Public Works (1896) Department.

G.O., No. 1049-50 I

DATED 12 December

[Despatch Abstract.]

Floods in the Trichinopoly Dt.: Communicating with remarks to officers concerned; Note by the Chief Engr: for Irrigation reviewing the reports on the Cauvery and Coleroon — at the end of July and beginning of August last.

Floods in the Trichinopoly Dt.: Forwarding Pros: Contg. with remarks to officers concerned — Note by the Chief Engineer for Irrigation reviewing the reports on the Cauvery and Coleroon — at the end of July and beginning of August last.

[P.W. 36. 1,000—23-10-95.]

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IRRIGATION.

Government (1896) of Madras.

PUBLIC WORKS.

Recd. } 1896. Enclosures

Regd. Spare copies

G.O., Nos. 1049, 1050 I., 12th December 1896.

DECEMBER.

Floods in the Trichinopoly District

Forwarding Proceedings communicating, with remarks, to officers concerned note by the Chief Engineer for Irrigation reviewing the reports on the Cauvery and Coleroon — at the end of July and beginning of August last.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

Read—the following papers :—

From Lieutenant-Colonel O. V. BODDY, R.E., Superintending Engineer, VI Circle, to the Chief Engineer for Irrigation, dated Trichinopoly, 11th November 1896, No. 1824 T.C.

In continuation of this office letter No. 1606 T.C., dated 1st October 1896, I have the honour to forward, herewith, copy of Executive Engineer's No. 459 S.E. of the 19th ultimo, with copies of its enclosures, submitting full report of damages, &c., caused by the recent floods in the Trichinopoly division.

Enclosures.

From P. ROSCOE ALLEN, Esq., Executive Engineer, Trichinopoly Division, to the Superintending Engineer, VI Circle, dated Trichinopoly, 19th October 1896, No. 459 S.E.

I have the honour to submit, herewith, my report on the late floods in the Cauvery which reached their maximum height on the 31st July last.

2. This was the second considerable flood we have had in the Cauvery during the year 1896, the previous one which reached the height of 221·3 on the Cauvery bridge gauge and 212·40 at the upper anicut having occurred on the 26th June. Both these floods were purely river floods, there being absolutely no local rain.

3. As regards the former it will be seen that it is the highest river flood as yet recorded and second only in height to the flood of 1858 which was a combined land and river flood. The records of the 1858 flood are generally discredited, but there is ample evidence to show that it was a considerably higher flood than the late one. From records it would almost appear that the severity of these river floods is progressive. There are I consider two reasons, for this, the first being that the river is more effectively confined within its banks than formerly and the second that the clearance of the land within the catchment area of the river for cultivation rapidly progresses. Regarding the first of these reasons, I would very strongly recommend that it should not be over-rated. I do not suppose that since 1858 so much land has been protected by flood banks as to exert any very great influence on the height of the floods in the river, at any rate above Trichinopoly town. If my reasoning is correct, it would appear that the height of the river floods in the future is likely to continue to be progressive.

4. A statement is attached showing the height the water rose to on 31st July 1896 on various masonry works within this division. I do not propose in this report touching on all the minor details of the damage done by the floods as what are not here noted are carefully recorded in the accompanying report of the North Subdivision officer and to which I would refer you. The right bank of the Cauvery all the way down from its head at the junction of the Amarávati to the Cauvery bridge

near the Trichinopoly town was found efficient. Two very small areas were flooded in the Kulittalai taluk, one by water finding its way through a disused drainage sluice and the other by water passing up through a drainage bridge on the South Indian Railway, which passes the drainage of the Kulittalai Kattovari into the Wyakondan channel.

5. Our difficulties with the set in the 36th mile were aggravated, but a favourably-situated accretion has formed, which encourages me to hope that an economical solution of our difficulties is not at all impossible.

6. If you will refer to the taluk map you will find that an area of 3,500 acres was flooded by water backing up through the Kodamurti bridge. The Kodamurti bridge is an opening left in the flood bank for the discharge of the combined floods of Kodingal drain and Koriar. It is of six segmental arches, 30 feet span, 12·5 feet to springing level. This Koriar and Kodingal, together represent the area drained by all cross drainages of the Wyakondan from its head to Trichinopoly, and to this must be added the area enclosed between the Wyakondan and the Cauvery right flood bank —a total area of 512 square miles.

7. From time to time local agitations have been started for works to protect this area liable to submersion by floods. As will be seen above it is subjected to being flooded by river floods and by land floods. To protect it from river floods it would be necessary to fit up the Kodamurti bridge with shutters. This however would certainly not protect it from submersion by land floods and the immense size of any structure fitted up with shutters and of sufficient water-way to pass a land flood stamps the idea as altogether absurd from a commercial point of view. Again, it has been proposed to so raise the northern bank of the Kodingal drain as to protect the portion between that drain and the river flood bank. Had such been done, it would have protected an area of 1,650 acres from submersion during the late floods. Were such a bank, however, made it would assuredly be breached during a land flood, as the opening left for the discharge of the same would be most inadequate. River floods usually occur at a time of year when cultivation has not advanced very far and thus do not do much damage and as there is no practicable manner evident for protecting this area against land floods, I am unable to recommend that any protection work be undertaken.

8. The Kodamurti bund which protects the Trichinopoly town from flooding was eroded by the severe action of the waves. An estimate for raising this bank where necessary and of raising the protecting stone revetment has already been submitted.

9. Below the Cauvery bridge, as far as the old Vennar head, the right bank is used as a road. Here was where I anticipated that most damage would be done, as on a late inspection I found that the surface of this road was for the most part about on a level with the flood of 1893 and which this flood exceeded by 2 feet. Had this bank breached, very great damage would have been done. In the immediate vicinity several villages would have been flooded and a very great deal of damage done in the Tanjore district. The difficulty, moreover, of stopping such a breach would have been immense, as the water would have found its way into the old Vennar channel and it can only be imagined what would have happened. Here I was aided by a trusty subordinate supervisor Abdul Latif Sahib, of whom I cannot speak too highly. From the levels now in my office of this road it can be seen the flood was nearly everywhere on a level with its surface and in many places for some distance above it. At one time the water actually began to flow over the bank, but it was stopped in time, small banks erected and the danger averted. In this I consider the supervisor has done substantial service to the Government and I very strongly recommend him for a substantial reward. His great influence also with the Revenue officials of the Trichinopoly taluk was exceedingly advantageous to us elsewhere. The levels of this bank are now in my office and I shall shortly submit an estimate for raising it. In the Srírangam island a bad breach occurred near the head-sluice of the Srírangam nattoovoikal which let the river into this channel. This was caused by two trees which were standing on the bank blowing down. This breach was the cause of partially flooding Srírangam town. It did much damage to the Srírangam nattoovoikal, but the area flooded by it was not great. I was fortunate enough to secure the services of a

company of the IV Pioneers to assist me in closing this breach and through their good work we have now a secure ring bund round it and cultivation under the channel can proceed without hindrance.

10. Both protecting banks of the Srírangam island above the bridge are too low and too small in section. The Cauvery left bank was completely saturated with water and I am surprised it did not go in several places. It leaked badly or rather escaped badly. The height of this bank above the highest flood-level differs in places, but in one or two it was barely one foot. Levels of these banks will be taken and estimates submitted for necessary improvements. The road between the bridges is too low. Water actually flowed from the downstream side (to which the flood had uninterrupted access) to the upstream side. I consider that the district board should be requested to consider the advisability of raising this portion of this road. Below the road the whole of the island was flooded-water had, as above noted, uninterrupted access to every part of it. The Uthamachery, Thiruvadasolai, Thiruplathorai, Kondiampettah, Melur, Kilikudu, &c., were completely swamped and had to be abandoned. Such protecting banks as these are to this part of the island are low and weak and were breached in many portions. It is considered advisable to keep these banks low and weak, as the surplusing facilities from Cauvery to Coleroon are at present insufficient. One of the disadvantages of the land being flooded in this manner is the undesirable deposit which the floods leave on it. I am told this is not generally appreciable, but in the vicinity of breaches it is very great. I have good reason, however, for stating that only a few areas in the whole island have been temporarily rendered uncultivable by this means. Every possible precaution to protect cultivation has been taken.

11. For the opposite side of the river, the North Sub-division officer has given such ample details of the damage done by the floods in his carefully compiled report that I have enclosed a copy. It discloses the fact that we must carefully look to our left bank from the head of the river to Musiri as well as at Musiri itself and devise schemes for its improvement.

12. The danger experienced at the Musiri nattoovoikal head-sluices and the breaches at the Ponnéri channel head-sluice were both caused in the same manner. The case is one where a long channel with an open head starts from the river banked on the river side and runs a more or less lengthy course to a head-sluice. There being no escape to the river, the water in entering the open channel runs into a *cul de sac* piles up and in less than no time the water in the channel near the head-sluice stands considerably higher than the water in the river close by. In such cases danger must exist and the necessity for an escape near the head-sluice of such channel leading to the river has been amply demonstrated. The utility of such a construction moreover as a means of keeping the leading channel free of silt points further to necessity of their provision in all such cases.

13. The measures for the protection of the Kuhur village which you have ordered us to take are now well in hand and regarding this and other breaches I am making every endeavour immediately to ensure the present safety of cultivation and further to so push forward repair work as to secure them against any large land flood which may occur later in the year and which the absence of any rain hitherto points to as a very probable contingency.

14. The advisability of providing with drainage sluices many of the open drainage cuts which exist in the Coleroon left bank below Nandiyar anicut has already engaged my earnest attention and I think the late floods made out a case for the one at Pudukkóttai without the necessity of further proof. Plans therefore for this will be submitted soon. The remainder may not prove quite so simple a matter.

15. The question of providing flood banks to the larger drainage lines entering the Coleroon on its left bank will be considered each on its merits. I think something certainly should be done to the left bank of the Marudayar. As high ground here is not so very far off, I do not anticipate that this will be a very expensive matter. As to the Coleroon left bank from Vappur to the lower anicut for several reasons this has been kept low—sufficiently low for any considerable flood to spill over it. I believe the reasons for this state of things to be that, considering the

uncertainty of the amount of flood water which the lower anicut will pass, it is better to permit the water to spill over this bank than to concentrate the whole flood and deliver it, as concentrated, at the lower anicut for discharge for fear that such might endanger the safety of the lower anicut, and again, as a further reason, that in spilling over there is not much likelihood of extensive damage being done nor of a great area of land being submerged. The above are, I believe, the reasons correctly stated.

16. When the flood spilt over the bank, the water on the land side very rapidly rose until its level at a point a few miles further down stream was higher than the water in the river and which caused a discharge again into the river as the bank top has a fall corresponding to the fall in the river.

17. It can be seen from the survey sent herewith that this redischarge occurred in two places. The relief therefore afforded to the river by spilling over this bank was but slight and temporary. The road from the lower anicut to South Arcot certainly through breaching afforded some relief, but the damage so done must be so very great that I do not think it can be recommended that this road be kept in such a state as to breach in the future on the occurrence of another such flood. Such relief cannot therefore be depended on in the future. A section of this road as breached is sent herewith. Altogether 34 breaches occurred in this portion and, together with the damage done to the Ponnéri channel, it will take Rs. 11,000 to put right the damage done.

18. In the statement of loss of crop, houses and food-grains from No. 14 to 26 appertains to this portion. The figures were supplied by the Revenue Department. The total area submerged in this portion was 15,800 acres or 24·687 square miles.

19. From the levels given of the flood from upper to lower anicut, it will be seen that the surface level is not the same throughout, but that the fall lessens as the lower anicut is approached.

20. If, as I believe, it has been ascertained by Colonel Smart that the lower anicut cannot, in its present state, pass such a flood as the late one without liability to injury, I would submit for consideration extending its waterway sufficiently to enable it to do so. From what I have observed it would appear that the only relief of any moment afforded to the river was through the breaches in the North Arcot road. These must have caused very much damage and apart from this I do not think the district board are at all likely to have the road in a state which will allow of its breaching so conveniently another time. The Vadavar head and North Rajah voikal head-sluice are according to accepted ideas badly situated. I am told that the channels of each silt up badly at the head and such must appear to be the case. I would therefore propose that the idea of removing both to a better situation be considered and extending the lower anicut across the site they at present occupy.

21. In conclusion it is with much pleasure that I have to inform you that the North Sub-division officer and the rest of the staff of the division showed great devotion to their duty and did everything in their power to avert danger and to repair damages.

22. I request you will convey my cordial thanks to Mr. Roberts, the Head Assistant Collector, the Tahsildar of Musiri and Town Sub-Magistrate of Trichinopoly for timely assistance rendered by them.

TRICHINOPOLY DIVISION.

REGISTER of anicuts showing the levels of the principal parts and flood-levels.

No.	River.	Name of anicut.	Ascertained flood-levels above the crest of anicut.				Calculated M.F.L.	Levels of principal parts.						Remarks.
								Anicut.			Head-sluice.			
			Year and level.	Year and level.	Year and level.	Year and level.		Under sluice sill.	Crest.	Top of wing wall.	Sill.	Shutter platform.	Roadway.	
1	Cauvery ..	Upper anicut ..	7·50 1896	7·50 1882	4·50 1881	4·70 1883	..	236·79 236·85	..	257·45	..	..	..	South branch crest = 242·20.
			7·40 1896	6·50 1882	4 00 1881	4·00 1883	..	235·44	..	257·19	..	..	..	North branch crest = 242·44. Calculated M.F.L. is 13·00 over the crest of Cauvery dam— Crest of Cauvery dam = 236·24 above M.S.L.
2	Do. ..	Grand anicut ..	6·80 1887	7·00 1893	7·60 1896	6·10 1892	..	179·60	..	..	..	..	..	Crest = 189·30. Presumed M.F.L. is 16·05 on sill over regulator— Sill = 184 25.

N.B.—These anicuts are in charge of members of the Public Works Department of Tanjore division.

(Signed) ABDUL LATIF SAHIB.

TRICHINOPOLY DIVISION.

STATEMENT showing the difference of level between the highest flood of the year 1896 and top of bank at every mile.

Miles.	Reading to top of bund.	Reading to H.F.L. of 1896.	Difference.		Remarks.
			Above M.F.L.	Below M.F.L.	
Aganda Cauvery Right Bank (Kulittalai).					
0	4·70	8·08	3·38	..	
1	4·38	8·70	4·32	..	Stone is missing.
2	4·50	8·12	3·62	..	
3	4·15	7·30	3·15	..	Stone is missing.
4	3·95	6·95	3·00	..	Do.
5	4·65	7·23	2·58	..	
6	5·08	8·80	3·72	..	
7	4·70	8·24	3·54	..	
8	4·40	6·70	2·30	..	
9	4·85	7·95	3·10	..	
10	4·18	6·80	2·62	..	
11	4·82	7·58	2·76	..	
12	2·90	6·30	3·40	..	
13	4·35	7·25	2·90	..	
14	4·00	8·35	4·35	..	
15	4·76	8·75	3·99	..	
16	4·50	6·85	2·35	..	
17	4·30	8·40	4·10	..	
18	4·85	9·68	4·83	..	
19	4·55	8·75	4·20	..	
20	4·20	7·08	2·88	..	
21	4·68	10·28	5·60	..	
22	1·98	5·90	3·92	..	Stone is missing. Do.
Trichinopoly.					
23	5·00	9·85	4·85	..	
24	4·78	9·85	5·07	..	
25	4·80	10·55	5·75	..	
26	4·65	6·38	1·73	..	
27	4·43	10·15	5·72	..	
28	2·85	7·50	4·65	..	
Cauvery Right Bank.					
29	4·48	8·08	3·60	..	
30	4·58	9·00	4·42	..	
31	4·85	8·43	3·58	..	
32	4·95	8·22	3·27	..	
33	4·84	7·72	2·88	..	
34	4·80	6·45	1·65	..	
35	4·75	10·70	5·95	..	
36	4·50	6·85	2·35	..	
37	4·55	7·63	3·08	..	
38	5·10	6·70	1·60	..	
39	4·55	7·30	2·75	..	
40	4·45	5·83	1·38	..	
41	3·88	5·08	1·20	..	
42	4·64	6·62	1·98	..	
43	4·10	5·45	1·35	..	
Cauvery Left Bank.					
1	4·80	7·34	2·54	..	
2	4·95	6·90	1·95	..	
3	5·60	7·55	1·95	..	
4	4·64	5·64	1·00	..	
5	4·84	7·10	2·26	..	
6	4·90	6·63	1·73	..	
7	4·85	6·18	1·33	..	
8	4·83	5·78	0·95	..	
9	4·50	6·70	2·20	..	
10	4·60	6·95	2·35	..	
11	4·75	7·08	2·33	..	
12	4·78	5·23	0·45	..	
13	4·95	4·85	..	0·10	
Coleroon Right Bank.					
5	4·73	6·30	1·57	..	
6	4·85	6·10	1·25	..	
7	4·35	6·48	2·13	..	
8	4·78	6·55	1·77	..	
9	5·00	6·15	1·15	..	
10	4·65	6·88	2·23	..	
11	4·83	6·70	1·87	..	
12	4·80	8·28	3·48	..	
13	4·10	6·20	2·10	..	
14	The flood overtopped the bank beyond this.				

(Signed) ABDUL LATIF SAHIB.

STATEMENT showing the height of flood-levels, &c., at the different masonry works in the Trichinopoly Division, VI Circle.

Cauvery river.

No.	Name of work.	Position.		Flood-levels, mean sea-level.											Remarks.
		Miles.	Feet.	1858.	1868.	1877.	1880.	1882.	1886.	1887.	1890.	1892.	1893.	1896.	
	Kulittalai Taluk.														
1	Kattalai nattoovoikal head-sluice	..	..	..	..	..	..	..	..	9·85	..	..	..	..	Sluice gauge reading.
2	Surplus weir	..	..	..	..	..	..	..	..	..	..	..	..	6·19	Above sill.
3	Do.	..	..	..	..	6·25	..	..	..	6·60	..	..	..	..	Do.
4	Head-sluice, Manavasi	..	..	..	..	347·92	346·47	348·223	47·34	349·03	..	..	..	350·32	
5	Surplus sluice of Kattalai nattoovoikal	..	..	..	..	3·45	1·97	4·00	..	..	..	..	..	5·45	Above sill.
6	Head-sluice of Mayanur	..	..	..	..	..	..	347·30	..	..	..	..	..	347·65	
7	Surplus weir	..	500	..	..	..	..	..	..	..	..	..	..	8·63	Above sill.
8	Surplus sluice	1	2,880	..	..	..	..	..	..	..	..	..	..	6·52	Do.
9	Do.	2	2,730	..	..	..	..	..	..	..	..	..	..	5 08	Do.
10	Kumbakuli surplus sluice	3	560	..	..	..	..	..	..	..	335·41	..	..	337·51	
11	Krishnarayapuram head-sluice	4	630	..	..	..	..	..	..	..	..	..	..	335·10	
12	Mahadanapuram head-sluice	5	2,830	..	..	..	..	..	..	..	..	..	..	326·21	
13	Marudur head-sluice	5	3,210	..	..	..	..	..	..	328·93	..	..	..	329·29	
14	Do. surplus weir	11	880	..	..	..	..	..	..	..	..	..	..	309·35	
15	Vadhyam head-sluice	15	4,160	..	..	..	..	..	..	289·50	..	..	..	290·02	
16	Nungavoikal head-sluice	20	640	..	279·68	280·88	279·38	280·43	..	..	..	..	..	281·28	
17	Surplus weir No. 2	21	3,435	..	..	..	271·87	..	..	..	..	..	..	277·12	
	Trichinopoly Taluk.														
18	Wyakondan head-sluice	22	2,810	..	..	274·43	..	274·23	..	274·33	..	..	..	274·73	
19	Do. surplus weir	22	2,840	..	..	..	..	..	..	..	..	..	..	276·3	
20	Ramavoithalai head-sluice	28	3,010	..	..	..	..	..	..	..	..	..	..	252·32	
21	Puduvoithalai head-sluice	29	4,280	..	..	..	..	..	..	..	..	..	..	249·44	
22	Elanthavoithalai head-sluice	32	350	..	..	..	..	..	..	210·14	..	..	..	210·64	
23	Kodamurty bridge	37	2,640	..	..	..	..	..	..	..	..	..	..	227·19	
24	Surplus sluice	39	980	..	..	..	219·40	..	..	..	..	..	..	221·02	
25	Do.	3 L.F	650	..	..	..	..	..	..	..	..	..	..	219·82	Mileage, Trichinopoly-Karúr road.
26	Do.	39	4,010	..	..	..	..	..	..	..	..	219·47	..	222·30	
27	Do.	39	4,340	..	..	..	..	..	..	..	..	..	..	220·95	
28	Do.	40	220	..	..	..	..	..	..	..	..	..	..	221·09	
29	Do.	4 L.F.	240	..	..	..	..	..	..	..	..	..	..	217·52	
30	Do.	..	..	..	..	..	..	..	..	6·70	..	..	..	7·25	Above sill.
31	Do.	41	1,320	..	..	..	..	..	..	..	..	..	..	6·55	Do.
32	Old Vennar head	43	3,960	210·55	..	..	..	207·51	..	208·21	..	206·97	208·65	208·84	
33	Head-sluice, Srírangam nattooovoikal	Left Bank 4	..	..	..	..	..	..	..	236·72	..	236·07	..	237·75	
34	Cauvery bridge	9	..	..	..	..	..	..	..	..	..	..	..	223·22	
35	Surplus sluice	10	320	..	..	..	..	..	..	..	..	..	..	10·93	Above sill.
36	Do.	12	90	..	..	..	..	..	..	..	..	..	..	8·76	Do.
37	Bridge over Srírangam nattooovoikal	12	1,550	..	..	..	..	..	..	..	..	..	..	10·60	Do.
38	Thirruvadasolai head-sluice	12	3,050	..	..	..	..	..	..	..	..	..	..	10·10	Do.
39	Surplus sluice	12	3,960	..	..	..	..	..	..	..	..	..	..	221·92	

Statement showing the height of flood-levels, &c., at the different masonry works in the Trichinopoly Division, IV Circle—*cont.*

	No.	Name of work.	Position.		Flood-levels, mean sea-level.											Remarks.
			Miles.	Feet.	1858.	1868.	1877.	1880.	1882.	1886.	1887.	1890.	1892.	1893.	1896.	
		Trichinopoly Taluk—cont.														
Cauvery river—*cont.*	40	Thiruplathorai head-sluice	13	150	..	..	..	..	..	..	..	..	..	..	7·80	Above sill.
	41	Surplus sluice	13	2,940	..	..	..	..	..	..	..	..	..	..	7·15	Do.
	42	Do.	14	..	..	..	..	..	..	..	..	..	..	..	7·42	Do.
Coleroon.	43	Surplus sluice	Right Bank 7	3,960	..	..	..	..	..	..	..	..	..	..	7·46	Above sill.
	44	Do.	8	1,700	..	..	..	..	..	..	..	..	..	..	10·00	Do.
	45	Do.	8	3,190	..	..	..	..	..	..	..	..	..	..	10·85	Do.
	46	Coleroon bridge	8	3,960	..	..	..	..	..	..	..	..	11·25	..	22·22	Sluice gauge reading.
	47	Surplus sluice	8	4,720	..	..	..	..	..	..	..	..	..	..	7·25	Above sill.
	48	Do.	9	240	..	..	..	..	..	..	..	..	215·90	..	217·60	
	49	Do.	9	1,790	..	..	..	..	..	..	..	..	..	..	218·13	
	50	Do.	9	2,640	..	..	..	..	..	..	..	..	..	..	217·32	
	51	Do.	9	3,410	..	..	..	..	..	..	..	..	..	..	7·90	Above sill.
	52	Do.	9	4,020	..	..	..	..	..	..	..	..	..	..	7·00	Do.
	53	Do.	10	320	..	..	..	..	..	..	..	..	217·87	..	218·63	
	54	Do.	11	260	..	..	..	..	..	..	..	..	210·28	..	211·97	
	55	Do.	12	4,340	..	..	..	..	..	..	..	..	203·63	..	204·78	

(Signed) P. ROSCOE ALLEN,
Executive Engineer, Trichinopoly Division.

19th October 1896.

Copy of report from M. R. Ry. T. SUBRAMANIA AIYAR Avargal, Assistant Engineer in charge of North Sub-division, Trichinopoly, to the Executive Engineer, Trichinopoly Division, No. 1900, dated 25th September 1896.

I have the honour to submit herewith my report on the floods down the Cauvery and the Coleroon in July last as called for in your No. 1054 S., dated 14th August 1896.

2. The south-west monsoon burst early in June 1896 and water rose rapidly in the Cauvery from the 21st to 26th when there was 4·5 feet passing over the north arm of the upper anicut crest + 242·40. This flood was too early for the year and, unlike ordinary floods, which used to subside in one or two days, lasted for over a fortnight from 22nd June to 5th July 1896. The flood water on 26th June 1896 was only 2 feet 3 inches below that of 1887 floods at upper anicut and only 1 foot 6 inches below at Nandiyar anicut of 1887 and one foot below that of 1892.

3. From 6th to 15th July water went down steadily, notwithstanding the unusually strong west wind, when water was flush with the crest of the north arm at upper anicut. From 16th it rose again rapidly, so much so that on the evening of the 17th there was 3·7 flowing over the crest. It was then anticipated that it would rise higher as there was no abatement in the severity of the west wind; water, on the other hand, steadily though slowly went down from the 18th to 25th, when there was a foot of water on the crest.

4. From the 26th July water rose rapidly again for the third time and reached the unprecedented level of 7·5 feet over the crest on the 31st July. I say unprecedented as the record of 1858 seems to be incorrect and should be left out of account. There is no record available of the F.L. of 1858 for the portion below Nandiyar anicut to Lower anicut. It is true the bank on left side of the Coleroon has been raised with reference to this *assumed* F.L. of 1858 from Coleroon bridge at 8½ mile to Kilambil 22 miles. This I consider unnecessarily too high as in no other portion of the whole length of embankment from Iylur to Lower anicut the bank has been raised to this height; more of this afterwards—*vide* paragraph 7 (3).

5. *Precautionary Measures taken.*—On the 28th July, when water rose to 6 feet over crest at upper anicut, watchers were kept to patrol the banks and to report of any accidents, strict orders were sent to village officers to watch the banks in their village limits both day and night and to protect the weak portions with brushwood and stakes or turf, and the subordinates and superintendents were made to watch the masonry works and other places which were considered very weak. The Head Assistant Collector with his subordinates watched the banks near Musiri and did excellent work in averting a breach in this portion.

6. *Agunda Cauvery*—

(1) The left bank of the Agunda Cauvery is wholly in Musiri taluk and is 33 miles long. There was no bank formed by our department in the first 8½ miles, *i.e.*, up to Karapotanur anicut, as the ground itself is high except in places in 7th and 8th miles; water spilled over these low places in the late floods six inches to a foot, and breached in two places for a total length of 200 feet. Below Karapotanur anicut there is the head sluice to Tottiam Chinna voikal, where the flood water rose nearly to platform level, and as the bund below is not strong it was breached for a length of 150 feet and flooded the fields of Nattam and Puttur.

(2) From 8¾ to 9¼ miles there is no bank. The padugai in this portion belongs to Kottooputhur mittadar. The Tottiam Chinna voikal goes under cutting here. The ground to the left or north side of this channel was flush with the late F.L.

(3) From 9¼ to 11¼ the bank is low and weak and not of proper section. F.L. overtopped the bank in this portion in places and breached it in two places for a total length of 70 feet and eroded badly for a length of 800 feet in 10th mile, breached in four places for a length of 420 feet and eroded 1,320 feet in 11th mile, and eroded about a furlong in 12th mile. The R. stone groyne just above the outlet at 11 miles 2 furlongs has been completely undermined and has slipped down.

(4) *Mullikarai Head Sluice.*—Water rose to 3 inches below shutters platform. New revetment below has slipped down.

(5) From 11 miles 2 furlongs or Mullikarai head sluice to 17 miles the flood bank is in pretty good order and 3′ to 4′ 6″ above late F.L. Only 880 feet of inside slope eroded in the 13th and 15th miles.

(6) From 17 to 22 miles or Musiri the bank is used as the main road to Salem and is high except between $\frac{18}{0}$ and $\frac{18}{2}$ where a guard bund has been placed which requires strengthening; between $\frac{19}{0}$ and $\frac{20}{0}$ water overflowed 3 inches for 4 furlongs, between $\frac{20}{0}$ and $\frac{21}{0}$ for 870 feet and nearly 4 furlongs in the 22nd mile for a depth of one foot. The road in this portion should be raised to at least 2 feet above late F.L. throughout or a guard bank placed in front.

(7) *Nattooroikal Kurumbu Channel.*—The right bank of this channel has been cut away for over a mile, all except the rear slope, and has been breached in two places each 80 feet long and 3 to 8 feet deep. Water rose to one foot of top of bund.

(8) *Flood Bank from Nattoovoikal Head Sluice to Salem Road.*—This was also partly eroded and was only 2 to 2½ feet above late F.L. This bank should be raised to 4′ 6″ above F.L. with 9 feet top width and treated as the main bank. There is no necessity, on the other hand, to maintain the right bank of Kurumbu channel at such a high level.

(9) *Nattoovoikal Head Sluice.*—Water rose to one foot below top of front parapet. The right bank of the Kurumbu channel from the head up to sand escape acted as a dam and water in the channel was one foot higher than that in the river close by. The head sluice was in danger. It was protected with turf sods and earth thrown in rear of parapet to serve as a backing. It is quite necessary to raise the parapets and roadway to a safe height and to remove the bank on the right side up to sand escape.

(10) *Agunda Cauvery Left Bank from 22½ to 23.*—The bank here is subject to very strong current, the river here taking a bend and the width of the river very much contracted. The inner slope has been protected with dry stone revetment grouted in places, and masonry steps in three places to serve as a bathing ghât for the villagers of Musiri. Water rose to top revetment and overflowed the bathing ghât close to the choultry.

The inner slope of bund was subject to great wave action and was greatly eroded all along up to a furlong below 23rd milestone. This portion was protected with piles and brushwood and turf bund at a cost of Rs. 300, as a breach here would have been disastrous to all the villagers from Musiri to Konasilam.

(11) *Umayapuram Set.*—The bund here stood very well although the nanel planting and modassal work done this year were completely washed away. A good berm or padugai in this portion is very necessary. This can only be secured by lopping off a portion of the forest on the right side of the river to allow more waterway. Near the 24th milestone inner slope has been eroded for a length of 860 feet.

(12) Bank from 24th to 29th miles in good order.

(13) From 29th to 33 the local fund road forms the left bank. There is, however, a guard bank in low places which is being raised to required height on maintenance estimate up to 31 miles. In 32 mile the road is low. A guard bank here also is necessary.

(14) The height of the bank all along with reference to late F.L. is given in statement No. I, the extent of land flooded is given in tracing No. I, and the amount spent in urgent repairs and in preventing breaches is Rs. 530 as detailed in statement No. 2.

(15) Precautionary measures required in this portion seem to be the following:—

(1) Providing and strengthening of a flood bank from Musiri Nattoovoikal head sluice to Salem road at 22 mile and a guard bank along the road up to Kondamari bridge.

(2) Providing a self-acting drainage sluice to the drainage culvert in 22nd mile to prevent the flood water from backing up and flooding the fields of Musiri and Teruvengaimalai.

(3) Providing screw shutters to Musiri Nattoo, Mettoo and Pallavoikal for better and easy regulation.

(4) Re-building in slipped portion and raising to one foot above late F. L. the revetment and steps at Musiri.

(5) Allowing proper waterway in 23 mile by denuding as much of the forest on right side as is absolutely necessary and reserving it as river proper.

(16) At Nattam and Konasilam the flood water will back up and must inundate the fields. It will not be possible except by costly works to provide proper flood banks.

(17) The river bank is sufficiently high in most places. The little raising that has to be done can be done out of the maintenance estimates.

(18) The R. stone groynes at (1) Mullikarai, (2) Musiri and (3) Umayapuram require repacking where displaced.

(19) Two new sluices were built to Aylur and Siplaputhur channels in the 5th mile. As the masonry was green when the floods came and as there was no time to pack revetments in front, and as the water rose to tops of wings, a breach occurred between the two sluices and washed away the wings of both the sluices adjoining. This could be set right at a cost of Rs. 150.

(20) A statement No. 3 of observed flood levels at important masonry works is herewith submitted. It will be seen from this that the levels now recorded are higher than that of 1882 and 1887 and that the average flood fall per mile is 3·34 feet.

(21) The approximate cost of repairing the damages and making improvements will be Rs. 6,600 as detailed in statement No. 4.

7. *The Coleroon from Upper Anicut to Nandiyar Anicut*, 26 *miles*—

(1) *Iyen voikal Head Sluice.*—Water rose 6 inches above rails of screw boxes, *i.e.*, to + 249·90. The head sluice is in good condition and the parapets sufficiently high. The revetment in front on the right slipped after the floods subsided for a length of 23 feet right up to bed level. This is due to the insufficient slope now given, ½ to 1. It should be repacked to a slope of 1 to 1 and grouted.

(2) *River Bank from head up to 8½ miles.*—This portion was subject to heavy water pressure from the river side as the main Iyen channel runs close by on the outside, and, there being no berm in most places, the bank slipped badly in thirty places, and a little below Thoydayur bridge water leaked so badly that a breach was considered imminent. All the slips were well protected timely and breaches averted. The banks are nowhere less than 4 feet above late F.L. It would be better to conserve the channel and form a good berm in rear of bank so as to make it safe against future floods.

(3) *From 8½ to 22 miles.*—The bank in this portion was raised, on an estimate sanctioned for Rs. 82,300 some years ago, 4′ 6″ above the assumed flood level of 1858. This is now 7 to 10 feet above late flood level.

In 1858, when this flood bank was non-existent and when the country was swamped everywhere, it is understood how this record of 1858 was made out. The Kuhur village in the 18th mile was left unprotected and a nasty bend allowed in the bund at 19 miles, and as the same was made up of mere sand with a coating of mud, a big breach occurred here 860 feet long and bank washed away one-half for about 500 feet above, and the village of Kuhur was flooded and sixty houses fell down. The inner slope of bund has been eroded in several places, though not materially, and at drainage sluices on the outer slope, also for some distance above. A little below drainage sluice at 22 miles the flood water from Kuhur village and breach at 19 miles breached the bank for a length of 250 feet right up to ground level and there is only 40 feet of bank to support the masonry.

It was well this breach had occurred or the masonry would have been washed away.

Malattar and Kaduvoi channels were also breached by the breaches above mentioned, viz., in 18 and 19 miles, and the villages of Kilambil, Mangammapuram and Ariyúr were in danger but were saved only by the breach at 22 miles.

(4) *From 22 to 26 miles.*—Road No. XX forms the left bank. There is, however, a guard bank placed all along which is 2 to 4 feet above late F.L.

(5) *Kuliyur and Nandiyar anicuts.*—Water backed up by these two anicuts and swamped the fields of Ariyúr, Kalligudi, Alangudi and Pettai. It might, perhaps, be better to provide proper regulation with screw-gearing shutters for these, so that these villages may not be affected by river floods.

(6) Statement of breaches, cost of repairing flood damages and the approximate amount of loss of crop and damage to houses, &c., will be found in statements Nos. 4 to 8.

8. *Nandiyar Anicut to Vappur*, 52 *miles*—

(1) *Nandiyar Head Sluice.*—Water rose to 8 inches below top of parapet. The Superintendent took much pains to protect the masonry with turf sods and earth thrown at the approaches. The flood bank up to Vadani was also protected by him as the water rose to 1 foot 6 inches to 2 feet below top of bund and a breach here would have caused loss to Nandiyar system.

(2) *Nandiyar Anicut.*—Water rose 8·75 feet above crest or to + 163·25. The flood level of 1887 was + 161·66 or 1·59 lower than the late F.L., and 5 inches higher than the F.L. of 1892, viz., + 161·22.

(3) The parapets of the head-sluice must be raised and establishment sheds built for better up-keep and protection of the head works in times of emergency.

(4) *Bank from 26 to 34 miles.*—The bank in this portion is 1′ 6″ to 3′ 0″ above late F.L. and requires raising to 4′ 6″ throughout above it.

(5) *Breach at Pudukkóttai,* 32 *mile.*—Water backed up by this breach and swamped 240 acres of wet crops and totally destroyed them. The village of Pudukkóttai was saved only by the villagers working constantly day and night forming a flood bank round their village and breaching our bank just above their village for a length of 30 feet. The amount of loss is approximately Rs. 3,000. It is quite necessary to build a masonry drainage sluice provided with self-acting shutters. The fields were nearly under 5 feet of water.

(6) *Bank from 34 to 39.*—In pretty good order except that a breach occurred above Karapakam village in 37 mile for a length of 150 feet. The villagers of Annimangalam protected the banks in their village limits and averted a breach at old breach site. The flood bank to the west of their village requires raising and extending to meet the high ground. The breach at Karapakam has already been closed at a cost of Rs. 180.

(7) *Bank from 40 to 41.*—Here there is Vilupanakurichy Odai with an open cut-water backing up through this swamped a good portion (756 acres) of the country from Tiruvenjiam to Pereamorai. From reports received from Revenue authorities it appears that 171 acres of dry crops were destroyed as also 22 houses. Owing to want of rain the land submerged was not cultivated, otherwise the damage done would have been great. The bank for about five furlongs above the open cut was entirely washed away excepting the inside slope. This is due to the rush of water both when the flood entered and receded. It is very necessary to build a drainage sluice here also as at Pudukkóttai.

(8) A little above Pereamorai village there is another small open cut which has also done proportionate mischief this time. A small drainage sluice will suffice as at Tirumanur.

(9) *Arasanjeri Head Sluice.*—Water rose to + 115·75 or 0·8 below platform level. No damage done to the masonry. The water down this sluice over-topped the bund of Arasanjeri tank and scoured it very badly, and, notwithstanding the timely care and trouble taken by the ryots, breached the bund in two places, and the worst of it is that a considerable portion of the water came back to the river by the head sluice when the river subsided. This head sluice has its sill on too high a level with reference to the river here, and unless some Kurumbu works are provided and its head kept near Viluppanakurichy this channel will be very ineffective for irrigating 780 acres now under it and the tank.

(10) *Bank from* 41 *to* 52.—The bank here is in pretty good order and is 1 foot 6 inches to 3 feet above late F.L. It requires raising to 4 feet 6 inches above it The Thelur Odai at 47 miles has also done considerable damage to Thelur, Narianúr, Kuravadi and Thuthur villages, and the fields being dry and uncultivated, the loss to crop and seedlings were not much. Four houses in Thelur fell down and the village of Kuravadi was under water. A drainage sluice here also is very necessary.

(11) *Varappukurichi Drainage Sluice.*—This was built in 1895, and has acted very well during late floods. The villagers state that they would have suffered very much as their neighbours but for this.

(12) *Ramanallur Island.*—There are two villages in this, the upper one of which was fully flooded and 28 houses fell down. The lower village was badly eroded near the temple, which is in danger of being undermined unless protected. The dry crops to the extent of 332 acres were entirely destroyed and a good portion of the island silted up with sand. The only hope of protecting the fields and villages in the island is by forming a strong flood bank all round.

9. *Ponnéri-Kurumbu Channel.*—Water rose to + 95·0 at 52 miles, and, obstructed as it was by the old head sluice, rose to + 93·75 at new head sluice and Marudyar under tunnel, or three inches above front parapet. The earth connection on left side gave way and a big breach (80′ × 25′) was formed and with it the left wing and return fell down. The ground in rear of training wall was swept away 10 feet deep as also the return of the latter, and a big scour was formed beyond for a length of 100 feet—15 feet deep. As flood subsided the Kurumbu channel also was silted up to a depth of 6 feet for the first 600 feet and an average of 2 feet below up to old head sluice. With great difficulty the breaches above the under tunnel were closed and bank made up and protected. The sand in Kurumbu head is being removed. As the right return of the head sluice is also cracked and as it is not so very safe to keep the head sluice at its present place as there is a heading up of more than 3 feet and as a breach like this may endanger the safety of the tunnel itself, it would be better to build a new head sluice at site of old one near Vappur sheds.

10. *Marudayar Under Tunnel.*—The flood level rose to + 91·00 or three inches over the left side wall and removed the earth connection on the right down-stream side for a length of 40 feet for a depth of 10 feet. This has now been made up and protected with modassal work. There is a flood bank on the left side of Mardayar extending from the tunnel to road No. XX which has breached in five places (*vide* statement No. 6). This bund must be made up to proper height if it is to be maintained.

11. *River Bank from Under Tunnel to Sattambadi Bridge.*—This bank forms the right bank of the Ponnéri channel and water rose on both sides to the top of bank and no serious damage occurred. Water overflowed over the left bank of the channel nearly 2 feet in several places. This requires raising.

12. *Road No. XX from 52 to 67⅓ miles or Lower Anicut.*—This road was purposely kept low to prevent accidents to lower anicut, but it will be seen from the actual facts stated below that there is no necessity whatever to keep miles of bank at such a low level. All the flood water down the Coleroon has found its way over the lower anicut except what passed over the Madras road* by the breaches in it in the 154th mile. A cross section of this road along the roadway is herewith, from which it will appear that only a small quantity of water surplused over this road. It is evident from this and from actual observation that the numerous breaches (34 in all) were not all caused by the river water entering the land side. The flood water entering by open cuts and breaches up above breaches the road lower down from the land side. For instance, from Sattambadi to Arankottai water flowed from the land to the river side and lower down from Vallakurichy to Karuppur. The breaches in this portion will cost nearly Rs. 10,000 to make up. In this connection it would be well to consider two things: (1) the raising of the road to a safe height from Vappur up to Kodalai breach at 66 miles; (2) diverting of the road from this bank to Ponnéri channel right bank from Anakkudi weir downwards.

If the road is diverted, there is no necessity to raise a broad bank. The normal width of 9 feet top width will be enough. By the breach at Kodali sufficient water could be made to escape and surplus over Madras road to keep the lower anicut safe. If by the improvements now sanctioned the lower anicut could be made to pass all the drainage, then necessary drainage sluice may be built at Kodali breach also to keep off all the river floods.

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* And by any breaches on the right bank of the Coleroon.

Ponnéri main channel has its right bank very broad in most places, so much so that it could be converted into a pretty good road in two or three years out of the maintenance grant allowed for the upkeep of road No. XX, viz., Rs. 50 per mile.

13. Statement of breaches with the cost of closing and making up the banks at eroded places is herewith (*vide* statements Nos. 4 to 8).

14. A tracing showing flood and bank levels at every mile all along from upper to lower anicut and tracings of taluk maps showing country swamped and the direction of the flood are also herewith (*vide* plans Nos. 2, 3 and 4).

15. *Ponnéri Main Channel.*—Five breaches occurred in this channel in the 13th mile above Balasundrapuram village (*vide* statement No. 5).

16. *Ponnéri Branch No. I.*—The whole length of the channel was subject to the floods, as the country in and around was one sheet of water. The channel was breached in 24 places and silted up for about a mile at tail end. (For details of breaches and cost of closing *vide* statement No. 4).

17. The cost of making good all flood damages in the sub-division will in round numbers be Rs. 32,000 (*vide* details in statement No. 4).

Musiri Taluk.

STATEMENT showing the height of bank or roadway above F.L. from 10 to 33 miles.

Mileage.	Height of bank above F.L. of 31st July 1896.	Remarks.
10	1·6	Nominal flood bank.
11	1·3	Do.
$\frac{11}{3}$	— 0·3	Water overflowed.
12	3·1	Flood bank begins.
13	4 4	Do.
14	4·7	Do.
15	4·6	Do.
16	4·3	Do.
17	4·8	Flood bank ends.
18	2·6	Salem road forms the left bank. This requires raising.
19	0·6	
20	0·6	
21	0·5	
22	1·5	
$\frac{22}{2}$	2·0	
23	5·0	Flood bank.
24	5·0	
25	5·27	
26	4·4	
27	4·13	
28	3·66	
29	3·1	
30	2·4	Road runs all along here. A guard bank is put up from 29th to 31st miles.
31	3·83	
32	2·50	
33	4·93	

(Signed) T. SUBRAMANIA AIYAR,
Assistant Engineer.

No. I-A.—Statement of breaches in Musiri taluk.

Name of works.	Locality.	Number of breaches in each work.	Length.	Average depth.	Remarks.
1. Agunda Cauvery left bank ..	8th mile ..	1	80	4	
	9th „ ..	2	150	20	
	10th „ ..	3	40	4.5	
	11th mile ..	4	30	3·5	
		5	90	3	
		6	200	3	
		7	90	5	
		8	40	3	
	13th mile ..	9	100	8	
	22nd „ ..	10	80	7·5	
	23rd „ ..	11	80	2·5	

(Signed) T. SUBRAMANIA AIYAR,
Assistant Engineer.

No. 2.—Statement of expenditure incurred on the emergent repairs to Agunda Cauvery left bank during floods.

No.	Nature and situation of work.	Value of work done. RS.	A.	P.	Remarks.
1	Cost of labour employed in Musiri and Umayapuram limits or say in B. Ms. 23 and 24.	261	2	0	Voucher and hand receipt for Rs. 233-8-0 already submitted and for the remaining will be shortly submitted after payments made.
	Materials such as bamboo, cocoa leaves, turf, &c.	53	6	6	
2	Cast of labour employed in Konasalem limit *i.e.*, in B.M. No. 31½.	16	1	6	Voucher will be submitted shortly after payment.
3	Approximate value of work done and the cost of materials, &c., supplied by Contractor Regunatha Aiyar from Mullikarai to Varadarajapuram, *i.e.*, 11¼ to 15 B.M.	100	0	0	Accounts not yet received. As soon as it is received will be submitted for orders.
4	Approximate value of work done by Seelapilaputhoor villagers including cost of materials purchased, &c.	100	0	0	The work has been done under Kudimaramathoo.
	Total quantity of work done ..	530	10	0	

(Signed) T. SUBRAMANIA AIYAR,
North Sub-Division officer.

No. 3.—Statement showing flood levels of 1882—1887 and 1896 on important masonry works in Musiri taluk.

No.	Name of work.	Position or distance from head. M.	Ch.	Flood level. 1882.	1887.	1896.	Remarks.
1	Aryalur head sluice ..	4	45	..	..	345·12	Sill 337·12 M.S.L.
2	Sipplaputhur upper head sluice	4	46	..	..	345·17	Sill 335·92.
3	Do. lower do. ..	5	46	340·63	..	341·51	
4	Karaipattanúr anicut	8	29	..	328·47	329·43	
5	Thottiam Chinna voikal upper head sluice.	8	30	328·47	..	329·43	Sill 317·41.
6	Do. do. sand escape ..	10	29	322·60	..	324·64	Crest 312·53. Top of wing 321.66.
7	Thottiam Chinna voikal lower head sluice ..	11	30	320·52	321·02	321·72	Sill 308·52.
8	Thottiam Peria voikal head sluice ..	13	57	310·19	..	311·04	Sill 300·26.
9	Srinivasanallur channel do. ..	14	30	310·12	..	310·94	Sill 299·47.
10	Kondamani bridge	19	28	..	..	294·34	Crest 284 30. Top of wing. 296·58.
11	Nattu voikal sand escape	22	37	..	..	284·67	Crest 276·54. Top of wing. 282·97.
12	Guage pillar at Musiri	22	47	..	284·35	284 67	
13	Amoor head sluice	28	74	261·49	262·69	263·03	Sill 252·23.
14	Konasalam head sluice	29	66	259·14	260·14	260·74	Sill 249·14.
15	Upper anicut	33	10	..	249·10	249·90	
	Total flood fall in 28 5 miles is 345·12 — 249·90 or 95·22 or per mile ..					3· 34 ft.	

(Signed) T. SUBRAMANIA AIYAR,
Assistant Engineer.

No. 4.—Statement of cost of repairing flood damages in Trichinopoly and Udáiyarpálaiyam taluks.

Name of works.	Cost. RS.
I. Coleroon left bank—	
(*a*) Repairing slips and erosions	5,000
(*b*) Closing breaches	* 10,000
II. Road No. XX.	† 10,000
III. Marudayar flood bank	250
IV. Kaduvoi channel	‡ 300
V. Ponnéri main channel	90
VI. Do. branch channel No. 1	§ 400
Total ...	26,040

* Includes breach at 19, 30, 37 and 53 miles.
† Cost of closing 34 breaches and raising the roadway.
‡ Closing 6 breaches and restoring the eroded portion of bank.
§ Includes cost of closing 24 breaches and clearing tail end of channel.

Statement of cost of repairing flood damages in Musiri Taluk.

	RS.
1 Repairing flood damages to Aryalur and Siplaputhur channel head sluices	150
2. Forming bank from 6½ to 8½ miles	1,000
3. Closing breaches in Karaipottanúr bridge	300
4 Raising bank from 9¼ to 11¼ miles	1,000
5. Restoring groyne at Mallikarai	500
6. Forming guard bank from 18½ to Nattuvoikal head sluice ...	1,500
7. Providing self-acting shutters to drainage culvert in 21st mile of road	200
8. Improving revetments, stone groynes and steps in 23rd mile at Musiri	1,000
9. Providing screw shutters to Nattu Mettu and Pollavoikal head sluices, raising parapet walls	600
10. Raising guard bank in 32nd mile	350
Total ...	6,600
Total for the sub-division ...	32,640

(Signed) T. SUBRAMANIA AIYAR,
Assistant Engineer.

No. 5.—Statement of breaches in Kaduvoy channel.

Name of work.	Locality.	Number of breaches in each work.	Length.	Average depth.	Remarks.
Kaduvoy channel	22nd mile ..	1	30	3	
		2	40	3·5	
		3	50	4	
		4	50	3	
		5	65	5	
		6	250	5	Above Kaduvoy anicut.

Statement of breaches in Marudayar flood bank.

Name of work.	Locality.	Number of breaches in each work.	Length.	Average depth.	Remarks.
Marudayar flood bank	53rd mile ..	1	20	3	
		2	40	3·5	
		3	70	4·0	
		4	60	3·75	
		5	100	6·0	

STATEMENT of breaches in Ponnéri main channel.

Name of work.	Locality.	Number of breaches in each work.	Length.	Average depth.	Remarks.
Ponnéri main channel	13th mile ..	1	15	4	
		2	20	4·25	
		3	18	5	
		4	30	6·0	
		5	40	8·0	

(Signed) T. B. SANKARA SASTRY,
Overseer.

STATEMENT of breaches in No. I Ponnéri branch channel.

Name of work.	Locality.	Number of breaches in each work.	Length.	Average depth.	Remarks.
No. I Ponnéri branch channel ..	The whole length of the channel from head to tail end.	1	9	3	The channel at tail end is much silted up for a distance of over 5,280 feet.
		2	12	4	
		3	14	3	
		4	20	4	
		5	30	3	
		6	11	4	
		7	20	3	
		8	21	3	
		9	30	3·5	
		10	40	3	
		11	45	5	
		12	38	6	
		13	50	4·6	
		14	60	5·5	
		15	70	3·75	
		16	25	5·25	
		17	16	5·50	
		18	73	4·25	
		19	21	7·00	
		20	49	3·25	
		21	61	6·0	
		22	70	6·5	
		23	72	7·0	
		24	80	8·0	

No. 6.—STATEMENT of breaches in Coleroon left bank.

Names of works.	Locality.	Number of breaches in each work.	Length.	Average depth.	Remarks.
Coleroon left bank	19th mile ..	1	860	13	Bank washed away 600 feet above this.
	23rd mile ..	1	250	10	Bank washed both sides 1,900 feet.
	33rd „ ..	1	30	4	
	37th „ ..	1	150	8	
	53rd „ ..	1	85	25	
		2	40	12	
	Total ..	7	1,415	12	

STATEMENT of breaches in Road No. XX.

Name of works.	Locality.	Number of breaches in each work.	Length.	Average depth.	Remarks.
Road No. XX	54th mile ..	1	40	4	
	56th „ ..	2	120	8	
		3	40	7·5	
	58th „ ..	4	80	3	
		5	150	4	
		6	390	6	
		7	780	8	
		8	700	3·5	
		9	560	5	
	60th mile ..	10	440	6	
		11	570	6	
	61st „ ..	12	180	5	
		13	170	3	
		14	140	3·5	
		15	270	3	
		16	120	2·5	
	62nd mile ..	17	100	9·25	
		18	230	6·5	
		19	60	11	
		20	150	6	
		21	480	9·5	
		22	1,430	8	
	63rd mile ..	23	140	5·5	
		24	40	9·5	
		25	70	14	
	64th „ ..	26	580	4·25	
		27	890	3	
		28	150	4	
	65th „ ..	29	370	7·5	
		30	70	7·75	
		31	170	4	
	66th „ ..	32	70	4	
		33	50	7	
	67th „ ..	34	1,078	5·5	
			10,870		

(Signed) T. SUBRAMANIA AIYAR,
Assistant Engineer.

No. 7.

Statement showing loss of crops, wet or dry, of houses, animals and food-grains, seeds, &c., by the flood of 31st July 1896 from upper to lower anicuts.

Number.	Names of villages.	Wet cultivation in acres.	Approximate value of col. in Rs.	Dry cultivation in acres.	Approximate value of col. in Rs.	Number of houses, &c.	Approximate value of col. in Rs.	Number of animals lost.	Approximate value of col. in Rs.	Food-grains and seeds, &c., lost.	Approximate value of col. in Rs.	Remarks.
	Trichinopoly Taluk.		RS.		RS.		RS.		RS.		RS. A. P.	
1	Jevanthinathapuram	60 col.	200	..	..	..	..	..	..	..	..	
2	Kuhur	40 col.	100	..	..	60	3,000	..	..	40 kallams.	100 0 0	
3	Mangammapuram	10 kallams.	25	..	..	..	..	..	..	20	50 0 0	
	Total ..	110	325	..	..	60	3,000	..	..	60	150 0 0	
	Udaiyárpálaiyam Taluk.											
1	Kolamanikam	196	..	1	..	..	..	..	..	..	..	
2	Kandrathetham	29	..	..	..	..	..	..	..	..	..	
3	Tirumalavadi	14	..	..	..	..	..	..	..	..	..	
4	Annimangalam	10	..	20 collams.	..	20	40	..	..	..	..	
5	Karapakam	..	..	40	..	8	30	..	..	..	..	
6	Thirumanur	..	..	0·10	..	..	..	..	..	31 marakals.	3 10 0	
7	Thiruvanganur	..	..	130	..	3	..	..	..	..	..	
8	Varappankurichi	..	..	..	..	8	16	..	..	..	..	
9	Sullangudi	..	..	6	..	7	14	..	..	..	..	
10	Periyamorai	..	..	10	..	..	..	..	..	..	..	
11	Therkeloor	..	..	25	..	..	..	..	..	..	..	
12	Ramanalloor	..	..	12 inam. 314 patta. 607 poramboke.	..	28	270	..	..	..	..	
13	Thuthur	..	..	..	..	..	..	..	..	..	..	
14	Anagudi	..	..	..	..	2	20	..	..	..	..	
15	Arumulai	..	..	..	..	7	50	..	..	Ragi.	2 0 0	
16	Madanathur	4·90	..	..	..	33	261	..	..	Seeds.	33 0 0	
17	Palakmarchi	0·96	..	..	..	25	188	..	..	Do.	247 0 0	
18	Adarkamulai	..	..	..	..	3	30	..	..	Do.	700 0 0	
19	Thenkatchiperumalnatham ..	..	..	..	..	174	1,674	14	124	Paddy.	1,163 0 0	
20	Vakkaramari	14·13	..	..	..	13	49	..	..	Seeds.	69 0 0	
21	Arumangarampettai	..	..	..	..	104	1,637	11	80	Seeds. Other grains.	409 0 0 1,001 0 0	
22	Karuppoor	..	..	..	..	55	940	..	..	Seeds. Seeds.	70 0 0 9 0 0	
23	Kodalai	..	..	..	..	28	190	1	10	Paddy. Ragi.	122 0 0 5 0 0	
24	Vemboogudi	..	..	..	..	8	55	..	..	..	..	
25	Kottagaram	..	..	..	..	5	33	..	..	..	..	
26	Vanavalloor	..	..	..	..	21	111	..	..	..	..	

(Signed) T. B. SANKARA SASTRY,
Overseer.

No. 8.

Statement showing flood levels on important masonry works in Coleroon left bank from Upper to Lower anicuts.

Number.	Name of work.	Position or distance from head, that is upper anicut.		Flood levels.			Remarks.
		Miles.	Chains.	1858 (assumed).	1882.	1896.	
1	Upper anicut	..	..	249·65	..	249·90	Crest 242·40 M.S L.
2	Iyen voikal head sluice ..	..	..	249·65	..	249 90	Sill 236·21, platform 248·81.
3	Surplus sluice in Esanakorai limits.	11	10	213·87	209·43 (1892)	210·68	Sill 201·85.
4	Surplus sluice in Thandankarai.	11	14	213·67	207·16 („)	210·00	Do. 202·49.
5	Surplus sluice in Pachampet, Thandankarai.	13	15	207·13	204·89 („)	207·50	Do. 194·89.
6	Surplus sluice in Periavalachery.	14	37	202·23	202·64 („)	204·97	Do. 190·95.
7	Surplus sluice in Periavalachery.	15	4	201·36	196·25 („)	199·17	Do. 189·00.
8	Surplus sluice in Mailrangam, Periavalachery.	15	16	200·84	195·65 („)	197·98	Do. 188·40.
9	Surplus sluice in Edayathumangalam.	16	9	197·93	193·12 („)	195·62	
10	Surplus sluice in Kuhur limits.	17	14	194 70	191·80 („)	193·80	Sill 182·80.
11	Surplus sluice in Kuhur limits.	18	40	190·23	..	188·44	Do. 180·35.
12	Surplus sluice in Melambil limits.	21	17	131·99	..	178·45	Do. 167·95.
13	Surplus sluice in Kilambil limits.	22	1	179·75	..	175·58	Do. 163·92.
14	Kuliyar anicut	25	40	166·84	..	164·90	Crest 184·85, wing 167·39.
15	Nandyar anicut	26	20	165·03	..	163·25 161·22 (1892 161·86 (1887)	Crest 154·50, wing 164·63.
16	Head sluice to Nandyar channel.	26	22	165·03	..	163 25	Flood 151·23.
17	Tumakuram drainage sluice ..	29	70	..	..	151·85	147·40.
18	Alambady do. ..	30	70	..	..	151·03	141·85.
19	Aramanakuru channel drainage sluice.	36	30	..	..	133·63	124·07.
20	Karapakum drainage sluice ..	37	10	..	130·00	131·49	122·91.
21	Arasanjeri head sluice .	43	..	..	112·90	115·76	101·38, platform 116 58.
22	Marudayar under-tunnel and Ponnéri head sluice.	52	40	..	89·00	93·75	Sill 71·67 F., platform 89·27.
23	Anakudi Calingula ..	58	20	..	79·76	81·76	Crest 76·09.
24	Valakuruchi drainage sluice.	61	30	..	71·60	72·91	
25	Karuppan do.	66	70	..	61·00	64·40	52·51. Floor.
26	Lower anicut	67	35	62·20	60·25	62·40	Crest 51·40.

(Signed) T. B. SANKARA SASTRY,
Overseer.

It is believed that the flood levels of 1858 were correctly recorded at the Upper and Lower anicuts. The levels at intermediate points are not known except at the Grand anicut.

(Intld.) W. H.

21st November 1896.

No. 217 I.

Note by the Chief Engineer for Irrigation.

There has been considerable delay in the submission to this office of the accompanying detailed reports on the Cauvery and Coleroon floods in the Trichinopoly district at the end of July and beginning of August. The reports however are very complete and as regards the Coleroon above the Lower anicut give the information required to fix the proper height of the embankments. The flood line in lower floods was previously known; but the great irregularity in the section of the river made calculations of the level in extreme floods unreliable. The observations made of the flood levels in the Aganda Cauvery and Cauvery are useful as supplementing previous knowledge.

2. The flood of 1882, which was also entirely a Cauvery flood, was lower than that of 1896 by about 9 inches at the Upper anicut, and 2 feet 2 inches at the Lower anicut, the great difference being due to the exclusion from the delta, of water in excess of what the rivers could safely carry. This was effected by means of the Cauvery Vennar regulator, built in 1887. Though not stated in so many words, it has always been recognised, that in the event of such a flood as the recent one, it would be right to save the delta by forcing as much water as necessary into the Coleroon at the Grand anicut. The protection of the delta is not however complete. The right bank of the Coleroon was raised to what was considered the necessary height from the Grand anicut to the Lower anicut, a distance of 49 miles, but the project of raising both banks between the Lower anicut and the sea, a distance of 35 miles, was laid aside owing to the large amount of the estimate, and for other reasons.

3. The Executive Engineer gives a list of breaches in the left bank of the Coleroon. These are chiefly in the bank carrying road No. XX for 13 miles above the Lower anicut. The whole question of raising the Coleroon banks will be investigated by Lieutenant-Colonel Smart. The difficulty about the left bank between the Upper and Lower anicuts is that for the whole 66 miles the country to the north, about 1,100 square miles in area, drains into the river. Down to the Nandiyar anicut, about mile 26, drainage sluices are provided, but below this there are merely openings in the bund, and whether much would be gained by building sluices in these places is doubtful. Sluices would have to be very large to pass the drainage during heavy land floods, without backing up the water to such an extent as to flood the villages.

4. The flood of 1858 though ¾ foot lower than the recent one at the Upper, and ¼ foot at the Lower anicut is still the greatest of which there is any record. It began as a Cauvery flood, and during its continuance a cyclone occurred in the neighbourhood of Trichinopoly, and a large volume of water entered the Cauvery from the south and Coleroon from the north. The river bunds were lower then than now, and the water spread all over the country, a great portion passing over the Tanjore delta. The maximum flood level between Trichinopoly and the Grand anicut is probably 2 feet higher than the 1896 flood, and the District Board can therefore not be allowed to raise the road forming the Cauvery left bank between those two places, unless large flood openings are left for discharge over Sríranġam island to the Coleroon. There may be difficulties in arranging for anything of this sort, as the interested ryots will probably object to having the spill too closely localised. The question of raising the right bank road will also have to be considered in connection with this.

5. With regard to the embankments of the Sríranġam island generally, it is considered inexpedient to strengthen them below Sríranġam.

6. The left embankment of the Aganda Cauvery and of the Cauvery above Trichinopoly require to be raised. Estimates for this will be made out.

7. The Kodamurti right bank on which the safety of Trichinopoly depends should be strengthened as soon as funds can be provided. Owing to the revetment not being high enough the bank was much eroded by waves and would have been made quite unpassable for traffic, but for the measures taken to protect it.

8. The damage done by the floods would have been much more extensive, but for the exertions of the officers and subordinates of the Public Works and Revenue Departments who worked unremittingly, and co-operated as fully as possible in trying to save the banks. The Executive Engineer brings especially to notice the exertions of the Sub-Divisional officer Mr. Subramania Iyer and Supervisor Abdul Latiff. He was himself also most active in preventing or closing breaches and directing the labours of his subordinates and others.

Chepâk,
1st December 1896.

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

Order—No. 1049 I., dated 12th December 1896.

Communicated to the Superintending Engineer, VI Circle, and the Superintending Engineer on special duty, Cauvery Delta Completion Estimate.

2. His Excellency the Governor in Council is pleased to note the good services rendered on this occasion by the officers and subordinates of the Public Works and Revenue Departments.

3. Copy of these Proceedings will be forwarded for the information of the Government of India.

[Here enter No. 1050 I., dated 12th December 1896.]

(True Extract.)

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

To the Superintending Engineer, VI Circle.
" " " V "
" " " on special duty,
Cauvery Completion Estimate.
" Chief Engineer for Irrigation.
" Public Works Department.
" Revenue Department.
" Local and Municipal Department.

Endorsement—No. 1050 I., dated 12th December 1896.

Forwarded accordingly.

(By order.)

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

Exd. J. Henricus.

Note on the drawings [illegible]

His Excellency the Governor
The Hon'ble Mr. H. W. Bliss C.I.E.
The Hon'ble Mr. J. Grose C.I.E.

No. 1049 I 12-12-96

A

PUBLIC WORKS DEPARTMENT,
IRRIGATION BRANCH.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Press / Please send proof. R. 10/12

UNDER date the

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Print with all enclos

From the Supg:Engineer, Sixth Circle, (H.E. No:1824 T.C. dated 11th Novr:1896)

Note by the Chief Engr:for Irrigation (H.E. No: 2171, dated 1st Decr 1896)

Why not do as other Depts do & print long papers which have in any case to be printed, before, instead of after circn? HS

Noted for future guidance

Draft approved by. I now on tour

A.S.H. 3.12.96

BR 8/12/96

Issue

8/12

D.I.

5/12/96

8/12/96

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BR 8-12-96

To,

The Supg:Engineer, Sixth Circle.
" Supg:Engr:Fifth Circle.
" Supg:Engr:on special duty, Cauvery Completion Estimate
" Chief Engr:for Irrign:
" Chief Engr:P.W.D.
" Revenue Department.
" Local & Municipal Dept:

11/12/96

No. 1050 I of 12-12-96.

Endorsement

Forwarded accordingly.

11/12/96

R. D.

Public Works (1896) Department.

CURRENT No. 11237

Order

From The Chief Engineer for Irrig

No. 217 I.

Dated 1st December 1896

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SUBJECT.

Note submitting with remarks full reports of damages caused by the recent floods in the Trichinopoly Division

HC

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87p

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J Wilson

For Chief Engineer for Irrigation.

Chepauk
1st Decr ~~Nov~~: 1896.

Public Works (1896) Department.

CURRENT No. #1/2

R63 I C

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Dated 11th November 1896

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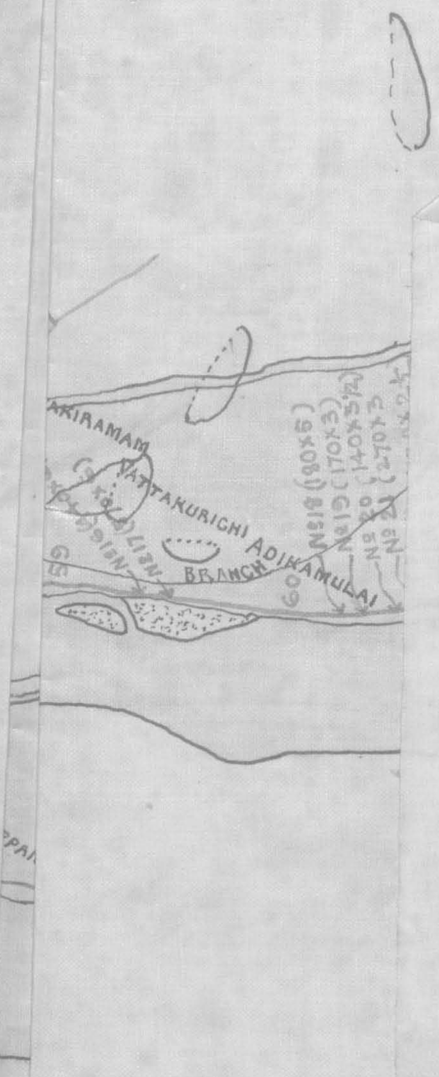

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TRICHINOPOLY DIVISION

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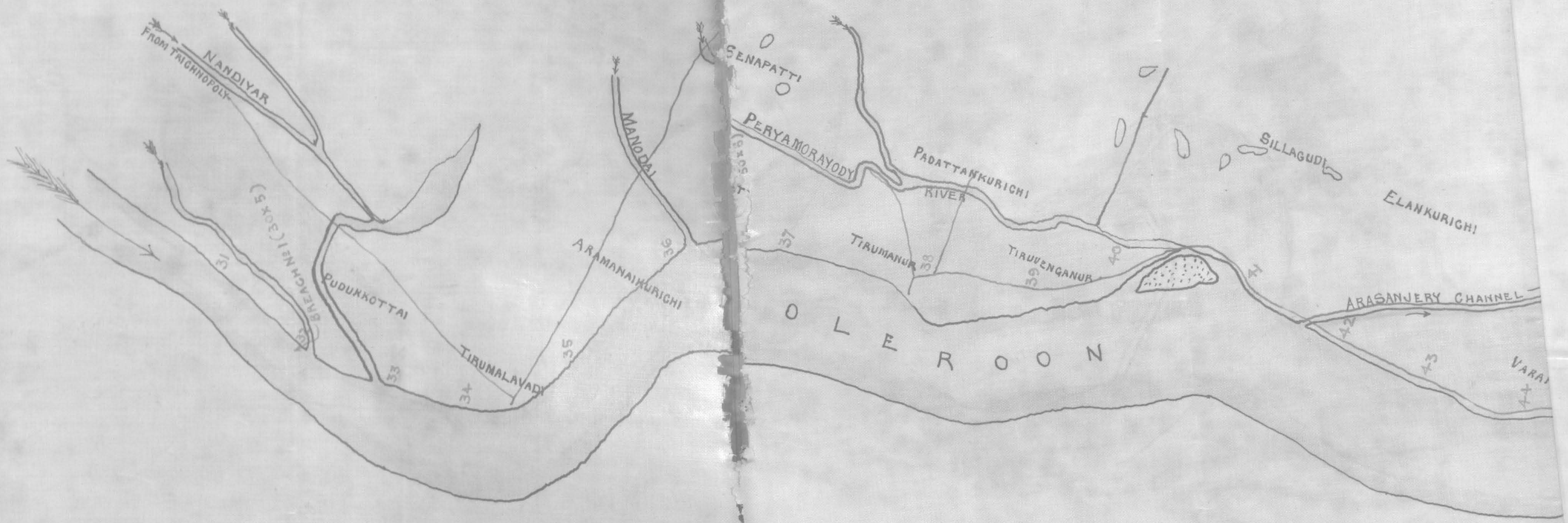


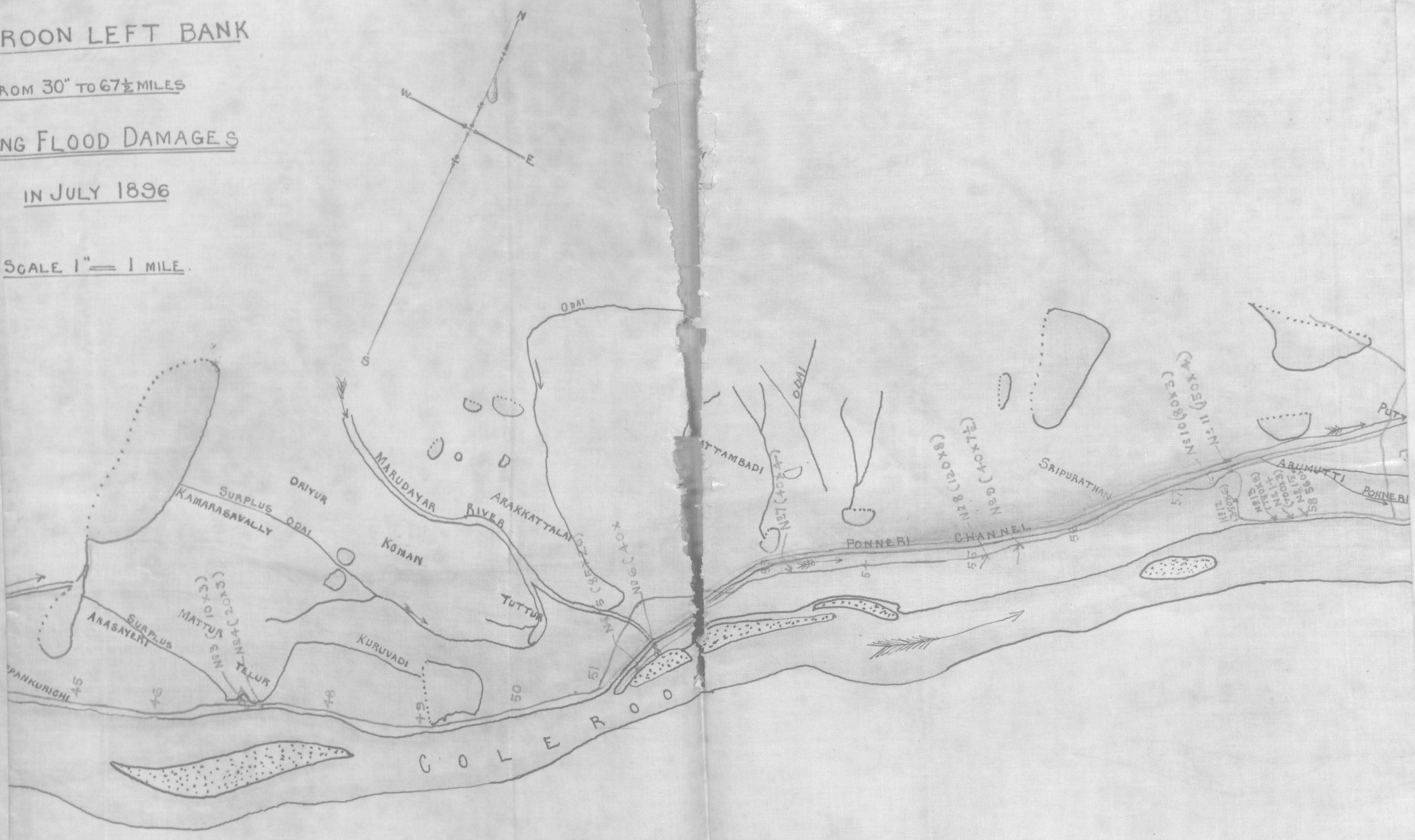
EROON LEFT BANK

T FROM 30" TO 67½ MILES

ING FLOOD DAMAGES

IN JULY 1896

SCALE 1" = 1 MILE.



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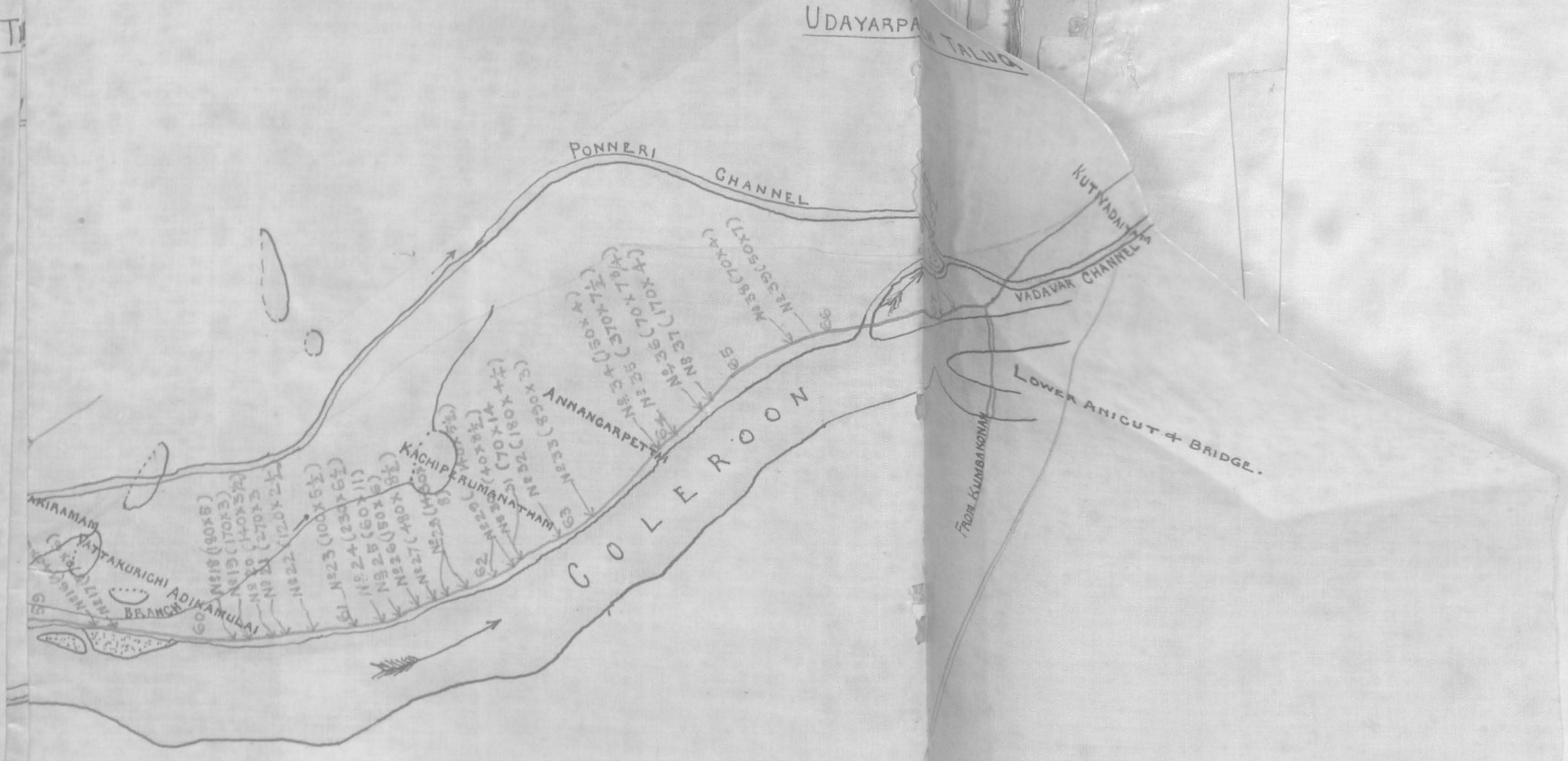

(Sd) T B SANK SASTRY

EER

24.9.96

(Sd) T. SUBRAMANIYA AIYER

ASSIST ENGINEER

25-9-

Lt Col R.E.

SUPG ENGINEER VI CIRCLE.

11-11-96.

) P. ROSCOE ALLEN.

EX: ENGINEER.

TRICHINOPOLY DIVISION.

19.10.96

OFFICE OF THE SUPERINTENDING ENGINEER,

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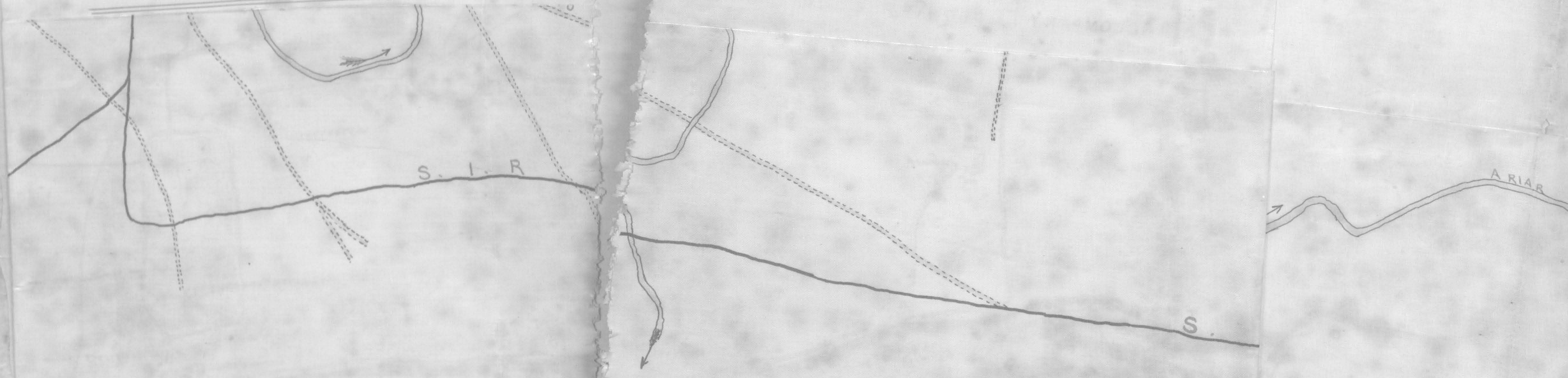
FLOODS OF JULY-189

IN THE.

TRICHINOPOLY TALUG

TO ACCOMPANY FLOOD REPORT No. DA



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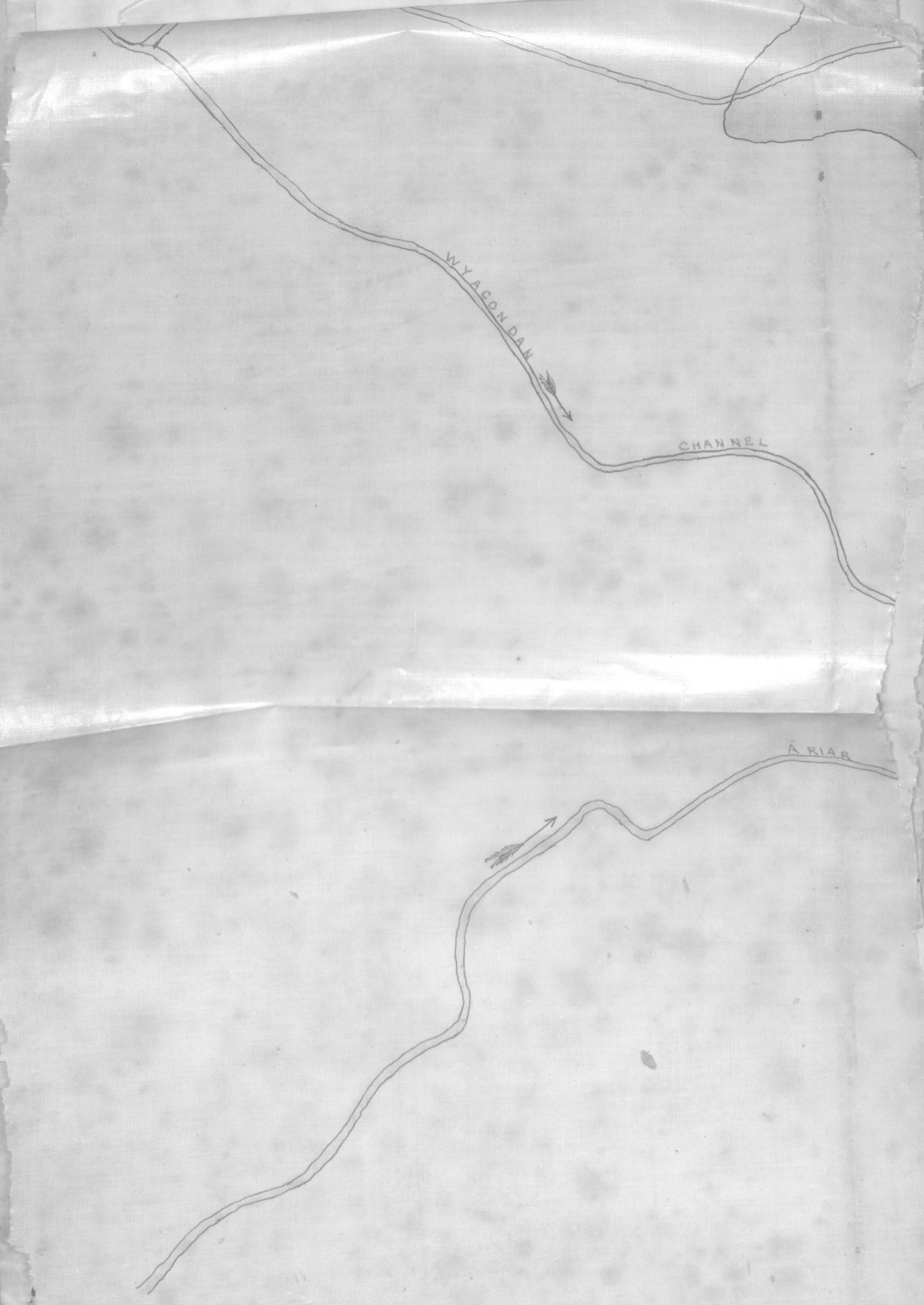

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Trichinopoly, 11 November 1896.

12/-

From Lieut Col. O. V. Boddy RE
~~The~~ Sperintending Engineer,
6th Circle.

To

The Chief Engineer,
for Irrigation.

SIR,

ENCLOSURES. 20.

1. Copy of Executive Engineer's No 4595.E / 19.10.96 with 19 enclosures.

6 Drawing plans sent separately.

In continuation of this office letter No. 1606 T.C dated 1st October 1896, I have the honor to forward herewith copy of Executive Engineer's No 4595.E of the 19th Ultimo, with copies of its enclosures, submitting full report of damages &c caused by the recent floods in the Trichinopoly Division.

I have the honor to be
Sir,
Your most obedient Servant

O. V. Boddy Lieut Col. RE
Supdg Engineer 6 Circle

250—20.4.96

P. W. D. 6th CIRCLE.

CHIEF ENGINEER
FOR IRRIGATION.
15 NOV. 96
No. 637C

FROM
THE SUPERINTENDING ENGINEER,
6TH CIRCLE,

TO
THE CHIEF ENGINEER,

NO.

Dated. }
Received. } 189 .

Enclosure,

OWE 22
11237/56

No: 459 S.E.

Executive Engineer's Office
Trichinopoly. 19 October 1896

From
P. Roscoe Allen Esquire,
Executive Engineer
Trichinopoly Dn.

To
The Superintending Engineer,
VI Circle,
Trichinopoly

Enclosures:-
3. Statements.
1. Map.
1. North Sub Dn Officer's report with 14 Enclos.

Sir,

I have the honor to submit herewith my report on the late floods in the Cauvery which reached their maximum height on the 31st July last.

1. This was the 2nd considerable flood we have had in the Cauvery during the year 1896 the previous one which reached the height of 221.3 on the Cauvery bridge gauge & 242.40 at the upper anicut hea gauge occurred on the 26 June. Both these floods were purely river floods there being absolutely no local rain.

2. As regards the former it will be seen that it is the highest river flood as yet recorded and second only in height to the flood of 1858 which was

Combined land and river flood. The records of the 1858 flood are generally discredited but there is ample evidence to show that it was a considerably higher flood than the late one. From records it would almost appear that the severity of these river floods is progressive. There are I consider two reasons for this the first being that the river is more effectively confined within its banks than formerly and the second that the clearance of the land within the catchment area of the river for cultivation rapidly progresses. Regarding the first of these reasons I would very strongly recommend that it should not be overrated. I do not suppose that since 1858 so much land has been protected by flood banks as to exert any very great influence on the height of the floods in the river at any rate above Trichinopoly town. If my reasoning correct it would appear that the height of the river floods in the future likely to continue to be progressive.

A statement is attached showing

the height the water rose to on 31-7-96 on various masonry works within this division. I do not propose in this report touching on all the minor details of the damage done by the floods as what are not here noted are carefully recorded in the accompanying report of the North Sub Division Officer and to which I would refer you. The Right bank of the Cauvery all the way down from its head at the junction of the Amravaty to the Cauvery bridge near the Trichinopoly town was found efficient. Two very small areas were flooded in the Kulitalai Taluq one by water finding its way through a disused drainage sluice and the other by water passing up through a drainage bridge on the South Indian Railway which passes the drainage of the Kulitalai Kattovari into the Uyakondan Channel.

4. Our difficulties with the set in the 36' mile were aggravated but a favorably situated accretion has formed which encourages me to hope

that an economical solution of our difficulties is not at all impossible.

5. If you will refer to the Taluq Map you will find that an area of 3,500 acres was flooded by water backing up through the Kodamurti bridge – The Kodamurti bridge is an opening left in the flood bank for the discharge of the combined floods of Kodingal drain and Koriar. It is of 6 segmental arches 30 feet span 12.5 feet to springing level. This Koriar and Kodingal together represent the area drained by all cross drainages of the Uyakondan from its head to Trichinopoly and to this must be added the area enclosed between the Uyakondan & the Cauvery Right flood bank – A total area of 512 square miles.

It is more than this; the area should be correctly measured.
J.H.

6. From time to time local agitations have been started for works to protect this area liable to submersion by floods. As will be seen above it is subjected to being flooded by river floods and by land floods. To protect it

it from river floods it would be necessary to fit up the Kodamurti bridge with shutters. This however would certainly not protect it from submersion by land floods and the immense size of any structure fitted up with shutters and of sufficient waterway to pass a land flood stamps the idea as altogether absurd from a commercial point of view. Again it has been proposed to so raise the northern bank of the Kodingal drain as to protect the portion between that drain and the river flood bank. Had such been done it would have protected an area of 1,650 acres from submersion during the late floods. Were such a bank however made it would assuredly be breached during a land flood as the opening left for the discharge of the same would be most inadequate. River floods usually occur at a time of year when cultivation has not advanced very far & thus do not do much damage & as there is no practicable manner evident for protecting this area against land floods I am unable to recommend that any protection work be undertaken.

7. The Kodamurti bund which protects the Trichinopoly town from flooding was eroded by the severe action of the waves. An estimate for raising this bank where necessary and of raising the protecting stone revetment has already been submitted.

8. Below the Cauvery bridge as far as the old Vennar head the right bank is used as a road. Here was where I anticipated that most damage would be done as on a late inspection I found that the surface of this road was for the most part about on a level with the flood of 1893 and which this flood exceeded by 2 feet. Had this bank breached very great damage would have been done. In the immediate vicinity several villages would have been flooded and a very great deal of damage done in the Tanjore District. The difficulty moreover of stopping such a breach would have been immense as the water would have found its way into the old Vennar channel and it can only be imagined what would have happened. Here I was aided by a trusty Subordinate Supervisor Abdul Latif Sahib of whom I cannot speak too highly. From the levels now in my office, of this road it can be seen the flood was nearly everywhere on a level with its surface and in many places for some distance above it. At one time the water actually began to flow over the bank but it was stopped in time, small banks erected and the danger averted. In this I consider the Supervisor has done substantial service to the Govt. & I very strongly recommend him for a substantial reward. His great influence also with the Revenue officials of the Trichinopoly Taluq was exceedingly advantageous to us elsewhere. The levels of this bank are

Ascertain to what extent the Road to Srirangam would act as a Stop bank now in my office and I shall shortly submit an estimate for raising it. In the Srirangam island a bad breach occurred near the Head Sluice of the Srirangam Dattoo Voikal which let the river into this channel. This was caused by 2 trees which were standing on the bank blowing down. This breach was the cause of partially flooding Srirangam town. It did much damage to the Srirangam Dattoo Voikal but the area flooded by it was not great. I was fortunate enough to secure the services of a Company of the 10 Pioneers to assist me in closing the breach and through their good work we have now a secure ring bund round it & cultivation under the channel can proceed without hindrance.

These trees were private property as are nearly all the trees on banks in the Trichy & Tanjore District.

9. Both protecting banks of the Srirangam island above the bridge are too low and too small in section. The Cauvery left bank was completely saturated with water and I am surprised

3/

6P

surprised it did not go in several places. It leaked badly or rather weeped badly. The height of this bank above the highest flood level differs in places but in one or two it was barely 1 foot. Levels of these banks will be taken and estimates submitted for necessary improvements. The road between the bridges is too low - water actually flowed from the downstreamside (to which the flood had uninterrupted access) to the upstreamside. I consider that the District Board should be requested to consider the advisability of raising this portion of the road.

× Quite impossible. This road acts as a most necessary escape and must not be raised throughout, but it might be considered whether certain low parts should be kept at present level and paved and remainder raised.

Below the road the whole of the island was flooded - water had as above noted, uninterrupted access to every part of it. The Uthamachery, Thiruvadasolai, Thiruplathorai, Kondiampettah, Inehur, Kilikudu &ca were completely swamped and had to be abandoned. Such protective banks as these are to this pt free of the island are low & easily of and were breached in many portions. It is considered advisable to keep these banks low and weak as the surplusing facilities from ~~the~~ Cauvery to Coleroon are at present insufficient. One of the disadvantages of the land being flooded in this manner is the undesirable deposit which the floods leave on it. I am told this is not generally appreciable, but in the vicinity of breaches it is very great. I have good reason however for stating that only a few areas in the whole island have been temporarily rendered uncultivable by this means. Every possible precaution to protect cultivation has been taken.

10. For the opposite side of the river the North Sub Dn officer has given such ample details of the damage done by the floods in his carefully compiled re-
I have enclosed a copy.
The the fact that we must
satura ok to our left bank from

the head of the river to Musiri as well as at Musiri itself & devise schemes for its improvement.

11. The danger experienced at the Musiri Kattovaikal Head Sluices and the breaches at the Ponnery Channel Head sluice were both caused in the same manner. The case is one where a long channel with an open head starts from the river banked on the river side and runs a more or less lengthy course to a head sluice. There being no escape to the river the water in entering the open channel runs into a cul de sac piles up & in less than no time the water in the channel near the Head Sluice stands considerably higher than the water in the river close by. In such cases danger must exist & the necessity for an escape near the Head sluice of such channel leading to the river has been amply demonstrated. The utility of such a construction moreover as a means of keeping the leading channel free of silt points further to necessity of

their provision in all such cases.

12. The measures for the protection of the Kuhur village which you have ordered us to take are now well in hand & regarding this & other breaches I am making every endeavour immediately to ensure the present safety of cultivation & further to so push forward repair work as to secure them against any large land flood which may occur later in the year and which the absence of any rain hitherto points to as a very probable Contingency.

13. The advisability of providing with drainage sluices many of the open drainage cuts which exist in the Coleroon left bank below Nandiar anicut has already engaged my earnest attention and I think the late floods made out a case for the one at Puducottah without the necessity of further proof. Plans therefore for this will be submitted soon. The remainder may not prove quite so simple a matter.

14.

14. The question of providing flood banks to the larger drainage lines entering the Coleroon on its left bank will be considered each on its merits. I think something certainly should be done to the left bank of the Marudayar. As high ground here is not so very far off I do not anticipate that this will be a very expensive matter. As to the Coleroon Left bank from Vappur to the Lower anicut, for several reasons this has been kept low — sufficiently low for any considerable flood to spill over it. I believe the reasons for this state of things to be that, considering the uncertainty of the amount of flood water which the Lower anicut will pass it is better to permit the water to spill over this bank than to Concentrate the whole flood and deliver it, as concentrated, at the Lower anicut for discharge for fear that such might endanger the safety of the lower anicut, and again, as a further reason, that in spilling

over there is not much likelihood of extensive damage being done nor of a great area of land being submerged. The above are, I believe the reasons correctly stated.

15. When the flood spilt over the bank the water on the land side very rapidly rose until its level at a point a few miles further down stream was higher than the water in the river and which caused a discharge again into the river as the bank top has a fall corresponding to the fall in the river.

16. It can be seen from the Survey sent herewith that this redischarge occurred in 2 places. The relief therefore afforded to the river by spilling over this bank was but slight and temporary. The road from the Lower anicut to South arcot certainly through breaching afforded some relief but the damage so done must be so very great that I do not think it can be recommended that this road be kept in such a state as

as to breach in the future on the occurrence of another such flood. Such relief cannot therefore be depended on in the future. A section of this road as breached is sent herewith. Altogether 34 breaches occurred in this portion & together with the damage done to the Ponneri channel it will take Rs 11,000 to put right the damage done.

17. In the statement of loss of crop, houses and food grains form No. 14 & 26 appertains to this portion. The figures were supplied by the Revenue Deptt. The total area submerged in this portion was 15,800 acres or 24.687 square miles.

18. From the levels given of the flood from Upper to Lower anicut it will be seen that the surface level is not the same throughout but that the fall lessens as the Lower anicut is approached.

19. If, as I believe it has been ascertained by Colonel Smart, that the Lower anicut cannot in

its present state pass such a flood as the late one without liability to injury, I would submit for consideration extending its waterway sufficiently to enable it to do so. From what I have observed it would appear that the only relief of any moment afforded to the river was through the breaches in the North South Arcot Road. These must have caused very much damage & apart from this I do not think the District Board are at all likely to leave the road in a state which will allow of its breaching so conveniently another time. The Vadavar head & North Rajah voikal head sluice are according to accepted ideas badly situated. I am told that the channels of each silt up badly at the head & such must appear to be the case. I would therefore propose that the idea of removing both to a better situation be considered and extending the Lower anicut across the site they at present occupy.

20. In conclusion it is with much

pleasure that I have to inform you that the North Subdn officer and the rest of the staff of the Division showed great devotion to their duty & did everything in their power to avert danger and to repair damages.

21. I request you will convey my cordial thanks to Mr. Roberts the Head Assistant Collector, the Tahsildar of Musiri and Town Sub Magistrate of Trichinopoly for timely assistance rendered by them.

I have &ca
Signed/ P. Roscoe Allen
Executive Engineer
Trichinopoly Dn

/True copy/

O. V. Bodley
11-11-96. Lt. Col. R.E.
Superintending Engineer
III Circle

1232/96

CHIEF ENGINEER
FOR IRRIGATION.
15 /96
No. R657C

Trichinopoly — Division

Register of anicuts showing the levels of the principal parts and flood levels.

No:	River	Name of anicut	Ascertained flood levels above the crest of anicut				Calculated	Levels of principal parts						Remarks.
								Anicut			Head Sluice			
			Year & Level	Year & Level	Year & Level	Year & Level	M.F.L.	Under Sluice Sill	Crest	Top of wing wall	Sill	Shutter platform	Roadway	
1	Cauvery	Upper anicut	7.50 1896	7.50 1882	4.50 1881	4.70 1883		236.79 236.85		257.45				South branch Crest = 242.20
			7.40 1896	6.50 1882	4.00 1881	4.00 1883		235.44		257.19				North branch crest = 242.44 Calculated M.F.L. is 13.00 over the crest of Cauvery dam Crest of Cauvery dam = 236.24 above M.S.L.
2.	"	Grand anicut	6.80 1887	7.00 1893	7.60 1896	6.10 1892		179.60						Crest = 189.30 Presumed M.F.L is 16.05 over Sill over Regulator. Sill = 184.25.

N.B. These anicuts are in charge of members of the P.W.D. of Tanjore Dn.

(Sd.) Abdul Latif Sahib

(True copy)

(Sd.) P. Roscoe Allen
Ex. Engr. Trichinopoly
19-10-96.

True copy

J. V. Hobday Lt. Col. R.E.
Supdg. Engineer, IV Circle
11-11-96.

CHIEF ENGINEER
FOR IRRIGATION.
15 [illegible] 96
No. 637C
2

R.S.2
1237/96

Trichinopoly Dn.

Statement showing the difference of level between the highest flood of the year 1896 & top of bank at every mile

Miles	Reading to top of bund	Reading to H.F.L of 1896	Difference		Remarks
			Above M.F.L	Below M.F.L	
Ayanda Cauvery Rb (Kulitalai)					
0	4.70	8.08	3.38	"	Stone is missing
1	4.38	8.70	4.32	"	
2	4.50	8.12	3.62	"	Stone is missing
3	4.15	7.30	3.15	"	Do.
4	3.95	6.95	3.00	"	
5	4.65	7.23	2.58	"	
6	5.08	8.80	3.72	"	
7	4.70	8.24	3.54	"	
8	4.40	6.70	2.30	"	
9	4.85	7.95	3.10	"	
10	4.18	6.80	2.62	"	
11	4.82	7.58	2.76	"	
12	2.90	6.30	3.40	"	
13	4.35	7.25	2.90	"	
14	4.00	8.35	4.35	"	
15	4.76	8.75	3.99	"	
16	4.50	6.85	2.35	"	
17	4.30	8.40	4.10	"	
18	4.85	9.68	4.83	"	
19	4.55	8.75	4.20	"	
20	4.20	7.08	2.88	"	
21	4.68	10.28	5.60	"	Stone is missing
22.	1.98	5.90	3.92	"	Do
Trichinopoly					
23	5.00	9.85	4.85	"	
24	4.78	9.85	5.07	"	
25	4.80	10.55	5.75	"	
26	4.65	6.38	1.73	"	

CHIEF ENGINEER
FOR IRRIGATION.
13 [illegible] 96
No. 637C

OWS.3
11237/56

VI Circle

Statement showing the height of Flood levels &c at the different Masonry works in the Trichinopoly Dn.

Cauvery river

No.	Name of Work	Position		Flood levels - Mean Sea level											Remarks
		Miles	Feet	1858	1868	1877	1880	1882	1886	1887	1890	1892	1893	1896	
	Kulitalai Taluq														
1	Kattalai Nattoo Voikal Hd Sluice														
2	Surplus weir									9.85					Sluice gauge reading
3	Do													6.19	above sill
4	Hd Sluice Manavasi					6.25				6.60					Do
5	Surplus Sluice of Kattalai Nattoo Voikal					347.92	346.47	348.22	347.34	349.03				350.32	
6	Head Sluice of Mayanur					3.45	1.97	4.00						5.45	above sill
7	Surplus weir	"						347.30						347.65	
8	Surplus Sluice	"	500											8.63	above sill
9	Do	1	2880											6.52	Do
10	Kumbakeli Surplus Sluice	2	2730											5.08	Do
11	Krishnarayapuram Hd Sluice	3	560								335.41			337.51	
12	Mahadanapuram Hd Sluice	4	630											333.10	
13	Marudur Head Sluice	5	2830											326.21	
14	-Do- Surplus weir	5	3210							328.93				329.29	
15	Vadhyam Hd Sluice	11	880											309.35	
16	Kungavoikal Hd Sluice	15	4160							289.50				290.02	
17	Surplus weir No: 2.	20 21	640 3435		279.68	280.88	279.38 271.87	280.43						281.28 277.12	
	Trichinopoly Taluq														
18	Uyakondan Hd Sluice	22	2810												
19	-do- Surplus weir	22	2840			274.43		274.23		274.33				274.73	
20	Ramavaithalai Hd Sluice	28	3010											276.3	
21	Puduvaithalai Hd Sluice	29	4280											252.32	
22	Elanthavaithalai Hd Sluice	32	350											249.44	
23	Kodamurty bridge	37	2640							210.14				210.64	
24	Surplus sluice	39	980											227.19	
25	Do	3.L.F.	650				219.40							221.02	
26	Do	39	4010											219.82	Mileage Trichy Karur Road
27	Do	39	4340									219.47		222.30	
28	Do	40	220											220.95	
29	Do	4.L.F.	240											221.09	
30	Do	"	"											217.52	
31	Do	41	1320							6.70				7.25	above sill
32	Old Uinar Head	43	3960	210.55				207.51		208.21		206.97	208.65	6.55 208.84	Do

VI Circle

Statement showing the height of Flood levels &ca at the different Masonry works in the Trichinopoly Dn.

14

	No.	Name of Work	Position Miles	Position Feet	Flood levels – Mean Sea Level 1858	1868	1877	1880	1882	1886	1887	1890	1892	1893	1896	Remarks
		[illegible] Taluq														
Cauvery	33	Hd Sluice Srirangam Natto Vaikal	L. Bk. 4	"	"	"	"	"	"	"	236.72	"	236.07	"	237.75	
	34	Cauvery Bridge	9	"	-	-	-	-	-	-	-	-	-	-	223.22	
	35	Surplus Sluice	10	320	-	-	-	-	-	-	-	-	-	-	10.93	above sill
	36	Do	12	90	-	-	-	-	-	-	-	-	-	-	8.76	do
	37	Bridge over Srirangam Nattos Vaikal	12	1550	-	-	-	-	-	-	-	-	-	-	10.60	do
	38	Thiruvadandai Hd Sluice	12	3050	-	-	-	-	-	-	-	-	-	-	10.10	do
	39	Surplus Sluice	12	3960	-	-	-	-	-	-	-	-	-	-	221.92	
	40	Thirupplathorai Hd Sluice	13	150	-	-	-	-	-	-	-	-	-	-	7.80	above sill
	41	Surplus Sluice	13	2940	-	-	-	-	-	-	-	-	-	-	7.15	do
	42	Do	14	"	-	-	-	-	-	-	-	-	-	-	7.42	do
Coleroon	43	Surplus sluice	R. Bk. 7	3960	-	-	-	-	-	-	-	-	-	-	7.46	do
	44	Do	8	1700	-	-	-	-	-	-	-	-	-	-	10.00	do
	45	Do	8	3190	-	-	-	-	-	-	-	-	-	-	10.85	do
	46	Coleroon Bridge	8	3960	-	-	-	-	-	-	-	-	11.25	-	22.22	Sluice gauge reading
	47	Surplus Sluice	8	4720	-	-	-	-	-	-	-	-	"	-	7.25	above sill
	48	Do	9	240	-	-	-	-	-	-	-	-	215.90	-	217.60	
	49	Do	9	1790	-	-	-	-	-	-	-	-	"	-	218.13	
	50	Do	9	2640	-	-	-	-	-	-	-	-	"	-	217.82	
	51	Do	9	3410	-	-	-	-	-	-	-	-	"	-	7.90	above sill
	52	Do	9	4020	-	-	-	-	-	-	-	-	"	-	7.00	do
	53	Do	10	320	-	-	-	-	-	-	-	-	217.87	-	218.63	
	54	Do	11	260	-	-	-	-	-	-	-	-	210.28	-	211.97	
	55	Do	12	4340	-	-	-	-	-	-	-	-	203.63	-	204.78	

Signed/- P. Roscoe Allen
Executive Engineer
Trichinopoly Dn.
19–10–96

(True copy)

J. V. Bosley Lt Col. R.E.
11.11.96. Supg Engineer, VI Circle

VI Circle

Statement showing the height of Flood levels &ca at the different masonry works in the Trichinopoly Dn.

No:	Name of Work	Position		Flood levels - Mean Sea Level											Remarks
		Miles	Feet	1858	1868	1877	1880	1882	1886	1887	1890	1892	1893	1896	

CHIEF ENGINEER
FOR IRRIGATION
13 NOV 96
No. 1375

Copy of Report from M. R. Ry. T. Subrama-
-nia ayyar avergul, assistant Engineer
in charge of North Sub-Division, Trichino
to the Executive Engineer Trichinopoly
Division No 1900 dated 25-9-96:—

I have the honor to submit herewith
my report on the floods down the Cauvery
and the Coleroon in July last as called
for in your No 1054 S dated 14th August
2. The South west monsoon burst early
in June 1896 and water rose rapidly in
the Cauvery from the 21 to 26: when there
was 4.5 feet passing over the North arm
of the Upper anicut crest + 242.40. This
flood was too early for the year and
unlike ordinary floods which used to
subside in one or two days lasted for
over a fortnight from 22nd June to 5th
1896. The flood water on 26-6-96 was
only 2'-3" below that of 87 floods at Upper
anicut and only 1'-6" below at Nundyar
anicut of 87 and one foot below that of
1892.
3. From 6th to 15th July water went down
steadily, notwithstanding the unusually
strong west wind, when water was flush
with the crest of the North arm at Upper
anicut. From 16th it rose again rapidly

Rice. 4
11237/96

1680

Enclos: 14
Tracings 5
Statements 9.
14

Copy of Report from M. R. Ry. T. Subrama-
-nia ayyar avergul, assistant Engineer
in charge of North Sub-Division, Trichinopoly
to the Executive Engineer Trichinopoly
Division No 1900 dated 25-9-96:—

I have the honor to submit herewith my report on the floods down the Cauvery and the Coleroon in July last as called for in your No 1054 S dated 14th August/96.

2. The South west monsoon burst early in June 1896 and water rose rapidly in the Cauvery from the 21 to 26: when there was 4.5 feet passing over the North arm of the Upper anicut crest + 242-40. This flood was too early for the year and unlike ordinary floods which used to subside in one or two days, lasted for over a fortnight from 22nd June to 5th July 1896. The flood water on 26-6-96 was only 2'-3" below that of 87 floods at Upper anicut and only 1'-6" below at Nundyar anicut of '87 and one foot below that of 1892.

3. From 6th to 15th July water went down steadily, notwithstanding the unusually strong west wind, when water was flush with the crest of the North arm at Upper anicut. From 16th it rose again rapidly

so

so much so that on the evening of the 17th there was 3·7 flowing over the crest. It was then anticipated that it would rise higher as there was no abatement in the severity of the west wind; water on the other hand steadily though slowly went down from the 18th to 25th when there was a foot of water on the crest.

4. From the 26th July water rose rapidly again for the 3rd time and reached the unprecedented level of 7-5 ft. over the crest on the 31st July. I say unprecedented as the record of 1858 seems to be incorrect and should be left out of account. There is no record available of the F.L. of 1858 for the portion below Nandiyar anicut to Lower anicut. It is true the bank on left side of the Coleroon has been raised with reference to this assumed F.L. of 1858 from Coleroon bridge at 8½ mile to Kilambil 22 miles. This I consider unnecessarily too high as in no other portion of the whole length of embankment from Tylur to Lower anicut the bank has been raised to this height — more of this afterwards vide para 7 (3).

Probably the explanation is that the gauge level has been altered. The Zero is now at the mean level of the anicut crest. W.H.

5. Precautionary measures taken. On the 28th July when water rose to 6 feet over crest at Upper anicut watchers were kept to patrol the banks and to report of any accidents

accidents; strict orders were sent to village officers to watch the banks in their village limits both day and night and to protect the weak portions with brushwood and stakes or turf and the subordinates and superintendents were made to watch the masonry works and other places which were considered very weak. The Head Assistant Collector with his subordinates watched the banks near Musiri and did excellent work in averting a breach in this portion.

6. Agunda Cauveri.

(1) The L. B. of the Agunda Cauveri is wholly in Musiri Taluq and is 33 miles long. There was no bank formed by our Department in the first 8½ miles, ie up to Karapotamur anicut as the ground itself is high except in places in 7th & 8th miles of water spilled over these low places in the late floods 6 inches to a foot, and breached in two places for a total length of 200 feet. Below Karapotamur anicut there is the Head sluice to Tottiam Chinna voikal where the flood water rose nearly to platform level and as the bund below is not strong it was breached for a length of 150 feet and flooded the fields of Nattam and Puttur.

(2) From 8¾ to 9¼ miles there is no bank. The padugai in this portion belongs to

Kottoputhur

Kottoopauthur Mittadar. The Tottiam Chinna voikal goes under cutting here. The ground to the left or North side of this channel was flush with the late F.L.

(3) From 9/4 to 11/4. the bank is low and weak and not of proper section. F.L overtopped the bank in this portion in places and breached it in two places for a total length of 70 feet and eroded badly for a length of 800 feet in 10th mile, breached in four places for a length of 420 ft. and eroded 1320 ft. in 11th mile, and eroded about a furlong in 12th mile. The R. Stone groyne just above the outlet at 11 M 2 f. has been completely undermined and has slipped down.

(4) Mullikarai Head Sluice. water rose to 3 inches below shutters platform. New revetment below has slipped down.

(5) From 11. M. 2 f. or Mullikarai Head Sluice to 17 miles the Flood bank is in pretty good order and 3' to 4'-6" above late F.L. Only 880 feet of inside slope eroded in the 13th & 15th miles.

(6) From 17 to 22 miles or Musiri the bank is used as the main Road to Salem and is high except between $\frac{18}{0}$ & $\frac{18}{2}$ where a guard bund has been placed which requires strengthening; between $\frac{19}{0}$ & $\frac{20}{0}$ water overflowed 3 inches for 4 furlongs, between $\frac{20}{0}$ & $\frac{21}{0}$ for 870 ft. and nearly 4 furlongs in the 22d mile for a depth of one foot. The road in this portion should be raised to at least 2 feet above late F.L. throughout or a guard bank

placed

placed in front.

(7) Nattoovoikal Kurumbu channel. The Right bank of this channel has been cut away for over a mile, all except the rear slope, and has been breached in two places each 80 ft. long and 3 to 8 feet deep. water rose to one foot of top of bund.

(8) Flood bank from Nattoovoikal Head Sluice to Salem Road. This was also partly eroded and was only 2 to 2½ feet above late F.L. This bank should be raised to 4'-6" above F.L with 9 feet top width and treated as the main bank. There is no necessity on the other hand to maintain the Right bank of Kurumbu channel at such a high level.

(9) Nattuvoikal Head Sluice. water rose to one foot below top of front parapet. The right bank of the Kurumbu channel from the head up to sand escape acted as a dam and water in the channel was one foot higher than that in the river close by. The Head sluice was in danger. It was protected with turf sods and earth thrown in rear of parapet to serve as a backing. It is quite necessary to raise the parapets and road way to a safe height and to remove the bank on the Right side up to sand escape.

(10) Agunda Cauveri L. B. from 22½ to 23. The bank here is subject to very strong current the river here taking a bend and the width of the river very much contracted. The inner slope has been protected with dry stone revetment grouted in places and masonry

steps

steps in 3 places to serve as a bathing ghat for the villagers of Musiri. Water rose to top revetment and overflowed the bathing ghat close to the choultry.

The inner slope of bund was subject to great wave action and was greatly eroded all along up to a furlong below 23rd mile stone. This portion was protected with piles and brushwood and turf bund at a cost of Rs 300 as a breach here would have been disasterous to all the villagers from Musiri to Konasilam.

(11) Umayapuram set. The bund here stood very well although the navel planting and nodassal work done this year were completely washed away. A good berm or Padugai in this portion is very necessary. This can only be secured by lopping off a portion of the Forest on the Right side of the river to allow more waterway. Near the 24th mile stone inner slope has been eroded for a length of 860 feet.

(12) Bank from 24th to 29th miles in good order.

(13) From 29th to 33 the Local Fund Road forms the Left bank. There is however a guard bank in low places which is being raised to required height on Maintenance Estimate up to 31 miles. In 32 mile the road

is

placed

is low. A guard bank here also is necessary.

(14) The height of the bank all along with reference to late F.L. is given in Statement No I, the extent of land flooded is given in tracing No I, and the amount spent in urgent repairs and in preventing breaches is Rs 530 as detailed in Statement No 2.

(15) Precautionary measures required in this portion seems to be the following:—

(1) Providing and strengthening of a Flood bank from Musiri Nattoovoikal Head sluice to Salem road at 22 mile and a guard bank along the road up to Kondamari bridge.

(2) Providing a self acting drainage sluice to the drainage culvert in 22nd mile to prevent the flood water from backing up and flooding the fields of Musiri and Terumengaimalai.

(3) Providing screw shutters to Musiri Nattoo, Mettoo and Pallavoikal. for better and easy regulation.

(4) Rebuilding in slipped portion and raising to one foot above late F.L. the revetment and steps at Musiri.

(5) Allowing proper water way in 23 mile by denuding as much of the Forest on Right side as is absolutely necessary and reserving it as river proper.

to serve as a bathing ghat

(16) At Nattam and Konasilam the flood water will back up and must inundate the fields. It will not be possible except by costly works to provide proper flood banks.

(17) The River bank is sufficiently high in most places. The little raising that has to be done can be done out of the maintenance estimates.

(18) The R. Stone groynes at (1) Mullikarai (2) Musiri and (3) Umayapuram require repacking where displaced.

(19) Two new sluices were built to Aylur and Siplaputhur channels in the 5th mile. As the masonry was green when the floods came and as there was no time to pack revetments in front and as the water rose to tops of wings a breach occurred between the two sluices and washed away the wings of both the sluices adjoining. This could set right at a cost of Rs 150.

The F.L. must have been given wrongly in the design.

(20) A statement No 3 of observed Flood levels at important masonry works is herewith submitted. It will be seen from this that the levels now recorded are higher than that of 1882 and 87 and that the average flood fall per mile is 3.34 feet.

(21) The approximate cost of repairing the damages and making improvements will be Rs 6,600 as detailed in statement No 4.

7. The Coleroon from Upper anicut to Nanchar anicut 26 miles.

(1) Iyenvoikal Head Sluice. Water rose 6 inches above rails of screw boxes i.e. to + 249.90. The Head sluice is in good condition and the parapets sufficiently high. The revetment in front on the right slipped after the floods subsided for a length of 23 feet right up to bed level. This is due to the insufficient slope now given ½ to 1. It should be repacked to a slope of 1 to 1 and grouted.

(2) River bank from head up to 8½ miles. This portion was subject to heavy water pressure from the River side as the main Iyen channel runs close by on the outside and there being no berm in most places the bank slipped badly in 30 places and a little below Thogdayur bridge water leaked so badly that a breach was considered imminent. All the slips were well protected timely and breaches averted. The banks are no where less than 4 feet above late F.L. It would be better to conserve the channel and form a good berm in rear of bank so as to make it safe against future floods

floods.

(3) From 8½ to 22 miles:- The bank in this portion was raised on an Estimate sanctioned for Rs 82,300 some years ago 4'-6" above the assumed flood level of 1858 - This is now 7 to 10 feet above late flood level.

In 1858 when this flood bank was non-escistent and when the country was swamped everywhere it is understood how this record of 58 was made out. The Kuhur village in the 18th mile was left unprotected and a nasty bend allowed in the bund at 19 miles and as the same was made up of mere sand with a coating of mud a big breach occurred here 860 feet long and bank washed away one half for about 500 ft. above, and the village of Kuhur was flooded and 60 houses fell down. The river slope of bund has been eroded in several places though not materially and at drainage sluices on the outer slope, also for some distance above. A little below drainage sluice at 22 miles the flood water from Kuhur village and breach at 19 miles breached the bank for a length of 250 feet right up to ground level and there is only 40 feet of bank to support the masonry - It

It was well this breach had occurr or the masonry would have been washed away.

Malattar and Kaduvoi channels were also breached by the breaches abovementioned, viz in 18 and 19 miles and the villages of Kilambil, Mangammapuram and Ariyur were in danger but were saved only by the breach at 22 miles.

(4) From 22 to 26 miles. Road No. XX forms the Left bank. There is however a guard bank placed all along which is 2 to 4 feet above late F.L.

(5) Kuliyur and Nandiar anicuts. water backed up by these two anicuts and swamped the fields of Ariyur, Kalligudi, Alangudi and Pettai. It might perhaps be better to provide proper regulation with screw gearing shutters for these so that these villages may not be affected by River floods.

(6) Statement of breaches, cost of repairing flood damages and the approximate amount of loss of crop and damage to houses &c. will be found in Statement Nos. 4 to 8.

8. Nandiar anicut to Vappur 52 miles:-

(1) Nandiar Head Sluice. water rose to 8 inches below top of parapet. The Superintendent

-tendent took much pains to protect the masonry with turf sods and earth thrown at the approaches. The flood bank up to Vadani was also protected by him as the water rose to 1-6" to 2 feet below top of bund and a breach here would have caused loss to Nandyar System.

(2) Nandiar anicut:- water rose 8.75 ft above crest or to +163.25. The flood level of 87 was +161.66 or 1.59 lower than the late F.L; and 5 inches higher than the F.L. of 1892. viz +161.22.

(3) The parapets of the Head Sluice must be raised and Establishment sheds built for better up-keep and protection of the Head works in times of emergency.

(4) Bank from 26 to 34 miles. The bank in this portion is 1'-6" to 3'-0" above late F.L. and requires raising to 4'-6" throughout above it.

(5) Breach at Puducottah. 32 mile. water backed up by this breach and swamped 240 acres of wet crops and totally destroyed them. The village of Puducottah was saved only by the villagers working constantly day and night forming a flood bank round their village and breaching our bank just above their village for a length of 30 feet. The amount of loss is approximately Rs 3,000. It is quite necessary to build a masonry drainage Sluice provided

with

with self acting shutters. The fields were nearly under 5 feet of water.

(6) Bank from 34 to 39. In pretty good order except that a breach occurred above Karapakam village in 37 mile for a length of 150 feet. The villagers of Annimangalam protected the banks in their village limits and averted a breach at old breach site. The flood bank to the west of their village requires raising and extending to meet the high ground. The breach at Karapakam has already been closed at a cost of Rs 180.

(7) Bank from 40 to 41. Here there is Vilupanakurichy Odai with an open cut. water backing up through this swamped a good portion× of the country from Tiruvenjiam to Peramorai. From reports received from Revenue authorities it appears that 171 acres of dry crops were destroyed as also 22 houses. Owing to want of rain the land submerged was not cultivated otherwise the damage done would have been great. The bank for about five furlongs above the open cut was entirely washed away excepting the inside slope. This is due to the rush of water both when the flood entered and receded. It is very necessary to build a drainage sluice here also as at Puducotai.

× 750 acres.

(8) A little above Peramorai village there is another small open cut which has also done proportionate mischief this time. A small drainage sluice will suffice as at Tirumanur.

(9) Arasanjeri Head sluice:- water rose to + 115.75 or 0.8 below platform level. No damage done to the masonry. The water down this sluice overtopped the bund of Arasanjeri tank and scoured it very badly and notwithstanding the timely care and trouble taken by the ryots breached the bund in two places and the worst of it is that a considerable portion of the water came back to the river by the Head Sluice when the river subsided. This Head sluice has its sill on too high a level with reference to the river here and unless some Kurumbu works are provided and its head kept near Viluppanakurichy this channel will be very ineffective for irrigating 780 acres now under it and the tank.

It can't be so × very high if the water comes back through it from the tank

(10) Bank from 41 to 52. The bank here is in pretty good order and is 1'-6" to 3 feet above late F.L. It requires raising to 4'-6" above it. The Thelur Odai at 47 miles has also done considerable damage to Thelur, Narianur. Kuravadi + Thuthur villages and the fields being dry and uncultivated the loss to crop and seedlings were not much. Four houses in Thelur fell down and the village of Kuravadi was under water. A drainage sluice here also is very necessary.

(11) Varappukurichi drainage sluice. This was built in 1895 and has acted very well during late floods. The villagers state that they would have suffered very much as their neighbours but for this.

(12) Ramanallur Island. There are two villages in this, the upper one of which was fully flooded and 28 houses fell down. The lower village was badly eroded near the temple which is in danger of being undermined unless protected. The dry crops to the extent of 332 acres were entirely destroyed and a good portion of the island silted up with sand. The only hope of protecting the fields and the villages in the island is by forming a strong flood bank all round.

This is not a Govt. village

9. Ponneri Kurambu channel. water rose to + 95.0 at 52 miles and obstructed as it was by the old Head sluice rose to + 93.75 at new Head sluice, and Nandyar under tunnel or 3 inches above front parapet. The earth connection on Left side gave way and

a

a big breach (80' × 25') was formed and with it the Left wing and return fell down. The ground in rear of training wall was swept away 10 feet deep as also the return of the latter and a big scour was formed beyond for a length of 100 feet 15 feet deep. As flood subsided the Kurumbu channel also was silted up to a depth of 6 feet for the first 600 feet and an average of two feet below up to old Head sluice. With great difficulty the breaches above the Under tunnel were closed and bank made up and protected. The sand in Kurumbu head is being removed. As the right return of the Head sluice is also cracked and as it is not so very safe to keep the Head sluice at its present place as there is a heading up of more than 3 feet and as a breach like this may endanger the safety of the tunnel itself it would be better to build a new Head sluice at site of old one near Vappin sheds. ?

(10) Marudayar Under tunnel. The flood level rose to + 91.00 or 3 inches over the Left side wall and removed the earth connection on the right downstream side for a length of 40 ft. for a depth of 10 feet.

This

This has now been made up and protected with modasal work. There is a flood bank on the left side of Marudayar extending from the tunnel to Road No. XX which has breached in five places (vide statement No. 6). This bund must be made up to proper height if it is to be maintained.

11. River bank from Under Tunnel to Sattambadi Bridge. This bank forms the R. B. of the Ponneri channel and water rose on both sides to the top of bank and no serious damage occurred. Water overflowed over the L. B. of the channel nearly 2 feet in several places. This requires raising.

12. Road No. XX from 52 to 67½ miles or Lower anicut. This road was pur~~porly~~posely kept low to prevent accidents to Lower anicut, but it will be seen from the actual facts stated below that there is no necessity whatever to keep miles of bank at such a low level. All the flood water down the Coleroon has found its way over the Lower anicut except what passed over the Madras Road× by the breaches in it in the 154th mile. A cross section of this

road

× and by any breaches on the R.B of the Coleroon.

road along the road-way is herewith from which it will appear that only a small quantity of water surplussed over this ~~this~~ road. It is evident from this and from actual observation that the numerous breaches 34 in all were not all caused by the river water entering the land side. The flood water entering by open cuts and breaches up above breaches the road lower down from the land side - for instance from Sattanbadi to Arankottai water flowed from the land to the river side and lower down from Vallacurichy to Karuppur. The breaches in this portion will cost nearly Rs 10,000 to make up. In this connection it would be well to consider two things

(1) the raising of the road to a safe height from Vappur up to Kodalai breach at 66 miles.

(2) Diverting of the road from this bank to Ponneri channel Right bank from Anakkudi Weir downwards.

If the road is diverted there is no necessity to raise a broad bank - The normal width of 9 feet top width will be enough. By the breach at Kodali sufficient water could be made to escape and surplus over Madras Road to keep the Lower anicut safe. If by the improvements now sanctioned the Lower anicut could be made to pass all the drainage. then necessary drainage sluice may be built at Kodali breach also to keep off all the river floods.

Ponneri Main channel has its Right Bank very broad in most places so much so that it could be converted into a pretty good road in two or three years out of the maintenance grant allowed for the up-keep of Road No XX viz Rs 50 per mile.

13. Statement of breaches with the cost of closing and making up the banks at eroded places is herewith (vide Statement Nos 4 to 8)

14. A tracing showing flood & bank levels at every mile all along from Upper to Lower anicut and tracings of Taluq maps showing country swamped and the direction of the flood are also herewith (vide plans Nos 2.3+4).

15. Ponneri Main Channel - Five breaches occurred -

occurred in this channel in the 13 mile above Balasundrapuram village (vide statement No. 5).

16. Ponneri Branch No. I. The whole length of the channel was subject to the floods as the country in and around was one sheet of water. The channel was breached in 24 places and silted up for about a mile at tail end. (For details of breaches + cost of closing vide Statement No. 4).

CHIEF ENGINEER
FOR IRRIGATION.
15 [illegible] 96
No. 627c
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17. The cost of making good all flood damages in the Sub-Division will in round numbers be Rs. 32,000 (vide details in Statement No. 4)

/True copy/
Sgd/ P. R. Allen
Exe: Engineer
Trichy Dn 19-10-96

/True copy/

Dc 5-5
15237/56

J. V. Bodley Lt Col. R.E.
11.11.96. Supg Engineer, VI Circle

Musiri Taluq.

Statement showing the height of Bank or Roadway above F.L. from 10 to 33 miles.

Mileage	Height of bank above F.L. of 31-7-96	Remarks.
10	1.6	nominal flood Bank.
11	1.3	Do.
11/3	− 0.3	water overflowed.
12	3.1	Flood Bank begins.
13	4.4	Do.
14	4.7	Do.
15	4.6	Do.
16	4.3	Do.
17	4.8	Flood Bank ends.
18	2.6	Salem Road forms the left Bank. This requires raising.
19	0.6	
20	0.6	
21	0.5	
22	1.5	
22/2	2.0	
23	5.0	Flood Bank.
24	5.0	
25	5.27	
26	4.4	
27	4.13	
28	3.66	
29	3.1	
30	2.4	Road runs all along here. A guard bank is put up from 29 to 31st miles.
31	3.83	
32	2.50	
33	4.93	

/Signed/ T. Subramonia aiyar
Assistant Engineer

/Sd/ P. Roscoe Allen
Exe: Engineer
Trichy Dn 19-10-96

/True copy/

J. V. Bodley Lieutt. Col. R.E.
11.11.96 Supg. Engineer 6th circle.

Dc. 2312

CHIEF ENGINEER
FOR IRRIGATION.
15 NOV. 96
No. 637c/6

No. 1.a.

27

Musiri Taluq.

Statement of Breaches in :-

Name of works	Locality	No. of breaches in each work.	Length	average depth.	Remarks.
1. Agunda Cauvery Left Bank.	8th mile	1	80	4	
	9th "	2	150	20	
	10th	3	40	4.5	
		4	30	3.5	
	11th	5	90	3	
		6	200	3	
		7	90	5	
		8	40	3	
	13th.	9	100	8	
	22	10	80	7.5	
	23	11	80	2.5	

(Signed) T. Subramania aiyar
assistant Engineer.

(Signed) P. Roscoe Allen
Executive Engineer
Trichy DL
– 19-10-96

(True Copy)

J. V. Hadley Lieut. Col. R.E.
11-11-96.
Supt. Engineer 6th circle.

CHIEF ENGINEER
FOR IRRIGATION.
15 Nov 96
No. 637

No 2

Statement of expenditure incurred on the emergent repairs to Agunda Cauvery Left Bank during floods.

No	Nature and situation of work.	value of work done. Rs	a	p	Remarks.
1	Cost of labor employed in Musiri and Umayapuram limits or say in B. Ms. 23+24	261	2	-	voucher and Hand receipt for Rs 233-8-- already submitted & for the remaining will be shortly submitted after payments made.
	Materials such as bamboos Coacoa leaves turf &c	53	6	6	
2	Cost of labor employed in Konasalem limit ie in B. M. No 31½	16	1	6	voucher will be submitted shortly after payment.
3	Approximate value of work done and the cost of materials &c supplied by Contractor Regunatha aiyar from Mullikarai to Varadarajapuram (ie) 11¼ to 15 B. M.	100	"	"	accounts not yet received - As soon as it is received will be submitted for orders.
4	Approximate value of work done by Seelapilaputhoor villagers including cost of materials purchased &c	100	"	"	The work has been done under Kudi-maramathoo.
	Total quantity of work done. Rs	530	10	"	

|Signed| T. Subramonia aiyar.
North Sub- Dn Officer

|Sd| P. Roscoe Allen
executive Engr 19-10-96

|True Copy|

11-11-96 J. V. Worsley Lieut Col RE
Supg Engineer 6t circle

CHIEF ENGINEER
FOR IRRIGATION.
15 Nov. 96.
No. 637

8-3-96
11237/96

No. 3

Statement showing flood levels of 1882 – 1887 and 1896 on important masonry works in Musiri Talug.

No.	Name of work.	Position or distance from Head.		Flood Level.			Remarks.
		M	Ch	1882	1887	1896	
1	Aryalur Head Sluice	4	45			345.12	Sill 337.12 M.S.L.
2	Sipplaputhur Upper Head Sluice	4	46			345.17	Sill 335.92
3	Do. Lower Do.	5	46	340.63		341.51	
4	Karaipottanur anicut	8	29	.	328.47	329.43	
5	Thottiam chinna voikal Upper Head Sluice	8	30	328.47		329.43	Sill 317.41.
6	Do. Do. Sand escape	10	29	322.60		324.64	Crest 312.53 Top of wing 321.66
7	Do. Do. Lower Hd. Sluice	11	30	320.52	321.02	321.72	Sill 308.52.
8	Do. Peria voikal Head Sluice	13	57	310.19		311.04	Sill 300.26
9	Srinivasanallur Chl. Do.	14	30	310.12		310.94	Sill 299.47
10	Kondamani Bridge	19	28			294.34	Crest 284.30 Top of wing 296.58
11.	Nattu voikal sand escape	22	37			284.67	Do. 276.54 Do. 282.97
12	Guage Pillar at Musiri	22	47		284.35	284.67	
13	Amoor Head Sluice	28	74	261.49	262.69	263.03	Sill 252.23.
14	Konasalam Head Sluice	29	66	259.14	260.14	260.74	Do. 249.14
15	Upper anicut	33	10		249.10	249.90	

Total flood fall in 28.5 miles is 345.12 – 249.90 or 95.22
or per mile – 3.34 ft.

(Signed) T. Subramonia Aiyar
Assistant Engineer

(True Copy)

(Signed) P. Roscoe Allen
Executive Engineer
Trichy Dt. 19-10-96

O. V. Boddy Lieutt. Col. R.E.
11.11.96.
Supg. Engineer 6th Circle

10/11

No. 2312

No. 4

Statement of cost of Repairing Flood Damages in Trichinopoly and Udayarpalayam Taluqs.

Names of works.	Cost Rs	Remarks.
I Coleroon Left Bank.		
(a) Repairing slips + erosions.	5,000	
(b) closing breaches.	10000	Including breach at 19. 30. 37 + 53 miles.
II. Road No. XX.	10,000	Cost of closing 34 breaches + raising the roadway.
III Marudayar Flood Bank.	250	
IV Kaduvoi Channel	300	Closing 6 breaches and restoring the eroded portion of bank.
V Ponneri main channel.	90	
VI Ponneri branch channel No. 1.	400	Includes cost of closing 24 breaches and clearing tail end of channel.
Total Rupees.	26,040	

Statement of cost of Repairing Flood Damages in Musiri Taluq.

1. Repairing flood damages to Ariyalur and Sipla-puttur channel Head Sluices	150	
2. Forming bank from 6½ to 8½ miles	1,000	
3. Closing breaches in Karaipottanir Bridge	300	
4. Raising bank from 9¼ to 11¼ miles	1,000	
5. Restoring groyne at Mallikarai	500	
6 Forming guard bank from 18½ to — Kattuvoikal Head Sluice.	1500	
7. Providing Self-acting shutters to drainage culvert in 21st mile of road.	200	
8 Improving revetments stone groynes. and steps in 23rd mile at Musiri	1000	
9 Providing screw shutters to Kattu Mettu and Pallavoikal Head Sluices raising parapet walls.	600	
10. Raising guard bank in 32nd mile.	350	
Total Rupees.	6600	
Total for the Sub. Dn. Rs.	32,640	

|Signed| T. Subramonia Aiyar
Assistant Engineer

|True copy|

J. V. Bodley Lieut. Col. RE.
11-11-96. Supg. Engineer 6th Circle.

|Signed| P. Roscoe Allen
Executive Engineer
19-10-96.

CHIEF ENGINEER
FOR IRRIGATION
15 .. 96
No. 63 Tc/10

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1227/56

No. 5.

Statement of Breaches in Kaduvoy channel.

Name of work.	Locality.	No. of breaches in each work.	Length	average depth.	Remarks.
Kaduvoy channel.	22nd mile.	1	30	3	
		2	40	3.5	
		3	50	4	
		4	50	3	
		5	65	5	
		6	250	5.	above Kaduvoy anicut.

Statement of Breaches in Marudayar Flood Bank.

Marudayar Flood Bank.	53rd mile	1	20	3	
		2	40	3.5	
		3	70	4.0	
		4	60	3.75	
		5	100	6.0	

Statement of Breaches in Ponneri Main Channel.

Ponneri Main Channel	13th mile	1	15	4	
		2	20	4.25	
		3	18	5	
		4	30	6.0	
		5	40	8.0	

|Sd| T. B. Sankarasastry
Overseer.

|True copy|

|Sd| P. Roscoe Allen
Exe: Engineer
Trichy Dn. 19/10/96.

O. V. Bodley, Lieutt. Col. R.E.
11.11.96 Supg. Engineer 6th circle.

CHIEF ENGINEER
FOR IRRIGATION.
13 MAY 96
No. 637C
11

Ro 3.11
1123/96

Statement of Breaches in No. I Pouneri Branch channel.

ame of work.	Locality	No. of breaches in each work.	Length	average depth	Remarks.
No. I Pouneri Branch Channel	The whole length of the Channel from head to tail end.	1	9	3	The channel at tail end is much silted up for a distance of over 5,280 feet.
		2	12	4	
		3	14	3	
		4	20	4	
		5	30	3	
		6	11	4	
		7	20	3	
		8	21	3	
		9	30	3.5	
		10	40	3	
		11	45	5	
		12	38	6	
		13	50	4.6	
		14	60	5.5	
		15	70	3.75	
		16	25	5.25	
		17	16	5.50	
		18	73	4.25	
		19	21	7.00	
		20	49	3.25	
		21	61	6.0	
		22	70	6.5	
		23	72	7.0	
		24	80	8.0	

CEI 10/11

He 2319 B.H.

Rs.5.12
1237/56

No. 6

Statement of Breaches in Coleroon Left Bank.

names of works	Locality	No. of breaches in each work	Length	average depth.	Remarks.
Coleroon Left Bank.	19th mile.	1	860	13	Bank washed away 600 ft. above this
	23rd mile	1	250	10	Do. Do. both sides 1900 feet.
	33 "	1	30	4	
	37 "	1	150	8	
	53 "	1	85	25	
		2	40	12	
	Total	7	1415	~~12~~	✓

Statement of breaches in Road No. XX.

name of works	Locality	No. of breaches in each work	Length	average depth.	Remarks
Road No. XX.	54th mile.	1	40	4	
	56 "	2	120	8	
		3	40	7.5	
	58th "	4	80	3	15
		5	150	4	
		6	390	6	5
16	8	7 6	780 6	8	
		8	700	3.5	
		9	560	5	
	60th "	10	440	6	
		11	570	6	
	61st "	12	180	5	
		13	170	3	
		14	140	3.5	
		15	270	3	
		16	120	2.5	
	62nd "	17	100	9.25	
		18	230	6.5	
		19	60	11	
		20	150	6	
		21	480	9.5	
		22	1430	8	
	63rd "	23	140	5.5	
		24	40	9.5	
		25	70	14	
	64th "	26	580	4.25	
		27	890	3	
		28	150	4	
	65th "	29	370	7.5	
		30	70	7.75	
		31	170	4	
	66th "	32	70	4	
		33	50	7	
	67th "	34	1078	5.5	

10870 + 1415 = 12,285

|True copy|

S/d T. Subramania Aiyar

S/d P. Roscoe Allen
Exe: Engr. Trichy Dt.

10/11.

11-11-96 O. V. Hadley Lieut.-Col. R.E.
Supg. Engineer 6. circle.

No. 2319 BM

CHIEF ENGINEER
FOR IRRIGATION.
15 Nov. 96
No. 637c/12

5-12
237/96

No. 7

Statement showing loss of crops wet or dry, of houses, animals and food grains, seeds, &c by the flood of 31-7-96 from Upper to Lower anicuts.

Number	Names of villages.	Wet cultivation in acres.	approximate value of Col in Rs.	Dry cultivation in acres	approximate value of Col in Rs.	No. of houses &c	approximate value of Col in Rs.	No. of animals lost.	approximate value of Col in Rs.	Food grains & seeds &c lost	approximate value of Col in Rs.	Remarks.
	Trichinopoly Taluq											
1	Jevanthinathapuram	60 Col.	200	-	-	-	-	-	-	-		
2	Kuhur	40 Col	100	-	-	60	3000	-	-	40 Kullam	100	
3	Mangammapuram	10 Kullam	25	-	-	-	-	-	-	20	50	
	Total	110	325	-	-	60	3000	-	-	60	150	
	Oodayarpalayam Taluq.	acres										
1	Kolamanikam	196	-	1								
2	Kandrathetham	29										
3	Tirumalavadi	14										
4	Annimangalam	10	-	20 Collapus		20	40					
5	Karapakam	-	-	40		8	30					
6	Thirumanur	-	-	0-10								
7	Thiruvangaaur			130		3				31 marakals	3-10--	
8	Varappankurichi					8	16					
9	Sullangudi	-	-	6		7	14					
10	Periamorai			10								
11	Therkeloor			25								
12	Ramanalloor			12 Inams 344 Patta 607 Poramboke		28	270					
13	Ihuthur	-	-	-	-	-	-	-	-	-	-	
14	Anagudi					2	20					
15	Arumulai					7	50			Ragi	2	
16	Madanathur	4-90				33	261			Seeds	33	
17	Palakmarchi	0-96				25	188			seeds	247	
18	Adaikamulai					3	30			seeds	700	
19	Thenkatchiperumalnatham					174	1674	14	124	Paddy	1163	
20	Vakkaramari	14-13				13	49			seeds	69	
21	Arumangarampettai					104	1637	11	80	seeds other grains	409 100	
22	Karuppoor					55	940			seeds	70	
23	Kodalai					28	190	1	10	seeds. Paddy Ragi	9 122 5	
24	Vembooguḍi					8	55					
25	Kottagaram					5	33					
26	Vananalloor					21	141					

17-1

(Signed) T. B. Sankara Sastry.
Overseer.

(True copy)

(Signed) P. Roscoe Allen
Executive Engineer
Trichy Dn. 19-10-96

11-11-96. J. V. Hodley Lieut. Col. R.E.
Supg. Engineer 6th Circle.

CHIEF ENGINEER
FOR IRRIGATION.
15 [illegible] 96
No. 637C/13

CHIEF ENGINEER
FOR IRRIGATION.
15 [illegible] 96
No. 637C/14

.174
7/36

Rs 5.15
1123)/36

1	Arasanakuruchi — D° —			
20	Karapakum — D° —	3		
21	Arasanjeri Head Sluice —	4		
22	Marudayar Under Tunnel + Ponneri Head Sluice —	52		
23	Anakudi Calingula —	58	20	
24	Valakuruchi Drainage Sluice	61	30	
25	Karuppan Drainage Sluice	66	70	
26	Lower anicut —	67	35	62.2

It is believed that the flood levels of 1858 were correctly recorded at the Upper and Lower Anicuts. The levels at intermediate points are not known except at the Grand Anicut

|True copy|

O. V. Hod...
11.11.96.

Supg Eng

Wff
21/11

N° 8

Statement showing Flood levels on important m...
from Upper to Lower anicuts.

No	Name of work.	Position or distance from Head that is Upper anicut.		Flood	
		M	Chains	1858 (assumed)	1882
1	Upper anicut —			249.65	
2	Iyen Voikal Head Sluice —			249.65	
3	Surplus Sluice in Ecanakorai limits.	11	10	213.87	209.43
4	— D° — in — Thandankarai	11	14	213.67	207.16
5	— D° — Pachampet — D° —	13	15	207.13	204.89
6	— D° — Periavalachery —	14	37	202.23	202.1
7	— D° — D° —	15	4	201.36	196
8	— D° — Mailrangam — D° —	15	16	200.84	1
9	— D° — Edayathumangalam —	16	9	197.93	
10	— D° — Kukur limits —	17	14	194.7	
11	— D° — D° — D° —	18	40	190.	
12	— D° — Melambil — D° —	21	17		
13	— D° — Kilambil — D° —	22	1		
14	Kuliyar anicut —	25			
15	Nandiyar anicut —	26			
16	Head sluice to Nandiyar channel.	2			
7	Inmakuram Drainage Sluice				

Public Works (1896) Department.

CURRENT No.

Order

From The Chief Engineer for Irrig

No. VI/377.C

Dated 24 September 1896.

Received

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Public Works (1896) Department.

CURRENT No.

Order

From The Chief Engineer for Irrig

VI

No. 377.C.

Dated 24 September 1896.

Received

Enclosures

Spare copies

SUBJECT.

Damages &c caused by the recent floods in the Trichinopoly Dt. Requests to state when the full report promised of — may be expected in this Office

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

No $\frac{VI}{37TC}$ d/24.9.96.

Vide orig. of G.O. No 912 I/96.

Memo.

With reference to his No. 1349-TC, dated 17 Aug. 1896, the Supdg. Engineer, Sixth Circle, is requested to be so good as to state when the "full report" ~~therein~~ promised of damages &c, caused by ~~those~~ the recent floods in the [illegible] division, may be expected in this Office.

24/9.

To
The Superg. Engineer
Sixth Circle.

Fwd 1319 B

R507C/96

Memo

With reference to his No. 1399-I dated 17 Aug 1896, the Supdg Engineer, Sixth Circle is requested to state when the full report ~~of the~~ of damages caused by the recent floods in the Trichinopoly division, may be expected in this office.

To the Supdg Engr Sixth Circle

Public Works (1896) Department.

CURRENT No.

CHIEF ENGINEER
FOR IRRIGATION.
4 OCT.96
No. R 577 C

Order

10/11/96
10/8/39

From

The Supdt Engineer
VI circle.

No. 1606 IC

Dated 1st October 1896.
Received 2/3 - 10 - 96
Enclosures –
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SUBJECT.

Damages &c caused by the recent floods in the Trichinopoly Dn: —

Informs that the full report of — is under preparation & will be submitted shortly.

Papers

BR

Record

3/10

Indexed 14/10/96

BR 7-10-96

10/10

7/10

BACK PAPERS.

~~G.O.~~ Issue	No.	Department.	Date.
I	37	IC	24-9-96
R	50	I. C.	17.8.96

FURTHER PAPERS

G.O.	No.	Department.	Date.
R	63.	I. C.	11.11.96

No. 1606 IC

OFFICE OF THE SUPERINTENDING ENGINEER,
6TH CIRCLE,

Trichinopoly, 1st October 1896.

5 2/-

From P. Roscoe Allen Esquire
Offg. ~~The~~ Sperintending Engineer,
6th Circle.

To

The Chief Engineer, for Irrigation

SIR,

ENCLOSURES.

With reference to your Memorandum No: $\frac{\text{VI}}{37\text{ I.C.}}$ d/24 September 1896, I have the honour to inform you that the full report of damages &ca caused by the recent floods in the Trichinopoly Dn, is now drafted, but the Executive Engineer has had to send ~~at~~ to the Lower anicut for a little information. On its receipt the report will be submitted. The information required having special reference to the discharge of the breaches in the Lower anicut, South Arcot road is considered to be of considerable importance.

I have the honour to be, Sir,
Your most obedt. Servant,

P. Roscoe Allen
Offg. Supg. Engr., VI Circle

30/9.

1 C/80

P. W. D. 6th CIRCLE.

FROM
THE SUPERINTENDING ENGINEER,
6TH CIRCLE.

R57JC
R57JC

TO
THE CHIEF ENGINEER,

NO.

Dated. }
Received. } 189 .

Enclosure.

40