

(1) பக்கங்களின் எண்ணிக்கை

6

(2) புதுக்கித் திருப்பிய நாள்

24/2

(3) ஆதாரக் குறிப்பவர் சுருக்கொப்பம்

3/7

தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

செவ்

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மு. கோப்புத் தாள் எண்.		பலவகை
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GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

Read—again the following paper :—

G.O., dated 5th December 1893, Mis. No. 1674 M., Local and Municipal.

Read—the following papers :—

From J. A. JONES, Esq., MEM. INST. C.E., F.R.S.E., Sanitary Engineer to Government, to the Chief Secretary to Government, dated Tanjore, 1st December 1893, No. T-119.

I have the honour to report as follows, in continuation of my No. 2560, dated 27th November 1893, on the results of the very serious floods in reference to the Trichinopoly water-works.

2. To understand the reason for the disaster it is necessary to state that, so far as I can learn, the original cause was the bursting of 31 tanks in Pudukkottai. The water from these came to the South Indian Railway, which until 6 A.M. on the 23rd November retained the water until level with the line at a point about two miles from Trichinopoly and between that station and Madura where there is a river called the Korayar crossed by the railway. The water either then cut the banks or the banks were cut to save the bridges. This water passes in a flood onwards towards the Wycoondah stream or channel which passes through Trichinopoly; that channel burst and the water passed on and joined the Kodamurti river to the north-west of Trichinopoly, which stream crosses the Trichinopoly-Erode branch about one mile from the Fort station. There was also heavy rainfall in the valley drained by the Kodamurti and the bridges, road and railway which are both close together could not pass the immense volume of water. The water therefore rose against the bank of the railway and ultimately at 2-30 P.M. went over it, carried away about half-a-mile of railway and crossed the paddy fields, carried away 1,200 feet of road and dashed through our works to the Cauvery. In seven minutes all our work, tools, plant, timber, tiles, &c., disappeared. We lost (1) a pucca store building about 70 to 80 feet long, the watchman got into the roof and was swept away with the shed, (2) the office-building, (3) the carpenters' shed, (4) the smaller store shed, &c. We have lost carpenters' work such as doors, windows, &c., timber unworked up, some machinery for the screening chamber (probably about Rs. 7,500 worth), all tools, instruments, plans and much other plant. Some may be recovered. The damage done to the site is very great, because the flood has scoured away 7 to 8 feet of land down to our foundation and where the store shed stood some 6 to 8 feet lower than this; one wall of the boiler room fell (it was raised only some 10 feet above foundation), but the remaining portion of the building, the pump well and caissons are all right.

3. Some 25 people passed our works during the floods on trees, &c., but could not be rescued, and they were, it is reported, all killed at the sluices of the grand anicut. My watchman has not been heard of since he was seen lower down the river on the store-shed roof. A good deal of our property is at the anicut and along the banks, but some will be difficult to recover.

4. The damage done to the works, &c., and actual loss will probably amount to Rs. 16,000 or 20,000.

5. The most serious matter, however, is that we are not at all safe in the present position, as we can have no assurance that the same thing may not happen in another ten years, and there is this to be noted that it is very probable that the Railway Company will lower their banks at all the breaches, so that the flood will be directed, as it were, against us in future.

6. I think I could make the site safe if certain works I have reported on (D.O.) to Colonel Pennycuik were carried out by us and the Local Fund department, but ours alone would cost some Rs. 50,000 at least while the works left and of any use are about worth Rs. 7,000 to 9,000.

7. The question of removal of the works is therefore one for consideration, and I have examined the river banks, &c., with the Superintending Engineer. There is no place on the same bank—that is, the Trichinopoly side—available which is safer than where we now are unless we go to places liable to pollution from Trichinopoly drainage. But we could move the works, I think, to the Srirangam side, where we will be safe from floods, but which in regard to pollution from drainage I have not thoroughly examined yet.

8. Removal means the loss of a year and probably some Rs. 30,000 plus cost of bricks, plant, &c., as above mentioned. Going on where we are will entail expenditure to recoup losses of Rs. 16,000 from buildings plus cost of plant, bricks, &c., and Rs. 30,000 for restoration and protection of site; removal would seem the best if the loss of a year is not of importance.

9. Besides the above losses, about 700 feet of embanked road in which our 18-inch main was laid has been washed away. The main must be relaid, but it is a question whether the road ought not to be lowered if additional waterways cannot be provided. I defer making proposals as to this because if we move site, the main must be raised and laid across the Cauvery bridge instead.

10. I regret much to make this report—the destruction of our works just at a time when I was hoping to get so far ahead during the next three months as to be independent of the floods and able to open the works temporarily at least is very disheartening to all concerned, but I trust that Government will emergently consider this report, as if I get some instructions at once, I can begin work again forthwith and take advantage of the next three months when the river is usually not in flood, and thereafter submit as soon as possible a revised estimate which, including cost of relaying main, is not likely to cause an increase of more than Rs. 50,000 in all if new site is adopted.

11. I have asked Colonel Pennycuik to come to Trichinopoly if he possibly can, as I feel that it would be much better for him to see the present site and the destruction caused. I am having photos taken of results of the disaster which I shall send to Government bye-and-bye.

From J. A. JONES, Esq., MEM. INST. C.E., F.R.S.E., Sanitary Engineer to Government, to the Chief Secretary to Government, dated Tanjore, 1st December 1893, No. T-124.

In continuation of my No. 2560, dated 27th November 1893, forwarding a copy of Mr. Lockyer's report, I have the honour to state that I have visited the works and have to report as follows.

2. I am glad to say that, so far as our head-works, wells and buildings are concerned, no damage has been done though the river ring bund was washed away and the water has stood level with the centre of the portable engines on the works.

3. The chief damage done here is to the 18-inch main between the town and the river. There are between the town and the river two roads. The west road on which our 18-inch main is laid has unfortunately much less waterway than the east road, so that, while the west road has breached in six or seven places about 1,000 feet in all, there is only one breach on the east road.

4. Our main is now lying in the breaches unsupported or else has fallen down on the bottom of the breaches. The main has stood admirably; the jointing has been excellent and only six pipes (costing about Rs. 500) in all have been broken. Relaying and jointing (1,000 feet) will cost some Rs. 500.

5. But what I desire to point out to Government is that this road must be put in such a condition that this breaching cannot occur again, because once our water-supply is established, there should be no risk of any suspension, which would cause the use of abandoned wells, &c., and carry insanitary evils in its train.

6. At one time, as can be seen, the road was very much lower at several places, and had these road dams or Irish bridges existed still, there would have been much less damage done. The main, however, is laid and we cannot adopt the plan of lowering of the road throughout as might be done if no main were there. I have gone over the work, and though I am not able as yet to give detailed plans and estimates I will do so shortly.

7. I propose, however, to put bridges in two places, rebuild an existing culvert, and make a road dam 200 feet wide at another place.

8. The work of repairing the road must be done at once; it is a municipal road and funds are not likely to be forthcoming from the usual source for such extensive work.

9. I therefore propose that the work should be done by this department at once so as to ensure the safety of our main, and I would suggest that funds either be given as a grant by Government or the municipality allowed to borrow an additional sum against the water-works' revised estimate in which I propose to include the above works.

10. I shall be obliged if Government will pass orders on this matter as soon as possible. The restoration of the road is very important in the interest of our works; at present we are cut completely off from the town. Government will remember that Rs. 51,800 were given up as not likely to be required (*vide* G.O., dated 21st November 1892, No. 1923 M., Local and Municipal).

Order—dated 5th December 1893, Mis. No. 1674 M., Local and Municipal.

The Chief Engineer, Public Works Department, will be requested to proceed at once to Trichinopoly and thence to Tanjore and report on the suggestions of the Sanitary Engineer.

(True Extract.)

(Signed) J. F. PRICE,
Chief Secretary.

To the Chief Engineer, Public Works Department.
„ Sanitary Engineer.

READ—also the following paper:—

Note by the Chief Engineer, Public Works Department, dated 12th December 1893.

I have inspected the site of the Trichinopoly water-works in company with Mr. Jones and Lieutenant-Colonel Smart, R.E., Superintending Engineer, VI Circle.

The extent of the damage done to the works and their present condition is described in full detail in Mr. Jones' report recorded with G.O. (Local and Municipal Department), No. 1674 M., Mis., dated 5th December 1893, and need not be further alluded to here.

The question as to the future location of the works is one requiring serious consideration. I am of opinion that it would be highly undesirable to retain the present site, which is one which must always be exposed to danger whenever there is an excessive flood in the Korayar.

Such a flood occurred in 1884 and has now occurred again, and will probably recur at intervals of a few years to the end of time, and although on the present occasion the intensity of the flood was greatly increased by the breaching of tanks in the Pudukkottai territory, this also is a contingency that has to be reckoned with in future years, for those tanks are not under the control of the British Government and the officers of the latter have no means of ensuring their safety. No means that could be adopted at any reasonable cost could prevent the Kodamurti bank from bursting whenever the Korayar is in excessive flood, and when this takes place any work on the site in question must be exposed to danger.

It is not considered that it would be impossible so to raise and protect the site that it would be reasonably safe even in this contingency, but the works necessary for this object would be costly out of all proportion to any advantage to be gained by them, and at best the site would only be "reasonably" and not "absolutely" safe.

Granting that the works must be moved, two alternatives present themselves; the first, and from an engineering point of view incomparably the best, would be to locate them on the island of Srirangam immediately below the Cauvery bridge. Here they would be absolutely safe against floods, the position as regards the supply of Trichinopoly is as favorable as any that could be chosen, and as regards the supply of Srirangam considerably more so.

I am, however, afraid that there are fatal objections to this site from a sanitary point of view; a long pool of accumulated, stagnant water, including in all probability no small proportion of sewage, extends along the road close to the river bank, and it is probable that water drawn from the bed of the river in dry weather must be more or less polluted from this source, while immediately above the bridge there is a much-frequented bathing ghât which would be a more direct source of pollution.

The advantages of this site from an engineering point of view are so obvious that the fact of its not having been adopted in the first instance was probably due to its being considered objectionable on sanitary grounds. I would, however, suggest that the opinion of the Sanitary Commissioner, who is, no doubt, already acquainted with the locality, should be asked on this point.

Assuming that the Srirangam site is inadvisable, the only alternative appears to be to place the head-works on the right bank of the river about half-a-mile higher up than the present site; an excellent site was found, where there is ample room for the pumping station and head-works, and where the latter can be made absolutely safe from damage by river floods or land drainage.

The extra cost as compared with the present site will be only that of the additional half mile of main, which will certainly not be anything like what it would cost to make the present site secure. I have asked Lieutenant-Colonel Smart to submit proposals regarding the future protection of the road and the Cauvery bank as suggested in paragraph 7 of Mr. Jones' letter, No. 119-T, of 1st instant, but these matters which will only remotely affect the water-works will be separately dealt with; they must in any case be considered in connection with the measures which the South Indian Railway Company may take for the protection of their line, and it would, I think, be well if the latter were requested to discuss their proposals with the Superintending Engineer before taking any definite action; any increased waterway which may be provided for either the main line or the Erode branch will probably have to be met by a corresponding provision in the Cauvery bank.

I have also inspected the Tanjore works in company with Mr. Jones and Mr. Lockyer. Here the actual extent of damage is very slight, even the breaches in the roads not being of serious importance.

It is probable that if the west road had been as well provided with waterway as the east, neither would have breached; as it was, the insufficient waterway of the former caused the water to be pounded up until the bank gave way, and the waterway of the latter road, which would probably have been sufficient to carry off the water had it come upon it more gradually, was not sufficient to deal with the sudden rush this caused.

I entirely concur in the suggestions contained in paragraphs 7 to 9 of Mr. Jones' letter, No. 124-T, dated 1st instant; it is very desirable that the work of improving the west road should be carried out by the water-works establishment. The work is purely a municipal one, but it is probable that there would be a difficulty in providing funds for its immediate execution out of ordinary municipal revenue; there would, however, seem to be no objection to the necessary funds being provided from the water-works loan, as its execution is imperatively necessary for the safety and efficiency of these works.

The salient features of the improvements to be made were pointed out on the spot, but Mr. Jones has undertaken to prepare, in concert with the Executive Engineer, sections of the two roads showing the levels and the position and extent of the waterways in each, from which the exact nature and position of the additions required can be decided.

I do not consider that the lowering of the road suggested in paragraph 6 of Mr. Jones' letter would be desirable even if it were practicable, it will probably be quite safe with the improvements now proposed.

(Signed) J. PENNYCUICK, Colonel, R.E.,
Chief Engineer, Public Works Dept.

No. 4253-C.

Transferred to the Local and Municipal Department.

(Signed) J. PENNYCUICK, Colonel, R.E.,
Secretary to Government, P.W.D.

12th December 1893.

ORDER—dated 16th January 1894, No. 37 M., Local and Municipal.

The proposals of the Sanitary Engineer are approved, and should be given effect to as soon as possible.

2. The Sanitary Commissioner is requested to report, at an early date, whether there are any, and if so, what sanitary objections to the location of the Trichinopoly works on the island of Srirangam immediately below the Cauvery bridge.

3. The South Indian Railway Company will be requested, in the Public Works (Railway) Department, to consult the Superintending Engineer before taking any definite action towards the protection of the railway line.

(True Extract.)

J. F. PRICE,
Chief Secretary.

To the Sanitary Engineer.
" Sanitary Commissioner.
" Public Works Department.
" Public Works (Railway) Department.
" Chairman, Municipal Council, Trichinopoly.
" " " Tanjore.
" Collector of Trichinopoly.
" " of Tanjore.

Gobt. of {1894} Madras.

LOCAL AND MUNICIPAL.

no 237 Wa/26 January 1894

*Communicated to
the officers concerned*

*(S^d) J. P.
W.*

Issued

Recd.

Encl.

G.O., 16th January 1894, No. 37 M.

JANUARY.

Water-works.

Approving the proposals of the Sanitary Engineer in connection with the damages caused to the Tanjore and Trichinopoly — by the recent floods, and requesting the Sanitary Commissioner to report whether there are any, and if so what, sanitary objections to the location of the Trichinopoly works on the island of Srirangam immediately below the Cauvery bridge.

*Sd/- V. Circle
Sr. V. Circle*

3.6.1894