5907, 9453

Public Works (1896) Department.

G.O., No. 889–909

DATED 28th Octr 1896

[Despatch Abstract.]

Lt. Col. A. W. Smart R.E.: Ordered that the Govt. of India be requested to extend the sanction to the deputation of — on special duty till 14th December 1897.

Lt. Col. A. W. Smart R.E. Requesting that the Govt. of India will be pleased to extend the sanction to the deputation of — on special duty till 14th December 1897.

T.C. 28/10

29/10

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

IRRIGATION.
ESTABLISHMENT.

Government {1896} of Madras.
PUBLIC WORKS.

Recd. } 1896. *Enclosures*
Regd. *Spare copies*

Letter, No. 890 I., 28th October 1896.

OCTOBER.

Lieutenant-Colonel A. W. Smart, R.E.

Requesting that the Government of India will be pleased to extend the sanction to the deputation of — on special duty till 14th December 1897.

No. 890 I., 28th October 1896.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Establishment.

Letter—from

W. HUGHES, Esq.,
Joint Secretary to the Government of Madras,
Public Works Department,
Irrigation Branch.

To

The SECRETARY to the GOVERNMENT OF INDIA,
Public Works Department.

Sir,

With reference to your letter No. 113 I., dated 10th June 1896, I am directed to forward a copy of Proceedings of Madras Government, No. 889 I., dated 28th October 1896, and to request that the Government of India will be pleased to extend the sanction to Lieutenant-Colonel Smart's deputation on special duty till 14th December 1897, on which date the period of two years applied for in letter No. 922 W., dated 14th March 1896, will expire.

I have the honour to be,
Sir,
Your most obedient servant,

Joint Secretary to Government,
Irrigation Branch.

Fort St. George,
28th October 1896.

Exd. A. F. Eccleston.

IRRIGATION.
ESTABLISHMENT.

Government {1896} of Madras.
PUBLIC WORKS.

Recd.	1896.	*Enclosures.*
Regd.		*Spare copies.*

G.O., No. 889 I., 28th October 1896.

OCTOBER.

Lieutenant-Colonel A. W. Smart, R.E.

Ordered that the Government of India be requested to extend the sanction to the deputation of — on special duty till 14th December 1897.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Establishment.

READ—the following papers :—

From N. F. MACKENZIE, Esq., Under Secretary to the Government of India, Public Works Department (Civil Works—Irrigation), to the Secretary to the Government of Madras, Public Works Department, dated Simla, the 10th June 1896, No. 113 I.

In continuation of Public Works Department telegram No. 1330 G., dated the 28th May 1896, sanctioning Lieutenant-Colonel Smart's deputation for a further period of six months, commencing from the 15th June 1896, for the purpose of prosecuting investigations in connection with the irrigation of the Tanjore district, I am directed to say that the Government of India, before considering any proposals for a further extension of Lieutenant-Colonel Smart's deputation, desire to be put in possession of the information which has been or is being collected by him during the course of his deputation for the twelve months already sanctioned, and to obtain thereon the opinion of the Inspector-General of Irrigation.

They propose, therefore, to instruct the Inspector-General of Irrigation to make the Cauvery Delta the chief object of his next tour, and to undertake it as early as possible in the autumn, so that his opinion may be laid before the Government of India prior to the 14th December, the date on which the period of Lieutenant-Colonel Smart's deputation (sanctioned in the telegram referred to above) will expire. Further communication as to the Inspector-General of Irrigation's tour will follow in due course.

Letter to the Superintending Engineer, on Special Duty, Cauvery Completion Estimates, Tanjore, dated 15th July 1896, No. 129 S.A.

Letter from the Superintending Engineer, on Special Duty, Cauvery Completion Estimates, Tanjore, dated 23rd September 1896, No. 600.

No. 191 I.

Note by the Chief Engineer for Irrigation.

A general history and description of the Cauvery delta and its irrigation works will be found in the narrative printed with G.O., No. 712 I., dated 8th September 1882.

2. In letter No. 302 I., dated 6th October 1880 (Proceedings of Madras Government, No. 694 I., dated 25th October 1880), the Government of India called for revised estimates of the outlay on the entire system including that already incurred and that considered necessary to complete the improvements to it, together with a definite statement of the returns expected from the improvements in the aggregate. For determining the requirements of the delta a survey of the district was needed and this was completed by the Revenue Survey Department in 1891. The investigation of the project had to be postponed for a long time owing to the difficulty to spare the services of an Engineer officer specially for this work. The assessments on lands in the delta having in the new settlement been enhanced it was considered highly desirable that the subject of the proper regulation of supply between the branches of the Cauvery and Vennár rivers and the improvement of the sluices in the delta should receive early attention. In June 1895 an Assistant Engineer was specially deputed to the investigation of the project under orders of the Superintending Engineer, V Circle, but the Superintending Engineer with his other duties was unable to devote to it such attention as is necessary and the investigation did not admit of further delay. Lieutenant-Colonel Smart, R.E., Superintending Engineer, was, therefore, specially deputed to the work with two Assistant Engineers to work under him.

3. The Lower Coleroon anicut and the irrigation channels dependent on it are, for account purposes, treated as a separate irrigation system under "Minor Works and Navigation" distinct from the Cauvery delta system which is classed under "Major Productive Works." But both the systems are so connected with one another as regards the regulation of water-supply that their requirements should be considered together.

4. Before deciding on the description and details of the works required to be carried out it is necessary to collect all the information required for arriving at some conclusions regarding the proportion of flood waters the Cauvery and the Vennár rivers can carry with safety and how the Coleroon river can be made to carry the balance and how the silting up of the head of the Cauvery at the Upper anicut be prevented and the sand sent down the Coleroon, the flood embankments of which have to be raised and improved.

5. In Proceedings of Madras Government, No. 150 I., dated 10th February 1896, will be found printed a note by Lieutenant-Colonel Smart, R.E., in which the salient points which require immediate attention are given. A term of three years is stated to be required for a full and satisfactory solution of all the questions involved. Government approved the proposals for investigating the project, as modified by the Chief Engineer for Irrigation, and ordered the submission of plans and estimates for each section of irrigation under the Cauvery and Vennár as they are prepared in order to avoid delay in the execution of the works.

6. Owing to the kudimaramat (customary labour) system having hitherto more or less been recognized in this delta it is difficult without detailed inquiries to divide between Government and villagers the responsibility to clear silt from the irrigation works of the delta. The desire of the villagers that Government should bear the whole responsibility is due to the introduction of an enhanced assessment. It is desirable that with this responsibility should go the right of distributing the available supply to the best advantage, but whether Government can take up efficient and entire control over the distribution of water without legislation is doubtful. The minor distribution in the delta may, as hitherto, be left to be attended to by villagers, but the settlement of the question was in G.O., No. 100, Revenue, dated 10th January 1896, deferred pending the result of the investigation of the project, and the Collector's report on the proposed transfer of control to the Public Works Department being tried as an experiment. As the question of clearing silt is a very important one, involving a heavy expenditure in the aggregate, the result of Lieutenant-Colonel Smart's observations as to the effect the silt has on the discharge in two or three channels of the delta in which he proposed to clear silt is awaited, the Superintending Engineer, V Circle, having been instructed to carry out in the meanwhile such clearances as might be urgently required.

7. The work already done by Lieutenant-Colonel Smart towards the investigation of the project and that still required to be done are summarized below :—

(1) *Cauvery Delta System.*—Levels for a total length of 45 miles of the Cauvery and the Coleroon in their upper reaches have been taken for comparing them with the late Major Montgomerie's sections. Four rules of survey have been taken to show the relative positions of the Cauvery dam and the Upper anicut. A number of borings in front of the anicut were taken to a depth of 30 feet to ascertain the details of subsoil to prepare plans and estimates for improving the anicut. The afflux in the Agunda Cauvery caused by the Upper anicut was observed in floods for different depths of water on the Cauvery dam.

(2) An estimate, amounting to Rs. 4,400, for two lift shutters to be fitted on the Grand anicut to lower the water level in small freshes to prevent the fall of the falling shutters proposed and to help in a rising flood to scour away sand accumulated in front of the shutters to ensure their fall, was sanctioned in G.O., No. 514 I., dated 16th June 1896. Estimates approximately amounting to Rs. 70,000 for fitting the anicut with lift shutters will, it is expected, be prepared before December next.

(3) An estimate, amounting to Rs. 5,860, for fitting the Mudikondanar bridge with shutters to allow of a proper distribution of water between that river and the Kodamurty, was sanctioned in G.O., No. 473 I., dated 4th June 1896.

(4) It is intended to relieve the Vennár in high floods by a new channel from it to the Maharajasamudram river in Pattukkóttai taluk and to extend irrigation to about 50,000 acres of dry land by storage in tanks. Survey and levels for a total length of 120 miles have been taken and 600 miles have still to be done. It will probably take 1½ years longer to complete the investigation of this section of the project.

(5) Estimates are under preparation for improving the Upper anicut, the Vennár regulator at Pandavayar head and the Arasilár-Nattar regulators and for constructing regulators for the Keerthamanar, Puthiarsolasudamaniar and Putharvelappár.

(6) For improving the Kattaur to provide better drainage for the lower portion of the delta, 319 miles of levels and a sketch of the site have been taken and plans of 47 existing masonry works have been drawn. Plans of other existing masonry works are being drawn. Estimates for the necessary improvements which cost approximately Rs. 5,00,000 will, it is hoped, be prepared before December next as also estimates of about Rs. 3,000 for improving the Koriar-Pamaniar regulator. The investigation of the drainages of the northern part of the delta will be taken up after the monsoon, leaving the drainage of the Tirutturaippúndi taluk in the south to be dealt with in 1898, as nothing can be done till the Vennár flood is prevented from entering the rivers in that taluk.

(7) A few channels have been selected and cleared of silt to ascertain the utility of silt-clearing. Observations are in progress, but it will be necessary to continue them for another year in order to ascertain definitely what effect silt-clearances really have on the discharge. Samples of water in the Coleroon and the Cauvery have been taken to ascertain the percentage of silt carried by these rivers at different depths.

(8) Discharges of ten rivers and nine channels have been ascertained on actual observation and those of several other rivers have yet to be ascertained.

(9) Gauges have been put up towards the tail ends of 22 rivers to ascertain the quantities of Cauvery water going waste. Daily register of water readings at these points is being maintained. Diagrams of discharges have yet to be prepared.

(10) Velocity observations of the principal rivers are now in hand but will not be completed before next year.

(11) Statements of the present extent of irrigation under each river of the delta have been verified and recast.

(12) Irrigation and drainage maps for several of the rivers in the Negapatam division are being completed. Registers showing the position and area of waste lands on both sides of the rivers have been prepared. Similar maps and registers for the rivers in the Tanjore division have not yet been commenced. The work will, it is estimated, take another eighteen months.

(13) *Lower Coleroon Anicut System.*—The flood bank on the south side above the Coleroon anicut having been completed with the object that the river should take 300,000 cubic feet per second and the waterway of the anicut not having been increased, it was apprehended that the anicut might be breached, should a high flood occur. An estimate, amounting to Rs. 1,01,400, for protecting both branches of the anicut was, therefore, sanctioned under "43. Minor Works and Navigation, Capital Account" in G.O., No. 273 I., dated 21st March 1896. The work has been put in hand, it being of an urgent nature.

(14) Estimates, amounting to Rs. 3,500 and 4,380, respectively, for making two types of shutters to be fitted to the anicut, one of screw gearing to slide down in front of the body wall of the anicut and the other of iron to lift, were sanctioned in G.O., No. 535 I., dated 25th June 1896.

(15) Estimates for constructing a sand and flood escape for the Vadavár are under preparation.

(16) For raising the Coleroon left bank from the Lower anicut to sea, levels and sections have been taken for a total length of 20 miles, and information regarding irrigation and drainage areas of all the channels crossing the line and the extent of land required to be taken up for the bank, has been collected. Plans of five existing masonry works are being drawn. For the right bank of the river between the same limits, nothing has yet been done. Thirty-six miles of longitudinal levels with about 600 cross sections have to be taken and plans of all existing masonry works have to be drawn.

(Signed) W. HUGHES,
Chief Engineer for Irrigation.

10th October 1896.

Order—No. 889 I., dated 28th October 1896.

Ordered that the following letter be sent to the Government of India.

[Here enter No. 890 I., dated 28th October 1896.]

(True Extract.)

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

To the Chief Engineer for Irrigation.
" " " Public Works Department.
" Superintending Engineer, V Circle.
" " " on Special Duty.
" Cauvery Completion Estimates, Tanjore.
" Revenue Department.

Exd. A. F. Eccleston.

Public Works (1896) Department.

CURRENT No. 9453

Order

From The Chief Engineer for Irrigation

No. 191-I

Dated 10-10-96

Received 21.10.96

Enclosures 3

Spare copies

SUBJECT.

Note dealing with the work done and in progress during the deputation of Lt Col H W Stuart R.E. on spl duty in connection with the investigation of Irrigation in the Tajune dt.

BACK PAPERS.

G.O.	No.	Department.	Date.
G.O.	535 I	P.W.	25-6-96 ✓
"	1736 W	"	10-6-96 ✓
"	514 I	"	16-6-96 ✓
"	473 I	"	4-6-96 ✓
"	273 I	"	21-3-96 ✓
"	145 I	"	10-2-96 ✓
"	150 I	"	10-2-96 ✓
"	3292 W	"	22-12-94 ✓
"	691 I	"	5-8-93 ✓
"	536 I	"	3-7-91 ✓
"	778 I	"	21-9-83 ✓
"	712 I	"	8-9-82 ✓
"	208 I	"	6-3-82 ✓
"	210 I	"	17-2-82 ✓
"	644 I	"	27-9-81 ✓
"	363 I	"	9-6-81 ✓
"	777 I	"	29-11-80 ✓
"	694 I	"	25-10-80 ✓
"	503 I	"	5-8-80 ✓
"	502 I	"	5-8-80 ✓
"	478 I	"	28-7-80 ✓

FURTHER PAPERS.

G.O.	No.	Department.	Date.

No 35.W. dy 24.10.95

Note by the Joint Secy to Govt P.W.D.
I.B.

The Assistant Engineer, deputed to prepare a scheme for improving the irrigation of the Tanjore District, is working under the orders of the Superintending Engineer, V Circle, and the general lines on which the project is to be drawn are shown in this Office Note No 290, dated 7th November 1894 printed in P.M.G. No. 3292 W, dated 22nd December 1894.

2. Before deciding on the description and details of the works required to be carried out, some conclusions should be arrived at regarding the proportion of flood water the Cauvery and the Vennar

rivers

rivers can carry with safety and how Coleroon can be made to carry the balance and how the silting up of the head of the Cauvery at the upper anicut be prevented, and the sand sent down the Coleroon the flood embankments of which have to be raised and improved. Instructions have been sent to the Superintending Engineer to arrange for the necessary information being obtained

3. It may be noted that on completion of the plans and estimates for the works required for the distribution of water for irrigation it is intended to circulate them to the Honorable Members of the

the Legislative Council for remarks after consultation with the various peoples' Associations and leading ryots in Tanjore -

29/10

To
The Legislative Deptt.
with copy of G.O. No. 3292 W dt 22/12/94

BR. 29-10-95

Urgent

Type fair for signature

28/10

No 194 I

48

Note by the Chief Engineer for Irrigation

A general history and description of the Cauvery delta and its irrigation works will be found in the narrative printed with G.O. No: 712 I dated 8th September 1882.

2. In letter No: 302 I dated 6th October 1880 (P.M.G. No: 694 I dated 25th October 1880) the Government of India called for revised Estimates of the outlay on the entire system including that already incurred and that considered necessary to complete the improvements to it together with a definite statement of the returns expected from the improvements in the aggregate. For determining the requir -ments of the delta a survey of the district was needed and this was completed by the Revenue Survey Department in 1891. The investigation of the project had to be postponed for a long time owing to the difficulty to spare the services of an Engineer Officer specially for thi work. The assessments on lands in the delta having in the new settlement been enhanced it was considered highly desirable that the subjec of the proper regulation of supply between the branches of the Cauvery and Vennar rivers and the improvement of the sluices in the delta ... should receive early attention . In June 1895 an Assistant Engineer was specially deputed to the investigation of the project under orders of the Superintending Engineer, Fifth Circle, but the Superintending Engineer with his other duties was unable to devote to it such attention as is necessary and the investigation did not admit of further delay. Lieutenant Colonel Smart R.E. Superintending Engineer was, therefore, specially deputed to the work with two Assistant Engineers to work under him.

3. The Lower Coleroon anicut and the irrigation channels dependent on it are, for account purposes treated as a separate irrigation system under Minor works and Navigation distinct from the Cauver delta system which is classed under Major Productive Works . But both the systems are so connected with one another as regards the regulation of water supply that their requirements should be considered together.

4. Before deciding on the description and details of the works required to be carried out it is necessary to collect all the information required for arriving at some conclusions regarding the proportion of flood waters the Cauvery and the Vennar rivers can carry with safety and how the Coleroon river can be made to carry the balance and how the silting up of the head of the Cauvery at the upper anicut be prevented and the sand sent down the Coleroon the flood embankments of which have to be raised and improved.

5. In P.M.G.No:150 I dated 10th February 1896 will be found printed a note by Lieut:Col:Smart R.E.in which the salient points which require immediate attention are given. A term of three years is stated to be required for a full and satisfactory solution of all the questionsinvolved.Government approved the proposals for investigating the project as modified by the Chief Engineer for Irrigation and ordered the submission of plans and estimates for each section of irrigation under the Cauvery and Vennar as they are prepared in order to avoid delay in the execution of the works.

6. Owing to the Kudimaramat (customary labour) system having hitherto more or less been recognized in this delta it is difficult without detailed enquiries to divide between Govt: and villagers the responsibility to clear silt from the irrigation works of the delta .The desire of the villagers that Government should bear the whole responsibility is due to the introduction of an enhanced assessment. It is desirable that with this responsibility should go the right of distributing the available supply to the best advantage but whether Government can take up efficient and entire control over the distribution of water ,without legislation is doubtful.The minor distribution in the delta may ,as hitherto be left to be attended to by villagers but the settlement of the question was in G.O.No:100 Revenue dated 10th January 1896,deferred pending the result of the investigation of the project and the Collector's report on the proposed transfer of control to the P.W.D. being tried as an

experiment

experiment.As the question of clearing silt is a very important one ,involving a heavy expenditure in the aggregate ,the result of Lt:Colonel Smart's observations as to the effect the silt has on the discharge in two or three channels of the delta in which he proposed to clear silt is awaited,the Superintending Engineer ,Fifth Circle,having been instructed to carry out in the meanwhile such clearances as might be urgently required.

7. The work already done by Lt:Colonel Smart towards the investigation of the project and that still required to be done are summarized below.

Cauvery Delta System.

(1) Levels for a total length of 45miles of the Cauvery and the Coleroon in their upper reaches have been taken for comparing them with the late Major Montgomeries' sections.Four rules of survey have been taken to show the relative positions of the Cauvery dam and the upper anicut.A number of borings in front of the anicut were taken to a depth of 30 feet to ascertain the details of subsoil to prepare plans and estimates for improving the anicut .The afflux i the Agunda Cauvery caused by the upper anicut was observed in floods for different depths of water on the Cauvery dam.

(2) An estimate amounting to Rs 4,400 for two lift shutte to be fitted on the grand anicut to lower the water level in small freshes to prevent the fall of the falling shutters proposed and to help in a rising flood to scour away sand accumulated in front of the shutters to ensure their fall was sanctioned in G.O.No:514 I dated 16 June 1896 .Estimates approximately amounting to Rs 70,000 for fitting the anicut with lift shutters will it is expected be prepared before December next.

(3) An estimate amounting to Rs5860 for fitting the Mudikondanar bridge with shutters to allow of a proper distribution of water between that river and the Kodamurty was sanctioned in G.O. 473 I dated 4th June 1896.

(4) It is intended to relieve the Vennar in high floods by a new channel from it to the Maharajasamudram river in Pattukota taluk and to extend irrigation to about 50000 acres of dry land by

storage

storage in tanks. Survey and levels for a total length of 120 miles have been taken and 600 miles have still to be done. It will probably take 1½ years longer to complete the investigation of this section of the project.

(5) Estimates are under preparation for improving the upper anicut, the Vennar regulator at Pandavayar head and the Arasalar-Nattar regulators and for constructing regulators for the Keerthamanar, Puthiarsolasudamaniar and PutharVelappar.

(6) For improving the Kattaur to provide better drainage for the lower portion of the delta 319 miles of levels and a sketch of the site have been taken and plans of 47 existing masonry works have been drawn. Plans of other existing masonry works are being drawn. Estimates for the necessary improvements which cost approximately Rs500000 will it is hoped be prepared before December next as also estimates of about Rs 3000 for improving the Koriar-Pamaniar regulator. The investigation of the drainages of the northern part of the delta will be taken up after the Monsoon leaving the drainage of the Turutarapandi taluk in the South to be dealt with in 1898 as nothing can be done till the Vennar flood is prevented from entering the rivers in that taluk.

(7) A few channels have been selected and cleared of silt to ascertain the utility of silt clearing. Observations are in progress but it will be necessary to continue them for another year in order to ascertain definitely what effect silt clearances really have on the discharge. Samples of water in the Coleroon and the Cauvery have been taken to ascertain the percentage of silt carried by .. these rivers at different depths.

(8) Discharges of ten rivers and nine channels have .. been ascertained on actual observation and those of several other rivers have yet to be ascertained.

(9) Guages have been put up towards the tail ends of 22 rivers to ascertain the quantities of Cauvery water going waste. Daily register of water readings at these points is being maintained. Diagrams of discharges have yet to be prepared.

(10) Velocity observations of the principal rivers are

now

now in hand but will not be completed before next year.

(11) Statements of the present extent of irrigation und each river of the delta have been verified and recast.

(12) Irrigation and drainage maps for several of the ... rivers in the Negapatam division are being completed. Registers showing the position and area of waste lands on both sides of the river have been prepared. Similar maps and registers for the rivers in the Tanjore division have not yet been commenced. The work will it is .. estimated, take another eighteen months.

Lower Coleroon Anicut System

(13) The flood bank on the south side above the Coleroon anicut having been completed with the object that the river should take 300,000 cubic feet per second and the waterway of the anicut not having been increased, it was apprehended that the anicut might be .. breached, should a high flood occur. An estimate amounting to Rs101400 for protecting both branches of the anicut was therefore, sanctioned under 43 Minor Works and Navigation, Capital account in G.O.No: 273 I dated 21st March 1896. The work has been put in hand, it being of an .. urgent nature.

(14) Estimates amounting to Rs3500 and 4380 respectively for making two types of shutters to be fitted to the anicut one of screw gearing to slide down in front of the bodywall of the anicut & the other of iron to lift, were sanctioned in G.O.No: 535 I dated 25th June 1896.

(15) Estimates for constructing a sand and flood escape for the Vadavar are under preparation.

(16) For raising the Coleroon left bank from the Lower anicut to sea, levels and sections have been taken for a total length of 20 miles and information regarding irrigation and drainage areas of all the channels crossing the line and the extent of land required to be taken up for the bank, has been collected. Plans of five existing masonry works are being drawn. For the right bank of the river between the same limits, nothing has yet been done. 36 miles of longitudinal levels with about 600 cross sections have to be taken and

plans

plans of all existing masonry works have to be drawn.

W. Hughes.

Chief Engineer for Irrigation.

MADRAS.

10th October/96.

To

The Joint Secretary to Government,

P.W.D. Irrigation Branch.

Urgent

Public Works (1896) Department.

CURRENT No.

Order

R.T.S.-1Sa

From

Lt. Col. A. W. Smart R.E.
Superintending Engineer
on Special Duty
Tanjore.

No. 600

Dated 23rd September 1896.

Received 24-9-96

Enclosures Three (2)

Spare copies

SUBJECT.

Deputation of Lt. Col. A. W. Smart R.E., Superintending Engineer:—

Submits his statement showing the work done and in progress during the —

Maps

BR
24.9.96

24/9

D.E.I

BR
28-9-96

28/9

59
8-96.

BACK PAPERS.

~~G.O.~~ Issue	No.	Department.	Date.
I	129	Sa	15-7-96
R	op134	–	25.6.96

FURTHER PAPERS.

G.O.	No.	Department.	Date.

16	Improvements to the Upper anicut	-	-	6,00,000				
17	Constructing a sand and flood escape for Vadavar, Lower anicut, Coleroon			50,000		One site survey and 3 miles length of cross sections		
18	Regulator for Keerthimanar			4,000		One site survey and 2 miles of longitudinal and cross sections		
19	Improvements to Arasalar, Nattar Regulators			7,000				
20	Regulator for Puttar, Tolasudamaniar			6,000				
21	Regulator for Puttar, Velappar			6,000				
22	Improvements to Kattaur to provide better drainage for the lower portion of the Delta. Plans and estimates for new channel and all required masonry works of this Project.				5,00,000	Levels Longitudinal miles 34 check Do 40 770 cross sections Do. 245 Total miles of levels taken 319 Plans of existing masonry works . . . . 47 Six miles length of site survey Sketch of ground prepared	Plans of existing masonry works being drawn	22. Till Vennar flood water is prevented entering the Tirutaraipundi Taluq rivers, the drainage of that Taluq cannot be effectively dealt with. From December next (after the monsoon) the drainage of the Northern part of the Delta will be the subject of investigation, leaving the drainage of the Southern part to be dealt with in 1898. A programme will be shortly submitted asking for more surveyors. Information regarding irrigation and drainage
23	Raising Coleroon Left Bank from Lower anicut to Sea					Level sections to be taken for a total length of 20 miles	Plans of existing masonry works being drawn 5 in number	

					drainage areas of all channels crossing the line, has been collected, all particulars about lands to be occupied by proposed improved bank for 10 miles completed.
24	Vadavar extension project.		Levels and Survey taken to a total length of 120 miles	00 miles of Survey and levels remain to be done. On the completion of the levels and Surveys upto the Vaduvoor tank, the ~~deciding~~ designing the channel and masonry works will be commenced. It will probably, take another 1½ years to complete the project papers for submission.	This is a project to relieve Vennar in high floods by a new channel from it to maharajasamudram river in Pattukotta Taluq, and to extend irrigation to about 50,000 acres of dry land, by storage in tanks existing and to be made.
25	Present condition of main rivers in the upper portion of the Delta.		Levels for a total length of 45 miles taken and plotted		Level sections of Cauvery and Coleroon in their upper reaches taken to compare with major montgomories sections of twenty years ago.
26	Cauvery at the head of Srirangam island		4 miles of Survey of ground showing the relative position of Cauvery Dam and Upper anicut.		
27	Coleroon Right bank from Lower anicut to Sea, Raising and Strengthening.			36 miles of longitudinal levels with about 600 cross sections and the plans of all existing masonry works to be begun	
2 28	Improvements to Koriar Pamaniar Regulators	3,000			

29 Fitting Grand anicut with lift Shutters 70,000

30 General

2

✓ 1. Discharges of 9 channels ascertained on actual observations.

✓ 2. Discharges of 10 rivers ascertained on actual observations.

✓ 3. Discharges of several other rivers remain to be similarly ascertained

✓ 4. Guages put up towards the tail end of 22 rivers to ascertain the quantities of Cauvery water going to waste. Daily register of water readings at these points is being maintained. Discharge diagrams to be prepared

✓ 5. A few channels have been selected and cleared of silt to ascertain the utility of silt clearing.

observations are in progress, but it will be necessary to continue them for another year in order to ascertain definitely what effect silt-clearances really have on the discharge.

✓ 6. The present actual areas of cultivation under the Deltaic rivers have been verified and recompiled

✓ 7. A number of borings in front of Upper anicut were taken to a depth of 30 ft, to ascertain the details of sub soil to prepare plans and estimate for improving the Upper anicut.

✓ 8. Samples of water of Coleroon and Cauvery taken to ascertain percentage of silt carried by these rivers at different depths

✓ 9. The afflux in the Ayunda cauvery caused by the Upper anicut was observed in floods for different depths of water on Cauvery Dam.

✓ 10. Velocity observation of the principal rivers are now in hand, but will not be completed before next year.

29 [illegible]

Off ce of [illegible]

Cauvery completion 28

No 600 Tanjore dated 23rd September 1810.

11. Vennar System	
(a) Irrigation: — Irrigation maps of Pamaniar, Koriyar, Vennar, Vettaur, Odamboghyar, Kattaur -Kaduvayar, Pandavayaur, Velliyar, Harichundranadhi, Mulliyar, Iyanar, Marakakariar, Ponnukondanar, Puttupandiar, Palampandiar, Thukkunamkurivyar, Adappar, Kaduvurtiyar, Nullar, and Yediar (20 rivers), together with their initial revenue and irrigation accounts partially prepared in the Negapatam Division are being completed compiled. Maps for the first seven are ready, the others are being got ready.	
(b) Drainage: — Maps of some of the drainages Vettaur, Kattar-Kaduviar, Yediar, Mathiyallanar, chandranadi, Sakliauvoikal, Paluvanar, Nullar, Mulliyar, Adappar, Pokkavoikal, Valavanar, Manankondanar, Marakkakariar, Kandapparichanar, Kaduvurtiyar, Solavathiyar, Vattuvarigal, Attiveeraramanar and Virasolanar (20 rivers) partially done in the Negapatam Dn., are being completed. Complete accounts of lands, draining into the above rivers are being collected and compiled. The compilation is approaching completion.	
(c) Conservancy Govt. Poramboke lands. Complete accounts showing the correct position and area of all Poramboke lands on both sides of rivers in (a) and (b) have been nearly collected and completed.	Similar maps and registers for the Tanjore Division have not been yet commenced. The work it is estimated, will take another eighteen months
(d) General index maps showing the irrigation and drainage under the several rivers in (a) and (b) are being prepared.	

Tanjore
Dated 23rd September 1896.

Lt. Col. R. E.
Superintending Engineer
on Special Duty

29 Fitters [illegible]

CHIEF ENGINEER
FOR IRRIGATION.
24 SEP 96
No. R 1578a

2

P.W.S. 2
2453/96

Office of [illegible]
Cauvery completion [illegible]

No 600

Tanjore dated 23rd September 1896.

From

Lt. Col. A. W. Smart R.E.
Superintending Engineer on Specia Duty
Tanjore.

To

The Chief Engineer
for Irrigation
Madras.

Sir,

Enclosures 2.
one Statement
one C.E.I's No. 129.S.A
dated 15.7.96.

With reference to your No 129 S. A. dated 15th July 1896. I have the honor to submit a statement showing the work which is now in progress under me, and which has still to be done. It will be impossible to complete what has been commenced under two years from now, a for this, I find I shall require extra establishment in the way of Surveyors which will be seperately dealt with.

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

A. W. Smart ~~Lt~~ Col R
Superintending Engr
on Special duty

improvements to … row

Coleroon anicut	2, 9 21.3.96	1,25,000

CHIEF ENGINEER
FOR IRRIGATION.
24 SEP 96
8157 Sa
No.

PC.E.1
9653/96

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ublic Works (189) Depar

CURRENT No. 5907

306

Order

889
9039

From The Govt of India

No. 113- I

Dated 10- 6 96

Received 18. 6. 96

Enclosures

Spare copies

SUBJECT.

Deputation of Lt Col A W Smart — Requesting to be put in possession of the information which has been or is being collected ~~during~~ the course of tour — for the 12 months already sanctioned improvements to [illegible]

Coleroon anicut 2 9 / 21.3.96 1,25,000

No. Department

No. 113 I.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

CIVIL WORKS.

Irrigation.

All communications should be addressed to the Secretary.

1P

To

The Secretary to the Government of Madras,
Public Works Department.

Simla, the 10th June 1896.

x G.O. 1736 W.I.
10-6-96

Sir,

In continuation of Public Works Department telegram No.1330 G., dated the 28th May 1896, sanctioning Lieutenant Colonel Smart's deputation for a further period of six months, commencing from the 15th June 1896, for the purpose of prosecuting investigations in connection with the irrigation of the Tanjore District, I am directed to say that the Government of India, before considering any proposals for a further extension of Lieutenant Colonel Smart's deputation, desire to be put in possession of the information which has been or is being collected by him during the course of his deputation for the 12 months already sanctioned, and to obtain thereon the opinion of the Inspector General of Irrigation.

They propose, therefore, to instruct the Inspector General of Irrigation to make the Cauvery Delta the chief object of his next tour, and to undertake it as early as possible in the autumn so that his opinion may be laid before the Government of India prior to the 14th December the date on which the period of Lieutenant Colonel Smart's deputation (sanctioned in the telegram referred to above) will

P.W. C No

will expire. Further communication as to the Inspector General of Irrigation's tour will follow in due course.

Received June 18

I have the honour to be,
Sir,
Your most obedient servant,

CHIEF ENGINEER
FOR IRRIGATION
24 SEP 96
No. R1510a

N. F. Mackenzie

Under Secy. to the Govt. of India.

Documents accompanying:-
Nil.

Ack
18/7/96

D
No 565 D d 29th June 1896
To "J"

R134

For favour of disposal. The matter now falls within your Branch.

28/6/96

W
534
19.7.96

R.S. No 129 S.A.

~~Forwarded to~~ Lieut Colonel Smart Supg Engr on Special duty, Cauvery Completion Estimates for report.

(By order)

Ootacamund
15 July 1896

Asst Chief Engr for Irr

OS 1861

H.E.

No. 889 I d 28th October 1896

PUBLIC WORKS DEPARTMENT,
IRRIGATION BRANCH.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Print A

Irrigation Establt

UNDER date the

READ the following

Letter from the Govt: of India P.W.Dept: (H.E.No: 173 I dated 10th June 1896)
Letter to the Supg: Engineer on special duty, Cauvery Completion Estimates, Tanjore (H.E.No: 129 S.A. dated 15th July 1896)
Letter from..........DO................ (H.E.No: 600 dated 23rd September 1896)
Note by the Chief Engineer for Irrigation (H.E.No: 191 I dated 10th October 1896)

7 R

Ordered that the following letter be sent to the Government of India.

To,
The Chief Engineer for Irrgn:
,, Chief Engineer P.W.D.
,, Supg: Engineer, V Circle
,, ...DO...on special duty, Cauvery Completion Estimates, Tanjore
The Revenue Department

Desp'd
18/11/96

Issue
W.H.
27/10

A.S.H.
25.10.96

No. 890 I. d 28th october 1896.

8 P

To,
The Secretary to the Govt: of India
P.W.Department

Sir,

With reference to your letter No: 113 I dated 10th June 1896, I am directed to forward a copy of P.M.G.No: 889 I dated 28th October 1896 and to request that the Government of India will be pleased to exten the sanction to Lieut: Colonel Smart's deputa-tion on special duty till 14th December 1897 on on which date the period of two years applied for in letter No.922 W dated 14th March 1896 will expire.

21/10/96

MH

E. I. Form No 1—1,000—27-11-95.