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MADRAS RECORD OFFICE

Government of Madras

Public works DEPARTMENT

G.O. No.	1748 (9)	Press
~~B.P. No.~~ 614-615		~~Mis.~~
Dated	29-6-1874	~~195~~ .

Not to be folded or roughly handled

No. 614. Read the following endorsement of the Chief Engineer for Irrigation, dated Camp at Coimbatore, 3rd April 1874, No. 1 :—

From J. H. LATHAM, Esq., Chief Engineer and Manager of the Madras Irrigation and Canal Company, to Lieutenant-Colonel J. MULLINS, R.E., Chief Engineer for Irrigation and Joint Secretary to Government, dated Kurnool, 27th March 1874, No. 38.

I HAVE the honour to forward the Chief Engineer's and Divisional Reports for the month of February 1874.

MADRAS IRRIGATION AND CANAL COMPANY.

Chief Engineer's Report to accompany the Divisional Reports for February 1874.

THE direct irrigation under the canal for the current season of 1873-74 as compared with 1872-73 is as follows:—

Season.	1st Crop.	2nd Crop.	Dry Crop.	Total.
	ACRES.	ACRES.	ACRES.	ACRES.
1873-74	8,199·55	696·77	6,067·05	14,963·37
1872-73	6,626·30	411·92	1,879·11	8,917·33
Increase..	1,573·25	284·85	4,187·94	6,046·04

So that, if we include the irrigation saved by canal-supply under the Governmental tanks,* the cultivation has doubled over last year.

* About 3,000 Acres.

The Government have lately asked my explanation of the retrogression of direct irrigation of wet crop under the canal in the Kurnool and Nundial Taluqs of Kurnool District.

The retrogression in the Ramalakota (Kurnool) Taluq is from 1,607·68 acres of wet crop in 1872-73 to 1,071·85 acres in 1873-74, or 535·83 acres. The irrigable district is small, and has been efficiently reticulated for some years, so that every irrigable field can be readily supplied.

The retrogression in Nundial Taluq has been from 311·91 acres to 264·53 acres, or 47·38 acres, but if we confine our attention to the part which was efficiently reticulated before 1872-73, we find the retrogression to be more. The northern and southern portions of the taluq have been, even up to this date, but imperfectly brought within reach of water, and the channels were much increased last year, and fresh villages brought under irrigation, thus diminishing the total extent of retrogression.

The areas cultivated with wet crops under direct irrigation from the canal, and the population of all the villages lying underneath the canal in each taluq of Kurnool District, are as follows :—

Taluq.	Population.	Wet cultivation.		Increase.	Decrease.
		1873-74.	1872-73.		
Ramalakota	29,211	1,071·85	1,607·68	...	535·83
Nundikotakur	25,278	2,717·99	2,053·46	664·44	
Nundial	30,121	264·53	311·91	...	47·38
Sirwell	26,081	1,284·48	737·85	546·63	
Koilkuntla...	22,860	296·20	199·54	96·66	
Total ..	1,33,851	5,634·96	4,910·44	1,307·73	583·21

I am unable to explain this retrogression in the taluqs of the largest population, and on this account I have hitherto made no remarks upon it. I will however offer some suggestions on the subject, and try to point out some clues towards defining its origin.

Two facts must be distinctly borne in mind, viz., the general extension of irrigation and the steady high price of food under the canal. This last is rendered more striking by a steady importation of grain (and, I am informed, amongst other grains, rice,) from the Hyderabad territory into Kurnool itself, and into the other villages near the canal, and the frequent transport of rice from Hyderabad along the road parallel to the canal southward to Cuddapah. But these facts are hardly necessary to confirm the acknowledged profitableness of rice cultivation generally as hitherto practised under the canal. We are therefore driven to search for deterring influences which counteract these obvious inducements to irrigate; and of these the most possible, even if inconclusive, must be regarded with attention and care in default of better ones. I can suggest the following :—

1.—Much—I suppose for the greater part, and in some villages all—of the cultivation is carried on by capitalists, whether sowcars or loan-holders or ryots; but capitalists in a scientific sense only, inasmuch as no money capital is employed in the cultivation. These capitalists supply the seed, food, and clothes the labourer or farmer, often buying the cloth by grain, and in return take as rent or as profit all or half the produce of the land. I am convinced that, as a rule, these men look upon a high market price as wealth, and low prices as loss. In fact, they are narrow tradesmen, and their desire is for a good harvest and high prices. I suspect that these men often combine to avoid, and at least take care to avoid, overstocking the market.

I will leave it to those skilled in political philosophy to prove (if they can) that these men of property do not rightly, as well as shrewdly, consult their own interests in following the course I have suggested. The object is to grow an extra crop for home consumption that will supply their wives and the local demand; to sell at the highest price that will keep out importation from villages outside their operations in ordinary years; and then to grow, for sale, to supply distant demands, indigo, cotton, and such produce as does not require a tenth of the carrying power per acre that food crops do. At first sight it would seem that were the last named crops abandoned to grow rice for export, then the price of rice must fall ten times as much below the selling price at the receiving market, as the price of cotton had need to be, in order to pay for the carriage; and that all other food grains would necessarily fall in some proportion to rice. And this change is more striking if the value of the crops be considered; for the change would be from the carriage of a certain weight of valuable cotton, indigo-cake, etc., at 3 pence per ton per mile to ten times that weight of cheap rice at the same rate.

2.—I have fancied some signs also of a sort of conflict between sowcars and villagers. The large farmer prefers to have on his land a patch of every kind of produce he needs: rice, grain, gram, spices, vegetables, cotton, and oil. Villages of small holders, too, like to arrange mutually that their village shall be independent of others for each kind of produce; but a sowcar, so far as he can use his influence, prefers to have a whole village, or cluster of villages, under one course, so as to enforce a little mutual trade passing through his hands. The sowcar dislikes small tanks, and particularly he dislikes a canal which irrigates a patch of rice in each village it passes by, where formerly all rice was bought by him cheaply in Hyderabad and transported to these villages. He likes to persuade a village that their soil will not grow rice, or by any other means to prevent villagers helping themselves without his aid.

3.—It is possible that all capitalists and land-owners also have some motive connected with land speculations for delaying the spread of irrigation. I am informed it is so, but I cannot see how such a motive could operate long, unless it were that of keeping a hold upon dependants and debtors by keeping them poor.

4.—The ryot himself is capable of being set against irrigation in several ways. He may obstinately determine that he will not pay 6 rupees an acre for water, when the ryots under the Government tanks only pay 4 rupees. Though he be met by two arguments, the force of which he acknowledges, viz., that river water is in itself better than tank water, and that tank supply is precarious and river supply certain, yet he believes that ryots supplied from the canal, through a tank, only pay 4 rupees. It may be imagined that he may often be persuaded to combine with others to refuse irrigation unless the rate be lowered. Again, he is always afraid that, if he once take water to a field, the Government will some year or other oblige him to pay water-rate on that field for ever. This is one cause of the objection to plant their rice, as is done on wet land, in beds; and the preference for sowing it, like, a dry crop, in the open field.

5.—The lower Government officials may have several reasons for discouraging irrigation. They grumble openly that it increases their work and not their pay, and the sowcars and land-owners are generally on good terms with them, and completely influence them. In Cuddapah Taluq some village subordinates actually had it officially cried, with beat of tom-tom, through a village, that any ryot taking water must pay water-rate for five years whether he irrigated afterwards or not. In many villages the officials are openly talked of as demanding from a rupee downwards from every ryot irrigating.

Now, in all these possible reasons for retrogression, there is not one that does not apply as much to one part of the canal as another. If that be the case with the true reasons (whatever the true ones be) we must assume that the irrigation in all taluqs is equally below the area which it would have reached had no such reasons existed.

It is my opinion, however, that the discouragement of irrigation has been more systematically and effectually carried out at the municipal towns of Kurnool and Nundial than in the country taluqs. Perhaps the ryots in the neighbourhood of these—as we may say—county towns, are more intelligent, more disposed to look forward and to act in combination. Certainly the sowcars are richer and more intelligent, and more interested in extensive carrying trade; and certainly a greater number of official subordinates are there under class influences, and would have more credit from the ryots when giving their opinion of the intentions of Government, and their views of the policy best for the ryots. I think the initial probability, that the greater force of deterring influence lies at the chief towns, which thus follows from reason if such an influence exist at all—and that it does exist is clearly the case—is in harmony with all the facts known to me.

This special deterring influence on the ryots can, I think, be met initially by a clear, decisive, and full set of rules authoritatively published, and could never have gained such a head had not the higher Government officials been necessarily unable clearly and authoritatively to state the views of Government pending the revision of the rules and rates. It will be seen that, so far as I can conjecture, clear and definite rules will at least free the ryots from all illegitimate influence and imposition. But as to the sowcar, it will require hard facts to convince him that more profit is to be got from a low market price for rice, and plenty of it, than from his present narrow trade operations.

In considering this subject it would be an error to give too much importance to a few cases of illegitimate influence or illegitimate acts. The former, if it exist, is, I imagine, unlikely to maintain any permanence in the face of facts and experience; or, at least, any permanent influence of that kind must be subordinate, and of no great power. And as to the few of the latter that have come to notice, they seem at most merely an extraordinary outburst of an ordinary feeling, and not likely to be repeated except as irregularities. On the other hand, so long as the experienced and shrewd sowcars and men of property believe the canal likely to injure trade and lower the value of the stores and land, and so long as the village authorities think that it creates unremunerative trouble, it is but to be expected that their fellow countrymen in office, especially such as are totally unacquainted with the rapid increase of wealth in the irrigated delta districts, will join with them to discountenance the use of the foreigners' canal. That is the deterring influence it is worthwhile to consider, and, if possible, to remove.

Lastly, I myself do not see a chance of any satisfactory improvement unless the navigation be carried out, and in a thorough and convenient manner. By the canal the cost of rice-transport could be lowered to a third or a sixth of its present cost; the facility of transport could be increased so much that remunerative quantities of cheap produce could be punctually conveyed, where now quantities insufficient to pay can only be conveyed insecurely and dilatorily; and experienced English merchants would come into the field, and stimulate the growth, not only of rice on the

lowlands, but of cotton, indigo, etc., on the higher land. This would both upset the shrewd and annoying opposition to the canal peculiar to the chief towns, which, after all, does not affect more than 2,000 or 3,000 acres, and would completely revolutionize the notions and practice of the whole population under the canal, which is a hundred times more important. It has always been my feeling that to start an efficient navigation would be found necessary, but I am disappointed that more advance has not been attained without it. It is now clear that the irrigation (omitting a mere fraction) depends entirely on the navigation, and that the absolute necessity is to start navigation in a form and with a security and punctuality which shall secure at once the confidence, and meet the requirements, of Madras merchants.

On the subject of Government tanks supplied by the canal, I will describe the process in the case of that nearest to my camp at this moment, viz., Kunala.

The tank consists of the ordinary half-moon bank common on the upper side, crossing a flat bottom above the confluence of several streams, which formerly flowed onward over the bottom till they joined together below the present tank. It is to be presumed that it was made and repaired partly by Government and partly by ryots, to whom "Inam" lands at quit-rent were granted in return under the tank. At all events the present Government considered that the ryots could claim the use of any water which entered the tank; and the Government, I fear, has fixed the water-rate for such use as 4 rupees an acre for ordinary or putta-holders, and 8 annas for inam-holders or thereabouts. All this was quite apart from the canal, to the operation of which we will now turn.

The bed of the tank consists of about 771·09 acres, assessed at Rupees 1,017-1-0. A half supply would cover about 486 of the most valuable acres, assessed at about Rupees 1,130. This assessment can, of course, only be levied when the absence of water in the tank permits cultivation in the bed of it.

The full area irrigable under the tank (before the existence of the canal) was

Inam	128·70	acres.
Putta	116·48	
Total...	245·18	"Ayacut" under Kunala tank.

At the close of last year the ryots, with the tank nearly empty, sowed four months' rice under the tank as follows:—

Inam	101·08	
Putta	128·31	
Total...	229·39	area sown in December 1873.

Thus the putta-holders seem to have included 11·83 acres of land outside the ayacut, with a view to getting the irrigation cheaper.

On the 16th January 1874, Mr. Dodson, at the request of the Government through the Deputy Collector, let flow into this Kunala tank twice as much water as would be required to irrigate these 229·39 acres to maturity. This swamped 186 acres of land in the tank bed. Half of this supply will evaporate in the tank, half will be used for the irrigation. For this double supply it is likely that the public funds and the ryots should pay as follows:—

		Rs.	A.	P.
The public to pay				
Six months' supply to 230 acres of four months' rice, worth at present rates, agreed on as fair rates		2,070	0	0
Also loss of assessment on 486 acres of tank bed		1,139	0	0
	Total...	3,209	0	0
The ryots to pay in return—				
⅛ of 8 Annas on 101 acres, or	37 10 0			
⅛ of 4 Rupees on 129 acres, or	387 0 0			
		424	10	0

There is no difficulty whatever in irrigating all the land in question direct from the canal, without putting water into the tank; but then the ryots would have had to pay Rupees 1,035, which would have been the full cost to the public of the supply given under those conditions. Why these well-to-do cultivators, having their rich holdings under a tank, should be allowed in so

Proceedings of the Madras Government, Public Works Department,
29th June 1874.

equivocal a way to get canal water at the expense of their poor neighbours, I cannot see; for I do not see that any previous obligation regarding rain-supply has the slightest moral or reasonable binding force, when water is brought to the tank at the ryot's request, or for the public good, by a canal made at public expense. Nor do I recognize that Government is required by the contract with this Company to do more than supply the necessary water for maturing a crop in the most direct and obvious way; and if ryots wish to have water in their tank they should pay for that as well as for the irrigation. This is not a question that would less need an answer were the whole canal State property. I have no intention of pressing the Company's interest as against the State; for instance, I should be sorry to see the Government paying the canal, out of the national fund, money fairly earned by the canal, but which the ryots who alone profited by the water did not pay.

I am glad to report that in the lower sections applications are daily coming in for the use of water to dry crops. The first cholum crop was a failure, and great distress (in a small way) is expected about midsummer by some of those best acquainted with the people. The few hundred acres of flooding, now called for, may well become as many thousand next year.

I regret to add that the water in the Toombudra river at Soonkasala has fallen from its low figure of 4·2 feet on head sluice cill on the 1st instant to 2·7 feet on the 19th. A few inches more fall will cause the inflow into the canal to cease.

I was laid up for a week in February by a regular and severe attack of malarious fever, and again early this month. But I believe the feverish weather is now over for three or four months, and health seems everywhere improving.

(Signed) J. H. LATHAM,
Chief Engineer and Manager.

CAMP AT MITTANALA,
19th March 1874.

MONTHLY REPORT FOR THE UPPER DIVISION.
February 1874.

On the 11th of the month I resumed the duties of Conservancy Engineer, taking over charge from the Chief Engineer as soon as it was possible.

The water above the anicut kept up to a fair level until the middle of the month when it began to fall regularly to nearly 4·0 above head sluice cill.

In the canal a uniform height nearly 4·0 was kept on the gauge, but at Kurnool it decreased during the month about 6 inches.

Elsewhere the level did not vary much, and there was everywhere an abundant supply for the crops. There seem to be a difficulty in getting Overseers to regulate the supply of the water, and strict measures have been resorted to in order to ensure as little waste as possible. It is hoped that water may be kept up till the end of April, but it is very doubtful if such will be the case.

Measures are being taken to take in hand several necessary repairs the moment water is fallen sufficiently low for the commencement of the works.

A few applications have been received during the month both for wet and dry crops.

In the Upper Sections irrigation is as follows:—

	Area irrigated. Wet.	Area irrigated. Floodings.
	ACRES.	ACRES.
In first five Sections	3,356	440
In 6th Section	322	*400
	3,678	840
Second crops	*230	.....
Grand Total...	3,908	4,748
	840	

* Estimated only.

The advantage of having water still flowing in the canal below Kurnool cannot be doubted for an instant, but as this is the first year the canal has had water flowing in March, it can hardly be expected that the ryots should be prepared to take advantage of it to any extent. The second crops are still unsettled, and the number given for dry crops in the 6th Section is only approximate.

It would be a great advantage if ryots could be induced to sow their second rice crops a little earlier. It must also be remembered that the revised rules have not yet been sanctioned finally, and until they are settled it is very difficult to get much increase in irrigation.

In consequence of an accident which happened to Mr. Dunphy I have been unable to take over charge from him, but will do so in a few days.

The Moharum feast occurred from the 20th to the 28th, so that all masonry works were stopped. Small progress was made with the irrigation sluices; but all the bungalows for Overseers are nearly finished.

There has been some fever among the staff.

KURNOOL, (Signed) C. H. WILKS,
7th March 1874. *Conservancy Engineer.*

LOWER SWETTANA.

Report for the month of February 1874.

The Main Canal from Jutoor Anicut to the Pennair has had an ample supply of water for all irrigation purposes, and at the end of the month 6 inches of water was still running over the Jutoor Anicut crest.

The amount of water in the Pennair has been very small all through the month, but the surplus water from the Toombuira has enabled us to keep up a sufficient supply in the 10th Section for all the irrigation purposes.

Advantage has been taken of the dry state of the Pennair to point with chunam the crest coping of the Adimapully anicut, also the head and under sluices; all other works of repair must wait until the water is out of the canal in May.

Irrigation.—During this month applications have been received to supply Chintaccoonta tank with a three months' supply of water, which has been done; and the Deputy Collector of Cuddapah was requested that all the fields under Maidoor tank may be supplied with water from our channel which is being done, as unfortunately the tank itself is too high to receive a supply from the canal.

Seeing over 2 feet of water still in the canal throughout the month has greatly encouraged the ryots to go in for second crops, so that up to the end of February we have received applications for 419·02 acres of second crops, at the rate of 1 rupee per acre per meneem, and taking the first crops up to the end of the month as 4,636·98 acres, we have in all 5,056·00 acres of ordinary crops, 2,504·66 acres of floodings with 2,860·71 of irrigation under Government tanks, making a total of 10,421·37 acres of irrigation under the canal up to the end of February. The above estimate however does *not* include the acres under Chintaccoonta and Maidoor tanks, returns of which have not yet reached me. If we are able to continue our supply of water throughout April, I expect over 600 acres more will be irrigated.

No rain has fallen during the month, and all the dry crops are now harvested, and I fear the outturn is considerably under the usual average.

Several severe cases of fever have occurred among the employés in these sections, which have somewhat delayed the progress of both out-door and office works.

DHOOR, (Signed) A. J. DODSON,
5th March 1874. *Conservancy Engineer.*

Return of rain-fall in the Kurnool and Cuddapah Districts for February 1874.—Nil.

SUBMITTED for the information of Government.

The progress of irrigation, especially in the Cuddapah District, is satisfactory.

2. No report for the month of January has been received.

3. Another season of irrigation will soon commence, and no orders on the revised Rules which were submitted to Government on the 4th February 1874, No. 65, have yet been received.

(Signed) JOHN MULLINS, Lieut.-Colonel, R.E.,
Chief Engineer for Irrigation.

No. 615. ORDER THEREON, 29th June 1874, No. 1,748.

IRRIGATION, No. 53.

ORDERED to be recorded.

2. The attention of the Board of Revenue will be requested, through the Revenue Department, to the subject of paragraph 3.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the Chief Engineer for Irrigation.
,, ,, and Manager, Madras Irrigation and Canal Company.
,, Examiner of Accounts do.
,, Revenue Department.

Exd. S. T. Austin.

Spare Copies

No. 7

Submitted for the information of Government.

The progress of Irrigation, especially in the Cuddapah District, is satisfactory.—

2. A report for the Month of February has been received.

3. Another season of irrigation will shortly commence, and no orders on the forward action which appears to be submitted to Government on the No. 65. dated 4th February 1874. have yet been received.

Camp Cuddapah
Coimbatore
3rd April 1874.

I have &c
Colonel Lieut Col R.E.
Chief Engineer for Irrigation

To,
The Secretary to Government
Public Works Dept.

S. W. 1874 Department
Irrigation Works
No 2185

From

The Chief Engr
for Irrigation

To The Secretary
Govt Works

No 1

Dated 3rd

Recd 13th April 74.

Encl 2

Ebro 1748 29-6-74

Submits with
remarks report
of the Chief Engr &
Surveyor in Charge
No 1 for the month
of February 1874.

Dated 6th March 1874

Recd 13th April

Requests attention of the Secretary
to the necessity of the Clearance Order
being signed by the Collector of Karachi
as the Executive Engineer has left
Karachi.

Copy.

Bkg - 615

Cir: 16/4/74
Memo to Acty 16 April 74 B 23/4/74

2185

Govt. of 1874 Madras

PUBLIC WORKS.

To The Secretary to Govt.

Dated

Read. Encl. 2

G. O. 29th June 1874. No. 17

Nos. 5 to 15.

Madras Irrign & Canal Co

The report of the Chief Engr & Manager of the Company for the month of March 1874, received & the attention of the Bd of Rev: requested thereto the Rev: Deptt to the subject of the revised Rules for main-