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M.R.O. 1—5,006—16-10-50.

(1) Number of pages 30

(2) Date of repair 22-6-1964

(3) Initials of the Referencer

MADRAS RECORD OFFICE

Government of Madras

Public works DEPARTMENT

G.O. No.	343 (J)	Press
~~B.P. No.~~		~~Mis.~~
Dated	15. 7-1889	~~195~~ .

Not to be folded or roughly handled

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

again the following paper:—

., dated 17th May 1889, No. 242 I., Public Works.

also the following paper:—

ubject—Construction of tanks in the My. re Province in the Chitrávati river basin.]

eference—Collector of Anantapur's letter, dated 11th April 1889, No. 192, forwarding report made by Head Assistant Collector.]

Memorandum by the Executive Engineer.

e Mysore Government are now constructing a large tank across one of the principal affluents of the Chitrávati, about
B. on sketch-map. 2 miles east of Periasamudram, in a direction 48 miles N.N.E. from Bangalore.
nd of the tank abuts on a western spur of the hill marked Chikapille, which is a metrical station.

The following are the particulars which I was able to learn on the ground ng the work:—

Length of bund (which is between two hills) ... ... 900 feet.

ative levels, the lowest point bed of river, being taken as zero.

Bed of river	0·00
Level of sluice	30·00
Do. of waste weir	60·00
Do. of top of bund	72·00

of tank = 12,000,000 cubic yards, which is independent of the quantity l between 0·00 and 30·0, which will probably be another 3,000,000.

Area of waterspread	470 acres.
Catchment area	47 sq. miles.

The catchment area is generally hilly, and what other tanks there are in the not appear to be of a large size.
ll they will retain some of the rainfall; their united capacity might be ¼th of this intended large tank.
e rainfall is probably about 30 inches; the nearest rain-gauge is that at Chika r, which has an average of 36 inches.
om Binnie's experiments at Nagpur, a rainfall of 30 inches would have a of 8 inches nearly.
flow off of 4 inches only would give a supply of 16,176,272 cubic yards or t to fill the tank.
ght inches would be the double this amount. But it must be borne in mind supply would be spread over both monsoons, that there would be irrigation n, that the other tanks I have mentioned above will absorb some of the supply. d estimate therefore that a total quantity of 20 million cubic yards would be by this proposed large tank.

4. The tank in the Madras Presidency, which is more immediately affected by the proposed Periasamudram tank, is that of Bookapatam. It is at a distance of 50 miles below Periasamudram, and there is no other tank across the main stream although there are several anicuts between.

5. There is some difficulty without further inquiry of estimating the proportionate damage which will be done to Bookapatam. One thing is certain, it means the absolute abstraction of 20 millions of cubic yards; the question is—What proportion is that amount of its present supply?

6. The annexed map will perhaps explain more fully what is meant. The rainfall in the Anantapur Collectorate does not average more than 17 inches, which would only allow of a flow off of 2 inches.

The flow off in the Mysore Province may vary from 3 inches at Bangapille to 8 inches at Chikapille, or say an average of 4 inches. I may remark here that the rain-fall is decidedly more than what obtains in Anantapur; the whole country is greener, becoming more and more so as Chicka Ballapur is approached, the trees are larger and more numerous.

Allowing that one-half is absorbed by tanks and anicuts already in existence, the supply of Bookapatam will be as follows:—

	C. YDS.
Madras, 295 square miles at 2″ = ...	50,765,960
Mysore, 330 do. at 4″ = ...	113,578,080
	164,344,040
Deduct half for other tanks and anicuts	82,172,020
	82,172,020

In the basin of the proposed Periasamudram tank the rainfall must be large, for even at the end of the hot weather there was a stream discharging 6 cubic feet a second, so that I do not think the allowance of a flow off of 8 inches is excessive.

7. It appears therefore that the supply to Bookapatam tank will be diminished in ordinary years by $\frac{1}{4}$th.

From a section of the bund and allowing an area of waterspread of 5 square miles, I calculate the capacity of the Bookapatam tank as roughly 50 millions of cubic yards, the ayacut underneath is 2,168 acres. The bund is 70 feet high in the rear; there is silt in the front, but even then it would appear there is 25 feet to 30 feet depth of water near the bund.

The average supply, it will be seen, I estimate as about 80 millions of cubic yards, and were this to be depended upon for the greater number of years, there would be nothing on the part of the action of the Mysore Government to protest against.

This, however, is not the case; the rainfall is frequently far below the average, varies more indeed in the Anantapur district than in Mysore. Even now the Bookapatam tank does not fill every year.

8. The information that I have been able to get is to the effect that the Bookapatam tank fills seven years out of ten years; in the remaining three years the level of the water is 5 feet below waste weir level, so that in those years it only holds 35 millions of cubic yards. Any further loss of water in those years such as would arise from the impounding of even 15 millions in Mysore would mean that only half the cultivation could be carried on. In the other seven years, if what the Tahsildar reports is correct, viz., that the Bookapatam discharges 15 days at an average of 9 inches depth over the waste weirs 1,300 feet long, this will be a probable discharge of about 140 millions of cubic yards. In these years the proposed Mysore tank will not be so detrimental, although it should be here noted that the Dharmavaram tank below the Bookapatam, which occasionally fills as it did last year from its own independent catchment basin of about 324 square miles, yet that is not often, generally fills in large part from the overflow of the Bookapatam.

This bears out what I have been urging, viz., that the rainfall in Anantapur is so scanty and the flow off from the ground so little that these large tanks are more dependent upon their supply from the Mysore side than from British territory.

9. There is another project similar to the above of Periasamudram which I understand is to be carried out afterwards.

On the Chitrávati, about 4 miles above Bangapille, at a place called Cargur, a large tank is also proposed. The site is favorable; there is an anicut already there.

A. on sketch-map.

10. Should this tank be also constructed and should it with its much larger drainage area of 180 square miles impound another 20 millions of cubic yards, not merely in three years out of the ten will the Bookapatam tank be nearly dry, but in even more favorable years will its supply be short, so that in only three of the years of maximum rainfall out of the ten years will it fill at all.

11. I believe the Mysore Government will urge that after all they are only impounding water derived from rain falling entirely on their own territory to which they have a natural right. And this no doubt would be the case had these tanks proposed by them been constructed before either Bookapatam or Dharmavaram, to say nothing of the many anicuts * across the Chitrávati. These tanks in the Madras territory, however, are many hundred years old; they have established by precedent and long usage a right to the water, and the burden of the proof that no injury will be done them by the construction of one or both of these proposed tanks really lies not with the Madras Government, but with that of Mysore. It is for the latter to prove that there will be no injury, not so much for the former to prove that there will.

* Five channels in Cuddapah district.

(Intld.) G.T.W.

* * * * *

(Signed) H. W. CLIFT,
Executive Engineer.

31st May 1889.

No. 659.

Endorsement on original letter No. 579, dated 1st June 1889, from the Executive Engineer, Bellary division, to the Superintending Engineer, III Circle.

Forwarded to the Chief Engineer for Irrigation with reference to G.O., No. 242 I., dated 17th May 1889.

BELLARY, (Signed) H. SMALLEY, Colonel, R.E.,
12th June 1889. Superintending Engineer, III Circle.

No. 72 I.

Note by the Acting Chief Engineer for Irrigation.

The Superintending Engineer, III Circle, has, with his endorsement No. 659, dated 12th June 1889, forwarded the report by the Executive Engineer, Bellary division; called for in G.O., No. 242 I., dated 17th May 1889, from which it is evident that the large tank which the Mysore Government is now constructing on the head waters of the Chitrávati river will deprive certain irrigation works in British territory of a large portion of their supply of water when it is most needed.

2. The most important of those works are the Bookapatam tank (No. 27 of list of Imperial irrigation works) which irrigates upwards of 2,000 acres, and five channels (Nos. 27 to 31 of the Imperial list) which irrigate upwards of 1,200 acres.

3. It appears also that the Mysore Government is intending to construct another large tank to impound water from the same affluent of the Chitrávati which would still further lessen the supply to the tanks and channels in British territory which depend on that river.

4. In a letter (No. 60/8, dated 9th April 1889) addressed to the Assistant to the Resident in Mysore by the Public Works Secretary to the Government of Mysore about proposed works on the head waters of the Pápaghni river (which will be separately dealt with) that officer says "it is considered that, under the law and custom of all countries, Mysore has the right to utilize to the fullest extent the natural watercourses flowing through its territory," but with reference to this the Resident in Mysore says in his No. 1967-818, dated 14th June 1889, to the Chief Secretary to the Government of Madras that the general proposition "is untenable" and that the Government of Mysore has, by him, been informed that "it has no right to interfere with such watercourses in any way that may be detrimental to the interests of subjects of another power lower down their streams."

5. I that the suspension of the Mysore works under notice be obtained.

OOTACAMUND,
4th July 1889.

(Signed) G. T. WALCH,
Ag. Chief Engineer for Irrigation.

To the Secretary to Government, Public Works Department.

ORDER—dated 15th July 1889, No. 343 I., Public Works.

The Mysore Government will be at once addressed in the Political Department with a view to the suspension of all new works which it is constructing or contemplating on streams which supply existing irrigation works in British territory and especially those on the head waters of the Chitrávati.

2. The principle stated by the Secretary to the Mysore Government, Public Works Department, as quoted in para. 4 of the note by the Acting Chief Engineer for Irrigation cannot be accepted by this Government, and it is satisfactory to see that it is rejected by the Resident.

(True Extract.)

Under-Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, III Circle.
" Revenue Department.
" Political "

Exd. J. Henricus.
Spare Copies

IRRIGATION.

Govt. of {1889} Madras.

PUBLIC WORKS.

Dated July, 15th.

Read. *Encl.*

G.O., 15th July 1889, No. 343 I.

JULY.

Tanks in the Chitravati River Basin

Orders on reports relating to the construction by the Mysore Government of —.

SUPERINTENDING ENGINEER
Dy. No. ____
3 - JUN 89
III CIRCLE, BELLARY P.W.D.

Subject — Construction of tanks in the Mysore Province in the Chittravatti River Basin. 1P

Reference — Collector of Anantapur's letter dated April 11th 89. No 192. forwarding report made by Head Assistant Collector.

Memorandum by the Exec. Engineer.

The Mysore Government are now Constructing a large tank across one of the principal affluents of the Chittravatty about 2 miles East of Periasamudram in a direction 48 miles N. N.E. from Bangalore. The bund of the tank abuts on a western spur of the hill marked — Chikapillé which is a Trigonometrical Station.

B. on Sketch 1 to 4 inches

2. The following are the particulars which I was able to learn on the ground respecting the work.

Length of Bund (which is between two hills) ... 900 ft.

Comparative levels the lowest point bed of river, being taken as 0·0.

Bed of river	0·00.
Level of sluice	30·00
Waste weir	60·00.
Top of bund	72·00.

Capacity of Tank = 12,000,000 Cyds which is independent of the quantity contained between 0·00 and 30·0 which will probably be another 3000,000

Area of water spread. 470 Acres

Catchment area .. 47 sq miles.

3. The catchment area is generally hilly and what other tanks there are in the basin do not appear to be of a large size.
Still they will retain some of the rainfall, their united capacity might be $\frac{1}{5}$ of that of this intended large tank.

The rainfall is probably about 30 inches the nearest rain guage to that at Chika Ballapur which has an average of 36 inches.

From Bunnies Experiments at Nagapur a rain fall of 30 inches would have a flow off 8 inches nearly.

A flow off of 4 inches only would give a Supply 6,176,272 Cyds or Sufficient to fill the tank.

Eight inches would be the double this amount. But it must be borne in mind that the Supply would be spread over both monsoons that these would be irrigation going on, that the other tanks I have mentioned above will absorb some of the supply.

I should estimate therefore that a total quantity of 20 millions Cyds would be retained by this proposed large tank

4. The tank in the Marra Dessi-dency which is more immediately affected by the proposed Periatammur tank

tank is that of Bookapatanam. It is at a distances of 50 miles below Perasamundram and there is no other tank across the main stream although there are several anicuts between.

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The flow off in the Mysore Province may vary from 3 inches at Bangapilla to 8 inches at Chikaballa or say an

CHIEF ENGINEER
14 JUN. 89
OFFICE RECORDS

average of 4 inches. I may remark here that the rain fall is decidedly more than what obtains in Anantapur; the whole country is greener becoming more and more so as Chickballapur is approached, the trees are larger. And more numerous.

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			C. yds.
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probable discharge of about ~~50~~ millions of cubic yards. In these years the proposed Mysore Tank will not be so detrimental although it should be here noted that the Dharmaveram Tank below the Bokapatnam which occasionally fills as it did last year from its own independent Catchment basin of about 324 square miles, yet that it is not often; it generally fills in large part from the overflow of the Bokapatnam.

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which I understand is to be carried out afterwards.

A on Skeleton Map

On the Chittravathy about 4 miles above Bangapilli at a place called Cargur a large tank is also proposed. The site is favorable there is an Ancient already there.

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5 Channel in Cuddapah District

12. In England as I know from

from experience in water works, no landowner can impound the whole of the water on his lands. He must respect the rights of those using water lower down, And in all water supply schemes a large proportion must be impounded separately in order to replenish the streams below in the driest Summer months.

13. In rivers deriving their supply from the Western Ghats such as the Tunga, the Bhadra, And the Cauvery, the Mysore Government could build as many tanks, And as many anicuts as it chose without really affecting the supply below So abundant is the rainfall. This however is not the case eastwards, the rainfall there is so much less, And what is still more serious it is so much more

more uncertain
not merely here but all over that
Eastern districts is the Mysore
Government seeking to improve
their tanks, really at the expense
of tanks in British territory which
are lower down the drainage,
And will now find their supply
lessened, their cultivation con-
tracted, the population suffering
And the consequent revenue
to Government largely decreased.

Exec Engrs office
May 31. 1859

H.W. Blair
Executive Engineer

No. 5 11 20/1-6-89

From

SUPERINTENDING ENGINEER
Dg. No. 1375
3 - JUN 89
III CIRCLE, BELLARY P.W.D.

The Exec Engineer

Bellary Dr.

CHIEF ENGINEER
FOR IRRIGATION,
14 JUN, 89
No.

To

The Supg Engineer

III Circle

Encl 1 Sketch. Bellary.

Dated 31st May 89

Reed. 5.6.89

P.W. 6481/89

Ref. his Do. 468 dtd May 27.

Report on the construction of tanks in the Mysore Province in the Chittravati River ———

Papers

No 659

Endorsement on original letter No 579 dated 1st June 1889 from the Executive Engineer Bellary Division to the Supty Engineer 3rd Circle.

Enclosure 1 Sketch showing drainage area & bunds of tanks.

Forwarded to the Chief Engineer for Irrigation with reference to G.O. No 242 Dt dated 17th May 189.

H Stanley Colr R.E.
Supty Engineer
3rd Circle

Supty Engrs office
Bellary 12 June 1889

To

The Chief Engineer
for Irrigation
Madras

CHIEF ENGINEER'S OFFICE
No. 1578
14 JUN. 89
REGISTRATION

From The Actg. Chief Engineer
& Secretary
To
The Chief Engineer
for Irrigation
Madras

Dated 12th
Recd 17th June 1889.

Encl 1

No. 659

Construction of tanks by the Mysore Govt across the Chittravatti river

Forwarding a report of the Exec Engineer Bellary Division on the ——.

7P

Note by the Actg. Chief Engr for Irrign

No. 72 I.

The Actg. Engineer, Secretary has with his Endorsement No 659 dated 12th June 1889 forwarded the Report by the Executive Engineer, Bellary ~~Division~~ called for in Endt. No. 242. I. dated 17th May 1889 from which it is evident that the large tank which the Mysore Government is now constructing on the head waters of the Chitravati River will deprive certain irrigation works in British territory of a large portion of their supply of water when it is most needed.

2. The most important of these works are the Bookapatam Tank (No 27 of list of Superior Irrigation works) which irrigates upwards of 2000 acres, and

five

five channels (No 27 & 31 of the Imperial List) which irrigate upwards of 1,200 acres.

3. It appears also that the Mysore Government is intending to construct another large tank to impound water from the same affluent of the Cauvery which would still further lessen the supply to the tanks and channels in British territory which depend on that river.

4. In a letter (No 60/8 dated 9th April 1889) addressed by the Asst to the Resident in Mysore by the Public Works Secretary to the Govt of Mysore about proposed works on the head waters of the Papagni River (which will be separately dealt with) that officer says "it is considered that under the law and custom of all countries, Mysore has the right to utilize to the fullest extent the natural water courses flowing through its territory" but with reference to this the Resident in Mysore says in his No 1967/818 dated 14 June 1889 to the Chief Secretary to the Govt of Madras that the general proposition "is untenable" and that the Govt of Mysore has, by him, been informed that "it has no right to interfere with such water courses in any way that may be detrimental to the interests of subjects of another power lower down their streams".

5. I recommend that the suspension of the Mysore works under notice be obtained.

Oatscammed 3
4th July 1889 3

C. Stewart

Ag. Chief Engineer for Irrign

To

The Secretary to Govt. P.W.D.

Copied
S. M. G

E. I. Form No. 22.

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the

READ the following :—

Proc of Govt. P. Wks. (No. 1242. S. 4/17 July 89)

Govt. by the Secy. Engr. 3 Circle forwarding Report from the Ex. Engr. Bellary Divn (No. 669. a 12 June 89)

Print Proceedings in connection with this case (Encl)

Note by the Ag Chief Engr for Irrign (No. 1072 S 9/4 July 89)

To

The Chief Secy for favor of Comts - initials,

9P

The Mysore Government will be at once addressed in the Political Dept with a view to the suspension of all works which it is constructing or contemplating on streams which supply existing irrigation works in British territory x

2. The principle stated by the Secretary to the Mysore Govt. but as quoted in para 4 of the Note by the

Ag

Mel 10 July.

x Especially those on the headwaters of the Cauvery

Ag. Chief Engineer
for Irrigation is
cannot be accepted
by the Government
and it is satisfactory
to see that it is
satisfactorily by
the Resident.

To The Chief Engr: for Irrign:
" Executive Engr III Circle
" Revenue Dept:
" Political Dept.

Govt. of Madras

PUBLIC WORKS.

Dated

Rect. Encl.

G.O., 15 July 1889 No. 343 I

Thanks for the letter ...
Pattur Reservoir ...
...
Orders on reports ...
for the construction ...
by the Mysore Govt ...
of ——