & Secret presented
One of the authors of the Reports and the
~~Dept~~ recommend the employment of those
~~means~~ means which previously to the change of system
~~were~~ were strongly opposed & argued against.

6.- The next point is whether it is now possible
to restore the ancient irrigation works & district
Some ~~difficulty~~ to the Collectors care as proposed by me.
~~always~~ always found in ascertaining existing
~~but~~ but I conceive on this occasion I believe
that very little difficulty would be experienced
in returning to what is generally considered the
natural order of things. I have the less hesi-
tation in offering an opinion on this point, because
~~Collectors~~ can have no wish for the
burden of the charge, except to promote the good
of their Districts & save the money of the State,
and no experienced Engineer Officer whose
opinions had much influence in bringing
about the new System, has apparently seen
cause to change his views - I allude to Colonel
Pears C B, whose Memm forms Appendix A
to the 2nd Report of the P. W. Commissioners

react to the Managers.
practice to ~~Government~~ objected to in the
P. W. Commissioners, as leading to
work, & the misapprehension of
of Revenue? What superintendence
entered into with an officer of the

- He is now Chief Engineer in Mysore & recently told me that he had found it advisable to treat the Upper of the smaller works in that country as the Revenue Dept. - Other Engineer officers have expressed to me their opinions that the present system, costly as it is, does not answer its purpose, and the course proposed by me is not without some support even from the P.W. Secretariat seniors - See P 104 of their First Report, they observe regarding the Marine Dept "We believe the main defect of the Department to be not the impossibility of fixing responsibility but the want of sufficient officers" "The present division of duties is correct as far as it goes - the projection & inspection of works are vested in one Department & the execution in another" They then point out the disadvantages of having "the projection execution & inspection" of these small scattered works "in the same Department" & yet this is the state of things which the new System has actually introduced, especially as to "execution & inspection"!

In P 11 of his Memo Mr Bourdillon opts that the Collectors have the same control as before over the estimates & expenditure, but I would ask how can they check Estimates for trifling repairs, when all their Marine servants have been taken from them? - The real consequences of the present system have just been illustrated in Mr Bourdillon's Memo of the 3rd instant. We first prefer he shows how the charges for repairs have gone on increasing - in some districts without "special occasion" while in others there has been apparently much work therefore the need to reduce - Although our current Budget by the estimate 5 Lacs has greatly reduced the amount estimated as necessary for repairs Mr Bourdillon thinks that a further sum of one lac of rupees can be taken from the District Repair funds, for completing other projects such as the unfinished works in the Godavery & Kistna Deltas. the Bellary Barracks & artillery But even if the said completion works & roads could now be restored to the care of the Collectors, Mr Bourdillon joins Col Hawley in questioning whether any saving of expense would result - This is a matter of opinion, & I certainly entertain a strong opinion that it would result to the Govt. P.W. Establishment now & before the change. On it I do not however seek to pass any views without full enquiry - All I work is that the whole subject should be thoroughly sifted. & I will only observe that as it is found that the ordinary tank repairs can be made over a contract to the Villagers at a less expensive agency than by the Establishment to inspect the common description of work seems practicable.

7 - The next point relates to the District Engineers In P 18 Mr Bourdillon objects to any remarks that these officers prefer to giving their attention

to great projects which would bring them more into repute rather than to the humbler office of keeping Jetty trees & channels in repair - Since the restrictive order such projects do not come up to Govt, but I believe that a search for new projects & Estimates in the Chief Engineers Office would support my remarks - But this is not necessary, since the point can be shown in another way. - Experienced Engineer Officers feel equal that the useful & practical part of the Engineers duties consists in seeing about among the people - their Engineers seeing about among the people to see everything with their own eyes & so greatly declined & Colonel Horsley alludes to the point in the 4th Para of his Memo in the following words "The District Engineer complains that "his office duties & the numerous accounts he has to "send in prevent his moving about as often as he "could wish" Now why is he thus prevented? I anticipate the explanation as I have heard it from Engineer Officers. - They know that their character at Madras is judged of less by the regularity & correctness of their official returns, & consequently they remain at their Head Stations to get through their Office duties, instead of moving about to inspect the tanks & channels & the works in progress. When I observed that attention was given to that would tend most to bring an Officers name into repute, I did not consider that I was making any

reflection on a meritorious & honorable class of public servants - The principle to which I alluded will always have weight & influence on human conduct, & my strictures were directed against the System which seemed to me to place the District Engineers in a wrong position. -

Colonel Horsley & Mr. Bourdillon further object to any proposal for returning to the principle of the old system of the District Engineer an Assistant to the Collector in the D. P. W. and observe that such an arrangement would cause discontent & be inconsistent with the enlarged salary & higher position which have been given to these Officers - The arguments against my measure are detailed in P20 of Mr. Bourdillons Memo, & I will not pursue the subject now, because the status and salaries of the District Engineers may be altered so as to remove some of the objections urged by Colonel Horsley & Mr Bourdillon & the Chief Engineer into a Secretary to Govt, & stationing the Dept. Chief Engineers (probably increased in number) in their circles should be carried out. - I will however remark that my proposal was intended to place the District Engineers practically in that position which they hold now - by the orders of Govt. they hold nominally - When differences of opinion as to interpretation under the Code in the P. W. Dept. the Chap V & XI of the Code

Revenue Board observed

"In the opinion of the Board the District
"Engineer should be bound specifically to
"attend to any & all of the suggestions &
"proposals of the Collector, & should in fact
"be subordinate to him except as regards
"the actual professional execution of works"

Govt assented to this view in the following words

"The Collector
"is the head of the local administration & it is
"necessary that the District Engineer should
"be in a subordinate position to him in
"all matters, except such as are purely
"professional & departmental" in which
"he is "subject to the Chief Engineer alone"

See P 5 of Govt Order &
on letter from Chief Engr
of 22 June 1860.

8 - The remaining point consists of the proposal to convert the Chief Engineer into a Secretary to Govt. This course is recommended to stop the delay & expense which now arises from the 2 offices in the P. W. Dept at the Presidency

Colonel Hawley reports upon objecting on this subject, but suggests (P35) that the change would perhaps be found to lead to additional

expense. - I cannot however share in this
apprehension - The sending of correspondence
with the Govt would, I believe, enable the Central Office to be
reduced in strength, while the Dep.y Secretary
to Govt & a large portion of the Revenue Secretary's
establishment would not be required - Again
although it would, I fully perceive be necessary
to increase the number of Circle Superintending Engineers, yet to give & even six
District Engineers would under such an ar-
rangement consist of the younger officers of
the Corps, & salaries more in accordance with
their subordinate position & the old scale of remuneration
might be adopted to them - Their subordi-
nates too might, it appears to me, be placed on a
less expensive footing, and yet be
better suited to the service.
than the local of the Revenue branch of the

P22 - Mr Boardillon urges other objections than
those of expense to the conversion of the Chief
Engineer into a Secretary to Govt. & that the
Chief Engineer would still be the head of the
Dept and he would have more freedom
for control, when senior & experienced officers
experienced in the progress
[illegible] over the different Circles & relieved
him of much detail. - Under such an ar-
rangement I should not expect discipline

to be relaxed - On the contrary if the change led to complaint I should anticipate that the tenor of the complaint would be that the Chief Engineer was vested with too much influence & authority -

As this plan appears to be successful in Bengal & the N.W. Provinces, I am not aware that there is any essential reason why it should not answer here. - The real difference between this Presidency & Bengal consists in the village network of petty tanks & channels, which our administration has to keep in order - No similar duty falls on the Govt in any other Presidency, & hence it had been performed by the Revenue Officers of the village. I argued that under which the whole Public Works including these petty tanks & channels, was transferred to professional officers does not suit the State of things in this Presidency & has led to unnecessary inconvenience & expense. On this point however I was met by the observation that it is desirable to maintain one system in uniformity with that of the rest of India -

9. - One part of the subject remains on which it is necessary for me to make a brief observation. In P. 11 of his Memo Mr Bourdillon observes - "it is argued by Mr Mackay that the new system

" has been tried under favorable circumstances
" inasmuch as the operations of the Dept during
" the last 3 years have been on a reduced scale
Mr Bourdillon then points out that
in 1857 the " simultaneously with the retrenchment
" of expenditure on works the executive Establish-
" ment was reduced by one third of its strength
and afterwards (P14) goes into detail to show that "the
new system has been tried under extremely unfa-
-vorable conditions - It was brought into operation
suddenly & without sufficient preparation &c" -
Now I must be permitted to observe that
this is beside the mark as respects my ar-
-gument, which has not been correctly stated
in the first of the above extracts. - I was
not speaking of the new Dept generally, but only
of one part of it, namely, the petty Village irrigation works
& Roads & that the transfer of the petty Village irrigation works
to the collector to the Ryotwari Dept.
had not proved successful, though this experiment
has been tried under favorable circumstances.
In proof of these favorable cir-
-cumstances I pointed out that even after more
the reductions of 1857 the new Establishment cost
than doubled its cost previous to
the transfer, & that this costly estab-
-lishment was able to concentrate its attention
on repairs, in consequence of the reduction

placed upon the construction of new works.
- It was surely a legitimate inference that if the Professional Dept could ever look with after the petty & scattered irrigation works, they would be able to do so under such circum-
-stances. - The Govt at least came to a similar conclusion for in their Proceedings of 23 March 59 No 677 contains this passage which I quoted in my Minute. "The restriction of "new works greatly narrowed the operations of "the Dept, and as a consequence left the Engineer "Officers little else to attend to than the repair & "maintenance of existing works, & the continuation "of some works already in progress."

- I will only add that the new Dept having been called into existence suddenly & without sufficient preparation " that the Govt saw cause to act upon the views of Colonel Fisher

the Chief Engineer who declared that although he was ready for the change, the Revenue Board on being consulted, suggested a delay (2 M.C 9 July 1855 No 320)

10 - In conclusion let me observe that in reference to the remark about the subject under discussion is not a speculative comparison of the old & new systems but the important question of whether the resources of the State are now being turned to a proper use. - There may be differences of opinion about the measures proposed by me, but there can be none regarding the facts upon which my Minute was based, as they were taken from the public records & belong to the year 1859. - I showed that the Establishment for the execution of the Public Works Dept before the change cost Rs 6 Lacks per annum, while its present cost after the reduction (made in 1857, Rs 13.95.292) this sum is to be increased to 14 Lacks. - This sum is for salaries only and does not include travelling allowances, Batta & contingencies, to which charges the extra item for extra superintendence entered included in most of the Estimates has to be added - To these does the cost of superintendence thus become that the Commission for investigating Public Establishments estimated it at from 50 to 60 per cent in N. West where they examined the State of the Public Work Dept — I attributed this great increase of cost, in a main degree, to the

- See letter proceedings dated 12th March 1859 - P 50

Professional Dept having relieved from the Collectors the charge of all the petty irrigation works & district roads.- But on my proposing the re-transfer of these main works to the Revenue Dept:, Colonel Hawley & Mr. Bourdillon argue, among other objections, that no saving of expense would be thus secured.- If this is to the question at once arises, what does the Govt gain to compensate for its present costly Establishment, especially when Colonel Hawley attributes the shortcomings of the Dept to a want of servants and states that the demand for more is glaring? Surely such a state of things demands a full & searching enquiry as to the facts stated in my Minute & the light thrown on the working of the Dept by the report on St. next to which I have just referred - I will only add that I shall look forward to our late lamented President Sir H. Ward giving his attention to the subject and I deeply regret that an enquiry into the Dept cannot now have the aid of his ability, experience & peculiar personal knowledge.



Appendix

I append here the two Statements showing the past & present Tanjore Establishments to which I have alluded in Para 4.- These Statements were prepared in the Chief Engineers Office, & came up with Col Hawleys letter of 20th Septr last.- In both the Military pay is included and the result gives the cost of the Establishment as Rs 26302 in 1852 & as Rs 68.200 at present.-

To obviate the unfavourableness of this comparison Colonel Hawley has attempted to show that the charge on the work performed was 13½ per Cent in 1852 & only 14 per Cent on the average of the last 3 years.- But I cannot acknowledge this to be a fair or complete Statement.- The enormous outlay for the repairs after the Storm amounting in 2 years to 11½ Lacks of Rupees have been included in his table of Work performed although no mention is made of the extra superintendence employed to accomplish this heap of work.

How large that extra expense must have been may be surmised from the fact that the new Establishment was framed to meet the works of ordinary repairs, & Colonel Hawley even for that purpose now & then is weak in numbers according to Colonel Lawford who is thoroughly acquainted with the province lately told us at the Conference held to consider the Repair Funds for the Presidency, that for Irrigation repairs in Tanjore used to be the average, & that a Lack & a half is enough a Lack per annum,

now for ordinary years. If therefore the extra
servants lately employed are not to be included
in the cost of Superintendence, the Scriptures expenses
in Col Anstey's 3 years should be taken at an
annual average of a Lack & a half, when it
would be seen how high the cost of our present
Establishment is. -

- In the current year when the proposed expenditure
- has been more to its ordinary level, the
percentage charge of Establishment is admittedly
23½, or 10 per cent more than it was under
the former system.

- I require therefore clearer proof before I can join in the opinion of the old
in the opinion that the on a full enquiry
"would probably be found more expensive than
"the new" system. (See Colonel Ho's Memo Pb. -

23 Oct 1860.

225

19 Oct.

My dear Maltby

... Have that one
Lac was about the
average of our former
ordinary estimates in
Bengal, which has
risen to about 1½ Lac
in 1853/54. This was
exclusive of Road Expenses
I think that 1½ Lac
shines sufficient to

ence careful atten-
they have not pro-
en in me. Some
my views to be
accepted

now for ade
servants lately
in the cost of

1829

Minute

Appointments

7. I have read with attention the Chief Engineer Colonel Hawley's Memorandum which he alludes to my Minute of the 16th May on the present State of the Public Works Department. - Colonel Hawley argues that the Department does not, now cost nearly more in proportion to the work performed, than before its separation from the Revenue Branch of the Service; and he is opposed to my suggestions for restoring it in part to its old footing, and for annexing the Chief Engineer into a Secretary to Government. Colonel Hawley's arguments deserve careful attention, & though they have not produced conviction in me, I am far from wishing my views to be accepted

accepted without full enquiry. My object has been to draw attention to the State of this Department, into which I think that a thorough enquiry ought to be made.

2. In circulating Colonel Hawkey's Memorandum the Revenue Secretary, Mr Bourdillon has sent round a detailed Memorandum of his own, controverting my opinions; and I proceed to make a few remarks on these two papers.

3. It is argued, & especially by Mr Bourdillon that the late considerable increase in the Land Revenue derived from met cultivation proves the efficiency of the P. W. Dept in its new Shape, and while implying that the improvement shown in his Revenue table is mainly due to this cause he observes "I am well aware that the



"the increase is not to be ascribed
"wholly to the state of the works;
"but at least it may be fairly
"concluded that their condition
"cannot have fallen off, as Mr
"Matthy supposes, when they water
"more land by one third than they
"did 10 years ago. On the contrary
"I think it may be justly assumed,
"that the efficiency of the works
"has improved." Here I must
first object to Mr Bourdillon's
phrase "as Mr Matthy suppo-
ses". I have carefully avoided
writing any thing on supposition,
and founded my Minute on the
public records. The fact that
repairs of tanks have been often
neglected notwithstanding the great
increase in the Cost of the Public
Works Establishments is shown
on the Government Proceedings,
in the reports of Collectors, & in
the complaints of the ryots.

That

That in many local instances, the revenue has been raised by the improvement of the minor Irrigation works which are now under discussion I am far from denying, and I am also ready to admit that the lavish expenditure in the P. W. Dept., even when misdirected in regard to its own immediate end, has, indirectly, benefitted the Revenue by circulating money in the provinces and thus increasing the means of the people to take up new land. But I entirely deny that the increase of Revenue in Mr Bourdillon's Statement is mainly or to any considerable degree attributable to the Public Works Department. The cause is far different as can be shown from the writings of Mr Bourdillon, & other officers. Thus Para 315 of the first report of the P. W. Commissioners states as follows.

"There



Another best land sare waste because too highly taxed. Para 315.

There is another sort of inequality in the assessment which acts still more injuriously; viz, that in several Districts the best soils are so heavily taxed as to be kept permanently out of cultivation, while labour and water are supplied to inferior soils, more lightly assessed in proportion to their capabilities. This fact has long been known and the evil of it admitted; but under a system of centralization which requires, that before any change even minute in detail shall be previously explained to the satisfaction of the controlling Board and of the Government, no progress we believe has yet been made in rectifying it. The remedy required is, to reduce the assessment

lands

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Another best lands are waste because too highly taxed.

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lands

assessment of such over-taxed lands, and this reduction would not involve loss, even supposing no extension of cultivation to ensue, for high class land now waste would then come into cultivation in place of inferior land. And the exchange would give the Ryot a larger return for the same amount of labour, while the receipts of Government would not be diminished, and perhaps increased.



"There is another sort of inequality
"in the assessment

The evil alluded to in this passage was more pressed on the notice of Government by myself, when Collector of South Arcot, as regards that province, in the following words.
"It thus appears that of the whole
"lands for which irrigation has
"been supplied, one half bearing
"an assessment of nearly 9 Lacs of
"rupees remains uncultivated" and again "at present one half of these lands

"lands is waste in consequence of
"their high assessment, although
"from their superior quality and
"eligibility of situation there is
"no question but that they would
"otherwise be cultivated." See page
13 & 24 of Report dated 17th De-
cember 1833 & printed in No. 22 of
Selections from the Records of
Government.

In the same spirit Mr
Bonrdillon afterwards wrote of
North Areat.

"There is no doubt that the
"heavy assessment itself has ac-
tually kept valuable lands out of
"cultivation in every part of the
"District. But its operation
"in keeping waste whole classes
"in large proportions of whole
"classes of the best land is seen
"most in the 5 Talukas South of
"the Polaar. In these talukas
"it is the general rule that the best
lands



"lands are permanently waste. I
"have stood on the bunds of numbers
"less tanks & seen the land imme-
diately contiguous to the bund
"waste, & the cultivated land com-
mencing at some distance, and en-
"quiring why the best lands were thus
"abandoned, the reply was, that
"these were first class, or first
"& second class, as if that were of
"course a natural & sufficient
"explanation."

See para 2 of Report dated 23d
October 1834 & printed in No. 12
of Selections from the Records of
Government.

Similar representations were
urged from Salem, Sellere, Tri-
chinopaly & other districts, and
induced the Government to sanction
important modifications of the
Land tax. The immediate conse-
quence was an immense spread
of cultivation, which included those
superior Punjah lands which
although

although supplied with irrigation had been left waste in consequence of over assessment, and these results of the modification of the assessment are detailed in the Report dated 19th March 1859, No 956, called for by Government from the Revenue Board at the close of Lord Harris' administration. An enlarged Nunjah Cultivation was thus clearly possible, although the condition of the tanks might have in some degree deteriorated, and it would be a serious error to attribute to changes in the P. W. Department that increase of Revenue which has arisen from the reduction of the land tax.

4. The next point is Colonel Hawkey's & Mr Boundillon's argument, that the P. W. Department under the present system is not really more expensive than under the old. I have shown in contrast the former & present outlay on





on repairs & establishments, and instead of entering into controversy now will leave this point for the full enquiry which will, I presume be made into the state of the Department. As however Colonel Hawkey makes a special reference to Madura and Tinnevelly in his Memo., I will invite attention to the past & present Establishment of Poonjas * In that Province the repair of the Irrigation Works was well cared for & the local Officers & Landowners dreaded change, yet the new System was introduced at an annual cost of Rupees 68,200 for Establishment, instead of Rs 26,302 - But whether the old or the new System is the more costly in proportion to the work performed forms only a part of the subject. The really interesting question is, whether Government get their money's worth from the immense outlay which they

* See Appendix & this Paper.

they now make on the Departments, and whether, even if no change of System takes place, greater economy cannot be practised. I believe it can, and would instance the salaries of the Subordinate Servants raised ——— above Corresponding grades in the Rev. Department, and the double Establishment lately given to Canvas, on its being divided into 2 Collectorates, although one is in my opinion sufficient. All these details are however a subject for careful & separate scrutiny.

5 — I come now to the next point viz, whether the District Establishments which have been so largely increased under the new system are efficient for the end in view. I maintained they are not efficient, & besides adducing acknowledgements from the public records on the point, observed, that the estimates

This passage is a Marginal Note.

estimates for new works, even of a small size, have usually contained an item for "Superintendence" so that the amount paid by Government for Superintendence is by no means limited to the cost of the regular Establishment. Note In the North Great District where alone the new system has been closely scrutinized & the Committee of enquiry into Public Establishments estimated the cost of Superintendence to the tendency from 50 to 60 % on the work performed. I an important point, which neither Colonel Hawley nor Mr Baumillan has noticed. Therefore I asked, what was to be done, where are I asked, what was to be done, were we to enlarge our already ex-pensive Establishments, or revert in part to the old system — my proposal for the 2nd Course is argued against, and yet both Colonel Hawley & Mr Baumillan have themselves no remedy to propose

to propose, except a return to the old practice, though in a different form. They recommend that the ordinary earth works for the repairs of tanks &c. should be given over on contract to the Villagers! Why then was this practice so objected to in the First report of the P. W. Commissioners, as leading to dilatoriness, bad work, & the misappropriation of advances to payment of Revenue? What Superiority has a Contract entered into with an Officer of the D. P. W. over a Contract entered into with the Collector? I always thought that the means at the Collector's command for executing common earth work in the repair of tanks were too much depreciated (though unintentionally) in consequence of a natural bias ~~though unintentionally~~ on the part of the professional Department towards

Mr B. P. 10.





towards a change of System, and the enlargement of its own authority, and now one of the authors of the First & Second Reports, and the present head of the Department, recommend the re-employment of those means which previously to the change of System, were argued against.

Note. Regarding Village Labor see Section II Part III of the 1st Report.

After speaking in unfavorable terms of the results of village contracts, the Commissioners observe in P. 64. "We believe however that the most effectual means of checking this and other malpractices, will be the extended execution of works by European Agency". See also P. 100, and P. 160 of the Second Report.

6. The next point is, whether it is now possible to restore the minor irrigation works & district roads

roads to the Collector's care as proposed by me. Some momentary embarrassment must always be found in retracing mistaken steps, but on this occasion I believe that very little difficulty would be experienced in returning to what is generally considered the natural order of things. I have the less hesitation in offering an opinion on this point because Collectors can have no wish for the burden of the charge except to promote the good of their Districts, & save the money of the State, and are experienced Engineer Officers, whose opinions had much influence in bringing about the new system, has apparently been cause to change his views. I allude to Colonel Rears C. B. whose Memorandum forms Appendix A to the 2nd Report of the P. W. Commissioners. The present Chief Engineer



Engineer in My time & recently told me, that he had found it advisable to leave the repair of the smaller works in that Country to the Revenue Department. Other Engineer Officers have expressed to me their opinions that the present system, costly as it is, does not answer its purpose, & the Course proposed by me is not without some support even from the P. W. Commissioners. In P. 104 of their First Report, they observe regarding the Maramat Department "We believe "the main defect of the Department "to be, not the impossibility of "fixing responsibility, but the "want of sufficient Officers. The "present division of duties is car- "ried, as far as it goes - the in- "spection & inspection of works "are invested in one Department, "& the execution of them in another."

They

They then point out the danger of leaving "the projection, execution & inspection" of these small scattered works "in the same Department" & yet, this is the state of things which the new System has introduced! especially as to "execution & inspection"!

In P. 11 of his Memo. Mr Baurdillan asserts that the Collectors have the same control as before, over the estimates & expenditure, but I would ask how can they check estimates for tank repairs when all their Maramat Servants have been taken from them? The real consequences of the present System have just been illustrated in Mr Baurdillan's Memo: of the 3d Inst. In that paper he shows how the charges for repairs have gone on increasing, — in some districts without "special occasion" while in





in others there has been apparently "much waste". Although therefore the orders reduce our current Bud-get by 5 Lacs. has greatly reduced the amount. ~~estimated for necessary~~ + available for ~~Irrigation~~ repairs. Mr Baurdillan thinks that a further sum of one Lac of Rupees can be taken from the ~~Districts~~ allotted to the different Districts & be applied to other purposes. Repair funds \ to such as the unfinished works in the Godavery & Kistna Delta-tes - the Bellary Artillery Barracks &c. - But even if the small Irrigation works & roads could now be restored to the care of the Collectors, Mr Baurdillan joins Colonel Hawley in questioning whether any saving of expense would result. This a matter of opinion, and I have certainly been led to entertain a strong one on it from the comparative expense of the P. W. Establishment now

+ To cover this reduction, 18 per cent was I understand clipped from the sums assigned to the different Districts for repairs. —

now & before the change. I do not however seek to press my views without full enquiry. All I wish is, that the whole subject should be thoroughly sifted. and I will only observe that as it is now found that the ordinary tank repairs can be made over on contract to the Villagers, a less expensive agency to estimate for and inspect this common description of work seems practicable.

7. The next point relates to the District Engineers. In P. 18 Mr Baudillan objects to my remark that these Officers prefer giving their attention to great projects, which would bring their names into repute, rather than to the humbler office of keeping petty tanks & Channels in repair. Since the restrictive order such projects certainly do not come up



up to Government, but I believe that a search for new projects & Estimates in the Chief Engineers Office would support my remark. But this is not necessary, since the point can be shown in another way. Experienced officers feel regret that the useful old practice which was followed by the District Engineers of moving about their Districts among the people to see every thing with their own eyes has so greatly declined, & Colonel Hawsley alludes to the point in the 8th Para of his Memo: in the following words. "The District Engineer complains that his "Office duties & the numerous "accounts he has to send in prevent his moving about as often "as he could wish". I saw why is he thus prevented? I will give the explanation as I have heard

Mr Boudillon admits the same in Pg of his Memo.

heard it from Engineer Officers. They know that their Character at Madras is judged of, less by the unseen internal state of their Districts, than by the regularity & correctness of their official returns, & consequently they remain at their Head Station to get through their office duties, instead of moving about to inspect the state of the Banks & Channels & the works in progress. When I observed that attention was naturally given to what would tend most to bring an Officer's name into repute, I did not consider that I was making any reflection on a meritorious & honorable class of public Servants. The principle to which I alluded will always have influence on human conduct, and my strictures were





were directed against the System which seemed to me to place the District Engineers in a wrong position.*

Colonel Harsley and Mr Boundillon further object to my proposal for returning to the principle of the old system, by making the District Engineer an Assistant to the Collector in the D.P.W. and observe that such an arrangement would cause discontent & be inconsistent with the enlarged salary & higher position which have been lately given to these officers. The arguments against my measure are detailed in P. 20 of Mr Boundillons Memo; & I will not pursue the subject now, because the status & salaries of the District Engineers may be altered so as to remove some of the objections offered by Colonel Harsley and Mr Boundillon, if the plan for converting the Chief Engineer into

* an extract from Capte Rundalls letter is quoted here in a footnote

into a Secretary to Government, and stationing the Deputy Chief Engineers (probably increased in number) in their circles should be carried out. I will however remark that my proposal was intended to place the District Engineers practically & clearly in that position, which by the recent orders of Government they hold nominally. When offering their opinion on Chapters V to XI of the Code under preparation for the P. W. Department the Revenue Board observed

"In the opinion of the Board "the District Engineer should "be bound specifically to attend "to any & all of the suggestions "& proposals of the Collector "& should in fact be subordi- "nate to him except as regards "the actual professional execution "of work". Government assented to



to this view in the following words.

"The Collector is the head of the "local administration, and it is "necessary that the District "Engineer should be in a subor- "dinate position to him in all "matters, except such as are purely "professional & Departmental" "in which he is "subject to the "Chief Engineer alone".

See P. 5 Government order dated an letter from Chief Engineer of 22nd June 1860.

8. The remaining point consists of the proposal to convert the Chief Engineer into a Secretary to Government. This course is recommended to save the delay & expense which ~~the correspondence~~ now arises ~~from~~ ~~between the Central Office & the Government Office on the P. W. Department at the Presidency~~; Colonel Hearsley refrains from expressing an opinion on the subject, but suggests

suggests (P. 33), that the change would perhaps be found to lead to additional expense. I cannot however share in this apprehension. The saving of correspondence with the Government would, I believe, enable the Central Office to be reduced in strength, while the Deputy Secretary to Government & a large portion of the Revenue Secretary's establishment would not be required. Again although it would, I fully perceive, be necessary to increase the number of Circles to five or even six, if Deputy Chief Engineers are to be employed up country, the District Engineers would under such an arrangement, consist of the younger officers of the Corps, & salaries more in accordance with their





their subordinate position & the old scale of remuneration might be assigned to them. Their Subordinates too might, it appears to me, be placed on a less expensive footing and yet be above the level of the revenue branch of the Service.

P. 22. Mr. Beadillon urges other objections than those of expense to the commission of the Chief Engineer into a Secretary to Government. But the Chief Engineer would still be the head of the Department, and he would have more leisure for control, when senior & experienced Officers were placed in the provinces over the different circles & relieved him of much professional and departmental detail. Under such an arrangement I should not expect discipline to be relaxed.

On

on the contrary, if the change led to complaint I should anticipate ~~that~~ the tenar of the complaint ~~would be~~ being that the Chief Engineer was vested with too much influence & authority -

As this plan appears to be successful in Bengal & the N. W. Provinces, I am not aware that there is any essential reason why it should not answer here. The real difference between this Presidency & Bengal consists in the network of petty village tanks & channels which our administration has to keep in order. No similar duty falls on the Government in any other Presidency, & here it had been performed by the Revenue servants. Hence I argued that the principle under which the whole Public Works Department including



including these petty tanks & channels was transferred to professional officers, does not suit the state of things in this Presidency and has led to unnecessary inconvenience & expense - On this point however I was met by the observation, that it is desirable to maintain our system in uniformity with that of the rest of India.

9. One part of the subject remains on which it is necessary for me to make a brief remark. In P 11 of his Memo. Mr Baudillan observes - "It is argued by Mr Maltby that the new system has been tried under favorable circumstances inasmuch as the operations of the Department during the last 3 years have been on a reduced scale." Mr Baudillan then points out that

that in 1857 or "simultaneously
"with the restriction of expendi-
"ture on works, the executive
"establishment was reduced by
"one third of its strength" and
afterwards (P. 14) goes into detail
to shew that "the new system has
"been tried under extremely unfavour-
"able conditions. It was brought
"into operation suddenly, & without
"sufficient preparation yea". Now
I must be permitted to observe,
that this is beside the mark as
respects my argument, which
has not been correctly stated
in the first of the above extracts.
I was not speaking of the new
Department generally, but
of one part of it only, and
remarked that the transfer of the
petty village irrigation works
and roads from the Collectors to
the



the Professional Department had
not proved successful, though
this experiment had been tried
under favorable circumstances.
In proof of these favorable cir-
cumstances I pointed out that
even after the reductions of 1857,
the establishment of the Department
doubled its cost previous to the
transfer, and that this costly
establishment was able to con-
centrate its attention on repairs
in consequence of the restrictions
placed upon the construction
of new works. It was surely
a legitimate inference that if the
Professional Department could
ever look well after the petty &
scattered irrigation works, they
would be able to do so under
such circumstances. The
Government at least came to a
similar

similar conclusion, for their Proceedings of 23d March 59, No 677 contain this passage which I quoted in my Minute. "The restriction on new works "greatly narrowed the operations "of the Department, and as a Con- "sequence left the Engineer Officers "little else to attend to than the repair "& maintenance of existing works "and the continuation of same works "already in progress."

I will only add in reference to Mr Bourdillon's remark about the new Department having been called into existence "suddenly & "without sufficient preparation" that the Government saw cause to act on the views of Colonel Fisher, the Chief Engineer, who declared that he was ready for the change, although the Revenue Board, on being consulted, sug- gested



gested a delay (Cy: Min: Consul- tation. 9th July 1855 No 320)

10. In conclusion let me observe that the subject un- der discussion is not a mere speculative comparison of the old & new systems, but embraces the important consideration of whether the resources of the State are now being turned to proper account. There may be dif- ference of opinion about the measures proposed by me, but I do not see how there can be any regarding the facts upon which my Minute was based, as they were taken from the public records & belong to no old period but to the recent year 1859. I showed that the Establishment before the change of System cost rather less than 6 Lacs per annum, while its present cost, after the reductions made

made in 1857, closely approaches to 14 Lacs (Rs 13.95.292). This sum is for Salaries only and does not include travelling allowances, Batta, & Cantingencies, to which charges the item for extra Superintendence, entered in most of the Estimates, has to be added. So great does the cost of Superintendence thus became, that the Commission[x] for investigating Public Establishments estimated it at from 50 to 60 per cent in N. Arcot where they examined the state of the Public Works Department. I attributed this great increase of cost, in a main degree, to the professional Department having received from the Collectors the charge of all the petty irrigation works and district roads. But on my proposing the retransfer of these

[x] See their proceedings dated 12th March 1859. P. 50.



minor works to the Revenue Department, Colonel Hawley & Mr Baudillan argue, among other objections, that no saving of expense would be thus secured. If this is so, the question at once arises what does the Government gain to compensate for its present costly Establishments, especially when Colonel Hawley attributes the shortcomings of the Department to a want of Servants, and states that the demand for more is general? Surely such a state of things demands a full and sifting enquiry, as strongly as the facts stated in my Minute & the light thrown on the working of the Department by the Report on N. Arcot to which I have just referred. I will only add, that I had looked forward to our late lamented President

Sir

Sir H. Ward giving his attention
to this important subject, &
I deeply regret that an enquiry
into the Department cannot
now have the aid of his ability,
experience, and freedom from
all local bias.

23rd Oct 1860

I have carefully considered the
[illegible] connected with this question &
I feel assured that the ultimate [illegible]
by the Quality of the work [illegible] &
Specie now [illegible] Public Works
is ready to meet -
The allusions in the Report - suggested
by the Quality have been already
attended to by me - & some
Steps should now be taken to
carry them

out - The subject has been
fully discussed, & the
papers be referred with it -
Papers be referred to the Secretary
should be sent to the Secretary
2 Mr Gore - when he sent -
2 Mr the Secretary which be
considered should be carried
out -

1 - The annexed Extracts from
the Report of Chief Engineer
& Secretary to Govt - which
has been approved by the
Authorities in India and
England - shows also the
advantage in this Presidency
2 The grounds assigned for
the above measure, in the 6th
7 paras of the Secretary Secretary

Letter to the Secretary of State for
India dated 28 January 1860 - a/c 2

2 Fees to be remunerable -

2d That charge should include the
Possibility for every report the charge
which Superintendent for the may will
Incite or the "Report by Team of
Assault" - by the Police Medical
for Separate Office of Asst & Audit -
and Medicine Medicine for Judge
Can & accompagnement Notes
Charges should be specified under
Court-Warrants of Expenditure -

3d The Deputy Chief Engineers
Should be abolished - and ten
Superintending Engineers
2 Years added in their stead

The functions to be executed by
these officers would be nearly same
as to those executed by the
Civil Engineers - They would
reside in their Circles - which would
embrace two Districts each they
would conduct & superintend all
the Operations executed by the Civil
Engineers -

The Executive Engineers would work
under the Orders - but would
send out all Instructions on
Professional Points & Diagrams which
only in the last instance into the
Superintending Engineer - The
Accounts would be kept in the
Municipal District Offices - both
the Orders -

The ordinary Accompaniments
Fees

269

Jewellers work - Jewels &c
should be managed exclusively
by the Theatre Carpenter & Jew-
ellers Journeymen & Jewellers
Executive Employees if he should de-
sire the services of Jewellers
assistants & Labourers -
Journeymen-details Lists & Salaries
2 Jewellers Work in the Railway - Military
Buildings, and the Equipation Jew-
ellers Journeymen
2 Jewellers

The Jewellers Jewels are
Jewellers work - Jewels
Jewellers-details Lists & Salaries
2 Jewellers Work in the Railway - Military
Buildings, and the Equipation Jew-
ellers Journeymen
2 Jewellers

2d - The maintenance and Repair
2 Jewels of the Public and Private
Depots, with the necessary Jewellers
assistants, and the Jewellers Journeymen
2 Jewellers Carpenters & Jewels Department
with the Chief of Jewels Department
Die Sinkers -
5. Jewellers Journeymen Jewellers, or
Jewellers Journeymen for work - and
Jewellers Journeymen Jewellers over the
Jewellers -

There had made out as well
as I could a comparative State-
-ment of the present & of my pro-
-posed Establishment of Officers
in the D P W & it shows a
diminution of cost amounting
to 55,392 rupees per annum
so that as far as this Statement
goes it clearly proves that the
proposed changes will lead
to no increase of Expenditure.

Another means of effecting
saving both in time & trouble, as
well as in money - would be to
give a consolidated salary -
doing away with all other charges.
The Executive & ~~[illegible]~~ Super-
-intending Engineers would be
responsible that the work was
done - Other allowances lead to



cheating - lying, & quarrelling -
If the allowances were totally
abolished - an appointment would
be taken with all its known
liabilities

In former times a Civil E-
drew 4 rupees per diem batta
& paid for his office carriage
at present he receives the ex-
2 rupees per diem & govt. pay for
the carriage of office records &c -
under the proposed scheme -
I would add to the pay of the
Inspecting E - rupees 120 & to the
pay of the Executive E - rupees
100 - per mensem - give ~~[illegible]~~
no travelling allowance except
when they were sent on duty
out of their respective Divisions
or Districts - & merely in transit
the

above cases as the Justices by the Measures which ~~they~~ he should think proper & agreeable to the Intent & Meaning of the Statute aforesaid - to be by him ~~them~~ the Statute made & provided & for which Cause &c

12th — Inde —

23 Jan

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# Comparative Statement of the present and proposed Establishment of Officers in the D. P. W.

277

Department of Public Works

| Department which to be posted to refer | Nature of Charges | Present Sanctioned Scale. | Rs. | A. | P. | Proposed Scale | | Rs | A. | P. | Increase per month. Rs | A. | P. | Decrease per month. Rs | A. | P. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 Chief Engineer | 2,250 | - | - | 1 Chief Engineer & Secretary to Govt | 2,250 | - | - | | | | | | | | |
| | | 3 Deputy Chief Engineers @ 800 | 2,400 | - | - | | | | | | | | | 2,400 | - | - | |
| | | 1 Assistant to the Chief Engr | 500 | - | - | 1 Assistant to Dr | Do | 500 | - | - | | | | | | | |
| | | | | | | 1 Auditor and Controller of Public Works accounts | | 800 | - | - | 800 | - | - | | | | |
| | | | | | | 3 Superintending Engineers @ | 800 Rs | 2,400 | - | - | 2,400 | - | - | | | | |
| | | | | | | 1 Do Do @ | 700 Rs | 2,800 | - | - | 2,800 | - | - | | | | |
| | | | | | | 3 Do Do @ | 600 Rs | 1,800 | - | - | 1,800 | - | - | | | | |
| | | 1 District Engineer at the Presidency | 750 | - | - | 1 Civil Architect and Consulting Engr | | 700 | - | - | | | | 50 | - | - | |
| | | 1 Do Upper Godavery | 700 | - | - | 1 Special Executive Engineer Public Works | | 700 | - | - | | | | | | | |
| | | 3 Do 1st Class @ 700 | 2,100 | - | - | 3 Executive Engineers 1st Class | @ 600 | 1800 | - | - | | | | 300 | - | - | |
| | | 1 Do 2d Class 900<br>16 Do 2d Do @ 600 9600 | 10,500 | - | - | 10 Do 2d Class | @ 500 | 5000 | - | - | | | | 5,500 | - | - | |
| | | 1 Executive Engineer Bangalore 600<br>1 Asst Do 1st Class Presidency 350<br>7 Do 1st Do @ 500 3500<br>19 Do 1st Do @ 300 5700 | 10,150 | - | - | 7 Do 3rd Do | @ 400 | 2,800 | - | - | | | | 7,350 | - | - | |
| | | 1 Do 2nd Do 300<br>12 Do 2d Do @ 250 3000<br>4 Do 2d Do @ 150 600 | 3,900 | - | - | 35 Assistant Executive Engrs | @ 200 (on average) | 7,000 | - | - | 3,100 | - | - | | | | |
| | | 7 Probationary Asst Engrs @ 100 | 700 | - | - | 7 Probationary Asst Engineers | @ 112 | 784 | - | - | 84 | - | - | | | | |
| | | 1 Superintendent Dowlaishwaram work shop | 600 | - | - | 1 Superintt Dowlaishwaram | work shop | 600 | - | - | | | | | | | |
| | | 1 Do Paumben Do | 200 | - | - | 1 Do Paumben | Do | 200 | - | - | | | | | | | |
| | | Total Rupees per mensem | 31,750 | - | - | Total Rupees per month | | 30134 | - | - | 10,984 | - | - | 15,600 | - | - | Total Saving P month Rs 4,616 |
| Total of Officers | 81 | Total Annual Charges | 4,17,000 | - | - | Total No of Officers | 79 | Total Annual Charges Rupees | | | 361,608 | - | - | 131,808 | - | - | 18,720 | - | - | Total Saving P annum Rs 55,392 |

P. W. D. 281

No. 2652.

Proceedings of the Madras Government
Under date the 24th Novr/60.
Read the following
papers relating to the pre-
sent State and Organiza-
tion of the Dept. P. Works
in the Madras Presy

From Chief Engr to Government / Here enter 26th April 1860 No. 12758 with 3 Enclosures /

Minute by P. W. Secretary / Here enter 28th April 1860 /

Minute by H. E. Sir
Charles Trevelyan. Governor / Here enter 3rd May " — /

Minute by the Hon: C. Malthy Esqr / Here enter ——— /

Minute by the Hon: W. Morehead Esq
concurred in by H. E. Sir Patrick Grant / Here enter ——— /

Minute by H. E. Sir Charles Trevelyan / Here enter 8th May " — /

Minute by H. E. Sir Patrick
Grant. Comr in Chief / Here enter 9th " " — /

Public Works 1860 Dept.
Pro. of Govt for December

No. 3142.

Minute by the Hon: Mr. Maltby
with an appendix.
Dd 23d October 1860.

Makes remarks on the
Memorandums by the Chief Engr
and the Revenue Secretary contro-
verting his opinion regarding the
present state of the Public Works
Department.

No. 3143.

Minute by the Hon: Mr Morehead
concurred in by H. E. Commr in Chief
on the 23d Novr/60
Dd 12th Novr/60.

Observes that the Estimate formed
by Mr Maltby of the worthlessness
and expensiveness of the P. W. D.
is correct and that in submitting to
the Supreme Govt the proposed altera-
tions it would be well to forward
to them the Papers written on the
subject by Mr Bourdillon & Colt
Hoseley.
No. 2652 — 24th Decr.

No 367 + 368.

Minute by the Hon: Mr. Morehead (Here enter 10th May 1860 — )

Minute by the Hon: Mr. Maltby (Here enter 16th — " — )

Minute by H. E. Sir Charles Trevelyan (Here enter 7th June " — )

Minute by the Hon: Mr. Morehead (Here enter 16th — " — )

Minute by H. E. Sir P. Grant (Here enter 16th July — " — )

Memo by the Hon: Mr. Maltby (Here enter 20th August — " — )

Read Despatch from the Rt. Hon: the Secretary of state for India regarding the cost of Establishment of the Public Works Department

(Here enter 15th June 1860 No. 39)

Read also the following papers.

From Ag. Civil. Auditor (Here enter 11th July 1860 No. 472)

From Ag. Acct. General (Here enter 18th — " — No. 117)

From — do — do — (Here enter 11th Sept. " No. 184)

From Chief Engr. (Here enter 20th — " — No. 4935)

Read likewise the following further papers on the same subject

Memo by the Ch: Engr. on Mr. Maltby's

Minute of 16th May 1860 — (Here enter 17th Sept. 1860 No. )

Memo by Secy P. W. Dept. (Here enter 26th Sept. 1860 )

Minute by the Hon: Mr. Maltby with an appendix (Here enter 23rd Oct. " )

Minute by the Hon: Mr. Morehead concurred in by H. E. Sir P. Grant on the 23rd November —

(Here enter 13th Nov. 1860 — )

Ordered that the above papers do lie over for the present.

Present state and organizaton
of the P. W. in Madras Pres.

Public Works 1860 Dept.
Pro: of Govt. for December.

1/60 vi

No 2652.

Pro: of the Madras Govt.
Dy 24 December 1860.

Papers on the present
state and organizaton of the
P. W. D. and the means of
mending both, ordered to lie
over for the present.

No 353 at 369.

19-8-2nd Sec

294-691
46-2-691

Pub. Works 1860 Dept.

Pro: of Govt. for December

No. 2,652.

Pro: of the Madras Govt.

Dated 24th Dec./60.

Papers on the present
state and organization of the
Public Works Depart. and the
means of amending both, ordered
to lie over for the present.

Rs 353 to 269