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# MADRAS RECORD OFFICE

## Government of Madras

*Public works*

DEPARTMENT

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No. 93. Read the following endorsement of the Chief Engineer for Irrigation, dated Fort St. George, 28th December 1872, No. 69:—

From the Chief Engineer of the Madras Irrigation and Canal Company, to the Acting Chief Engineer for Irrigation, dated Madras, 4th December 1872.

My accompanying report for October needs a few words of explanation. In the first place it was written by me as Chief Engineer of the Company simply, and does not pledge the Company in any way; and in the second place I have the honour to add a few remarks suggested by a perusal of the records in this office.

2. In my opinion, the attention of the Madras Government can scarcely be too strongly directed to the importance of securing liberty of action and choice to each ryot whose lands are commanded by the canal, so that he may be subjected to no undue pressure to induce him either to use or decline irrigation, and may also have ready means of assuring himself what choice lies before him, *i. e.*, what liability he incurs, under any probable contingencies of weather or of supply, if he use the canal water whether directly, by leakage, or accident, or surreptitiously, wholly or partially.

3. For the higher officers of Government to leave things alone does *not* secure free trade and liberty of action to country ryots. Their condition may be illustrated best by a few examples quite independent of irrigation. Thus, at a country village, a ryot will very rarely, if ever, venture to sell to an Englishman, or his servants, anything—from a cup of milk to a sheep—until he has authority to do so from the highest resident Government Officer, or from one of his official subordinates; and it has occurred to me last month that these officials insist on a charge double the price of similar things (such as a fowl or sheep) in the free markets of Kurnool or Cuddapah, although these last towns, and especially Kurnool, are supplied chiefly by these very villages. Such a circumstance, in my judgment, would justify inquiry; but the Revenue Officers are forbidden to interfere, as it is explained, on the principle of encouraging free trade. Even in Kurnool, carts standing idle in the bandy stands cannot be hired except with the Sub-Magistrate's assent. Ten days ago I hired bearers to take me a stage out of Kurnool for a sum agreed upon, and advanced them a day's pay per man on the contract; but I received a memorandum afterwards from the Sub-Magistrate informing me that their pay was  $5\frac{1}{2}$  Annas a man an amada (ten miles), which was more than I had agreed for, and more than used to be the rate (4 Annas an amada) when the canal works were going on, and wages were higher than now. These are mere illustrations, such as are continually occurring, of a fact generally acknowledged even by those who strictly carry out the rules laid down by Government, for what is called non-interference, namely, that pernicious influence is exercised by Government officials over the villagers. I maintain that if Government appoint petty officers in every village and give them authority and dignity, then Government is bound to exercise sufficient "interference" to make sure that they do not abuse their influence for public or private injustice. I need scarcely add that one of the main objects of the Board of Directors, as shown by their prospectuses and publications, is to secure the ryot perfect freedom from pressure and interference

in making his choice whether he will use the canal water or not. The accompanying report seems to show that he has not that freedom now.

4. To secure the ryot freedom, and enable him to get water if he wishes to do so, without risk of penalties, it is not enough to *permit* the Curnum of a village to apply directly to the Engineer, but he must be *bound* to apply directly, or to give the ryot a paper to show that he has applied. The Board of Revenue\* have expressed a preference to double rates

\* Proceedings Board of Revenue, No. 8,033 of 6th November 1866.

being charged for irrigation carried on without previous application rather than  $1\frac{1}{2}$  rate. But to have charged this when it was quite out of a ryot's power to prove that he had applied (as in case the Curnum declines to attend to him), would have checked irrigation vastly; and the rate for surreptitious irrigation is now never enforced unless there appear to have been a wish to defraud.

5. The matter is one for the Government to consider, and I am quite prepared to assist, move, or furnish information, to the best of my power, in order to obtain for the ryots access to the canal water whenever their free choice leads them to desire it. I judge that the Board of Revenue in their Proceedings above quoted, and in others,\* show a wish to obtain the same end.

\* No. 7,875 of 31st October 1866.  
.. 6,897 of 26th Sept. ..

6. In reference to the ambiguity of the *very* meagre scale of water-rate now existing, I may mention that the Collector of Kurnool considers all crops dry except rice, though he has put chillies under the rules for wet crop. The Collector of Cuddapah finds that the revenue practice recognizes no distinction between wet and dry crops. I therefore have no option but to turn from any attempt to elicit a local technical meaning to *wet* and *dry*, about which the two Collectors differ; and, till further advised, must take the plain English sense that a dry crop is such as will in average years grow on average land unirrigated, and a wet crop one that will not do so.

7. Meantime we have the fact that the canal, its channels, and staff, were competent this year to irrigate 100,000 acres of wet cultivation, and that only 9,000 have been irrigated.

*Report to accompany the Reports of the Conservancy Engineers for October 1872.*

SUCH remarks as it is necessary for me to make may be all very well placed under one head. I will first give my reasons for considering the irrigation of this year to be a failure, and I can scarcely avoid indicating what appear to me to be the reasons and remedies for failure.

2. The Governor-General of India in Council, in a despatch No. 38 of 20th March last, estimated the gross receipts of the canal at Rupees 15,000 for 1871-72, and Rupees 50,000 for 1872-73. The former estimate was exceeded by the reality in about the proportion of 250 per cent. Increasing the latter estimate in that proportion we get Rupees 1,25,000 as the proper revenue for 1872-73 at the expected ratio of increase.

3. The Company's local officers in their Budget-Estimate for 1872-73, made by the Engineers after carefully considering the expressed intentions of the ryots, entered 37,300 acres as the probable gross area of wet and dry land which would be irrigated in that year. This would give at an average rate of Rupees 3, a revenue from irrigation of Rupees 1,11,900, or a total gross revenue of about Rupees 1,16,000.

4. The actual area irrigated up to date points to a total area of ordinary irrigation of from 8,000 to 9,000 acres, or, say, Rupees 51,000; as a mere conjecture perhaps 3,000 acres of flooding may be added hereafter. This indicates a total gross revenue not exceeding Rupees 61,000. The apparent deduction is that the revenue for the current season is only half of what it might have been; and this, in my opinion, is borne out by a consideration of the difficulties under which irrigation has been prosecuted. Nothing has occurred, to my knowledge, to indicate that the Natives of these districts are singular in a distaste for irrigation. I accept as true for them the opinion

\* No. 2,298 of 15th December 1863.

expressed by the Madras Government in 1863 in an Order\* drawn up by the Honourable J. D.

Sim: "The idea that the ryots of this country need to be taught the benefits of irrigation is contradicted by universal experience, and if they evince any reluctance in making preparations for taking advantage of it in Kurnool, the reason is certainly not ignorance of its value." No longer ago than July 1871, in his Minute, enclosed in a letter No. 14 of 31st idem of the Government of Madras to the Secretary of State, Mr. Sim says, "I see no reason to apprehend that the ryots will decline to take the water at the present rate of 12s. an acre if the supply be really assured, and the Company's Officers treat them with liberal consideration"—conditions which have been fulfilled to an extent to challenge favourable comparison with any similar work.

5. I attribute the failure to two simple primary causes: (1) the want of any means of giving the Resident Engineers speedy authoritative information when a ryot desired to irrigate his land; (2) the want of any authoritative advertisement within easy access of every ryot, stating with sufficient minuteness what he would be liable to pay for irrigation, subject to the ordinary vicissitudes of agriculture. These deficiencies have been extensively disastrous. The ryots have been withdrawn from the protection of the Engineers and left at the mercy of any petty tyrants amongst the Revenue Officers who, as a body, are largely interested in the land; and who, it is impossible to doubt, have been exerting themselves to check irrigation in order to obtain a lower water-rate. It seems to me untenable now, though it might have been reasonable once, to suppose that by prohibiting direct communication between the ryots and such men as Messrs. Wilks, Crawford, Knorpp, and Bradbury, and making each ryot entirely dependent for irrigation on an official—a rival cultivator in his village—under the guidance of such men as A. Ramachandra Row, T. Krishna Row, and the Tahsildars—men whose relations and office subordinates are speculating largely in land under the canal (and to this I see no objection)—it seems impossible to maintain that the ryot's freedom of action, and freedom from pressure, are promoted by such an arrangement. The facts will be found, I believe, to bear me out in this opinion thoroughly. As to the ryots themselves, if their votes be taken, they will not voluntarily have any communication with the Curnum, but prefer irrigating on such an understanding as they can make with the Engineer or his Overseers if it be only a tacit one.

6. I will go on at once to state the facts, and first it is necessary to describe the existing rules, and then I may give illustrations of their actual working.

(1.) APPLICATIONS.—These are treated in the Draft Rules\* under three heads: (1) for irrigation of the first crop; (2) for any subsequent applications, including second crop; (3) for occasional irrigation of dry crop. The first were to be registered by the Collector through the Taluk Officers, and closed on the 1st April yearly, and an abstract in detail forwarded to the Company's Officers by the 1st May. A similar abstract of "subsequent applications" was to be forwarded to the Company's Officers monthly. The last kind of applications were to be forwarded to the Company's Officers as they were recorded.

\* G. O. No. 1,830 of 5th October 1864.

7. Before the close of the season 1863 it had become evident to the local officers of the Government and Company that these rules would not work, and a correspondence took place between them, given in the Proceedings of the Board of Revenue, No. 6,897, dated 26th September 1866.

8. My proposal then, after modification and approval by Mr. J. I. Minchin\* and Mr. E. Sullivan,\* was in effect this: that any ryot

\* Collector of Kurnool.

should be able to go to the Curnum of his village

and apply to the Government for water, and get from the Curnum an application to the Company for water. This would give the Curnum about as much trouble as the preparation of a luggage ticket for passengers' luggage gives the luggage clerk, less the trouble of weighing the luggage. The application was to state the area and rate, and the conditions of remission, and the penalty for irrigating without application. The method was strictly analogous to that of an application for dry cultivation, for obtaining a puttah, or purchasing waste land. This proposal was not adopted, and the original rules are still in force.

9. By the quashing of this proposal the ryot was left without any means of getting an immediate supply of water, unless the Engineer voluntarily chose to supply it to him. The Engineer was left without any means of learning whether a ryot was pledged to take water; and if he made channels on verbal request of the ryots would find that he was deceived to the extent probably of 90 per cent. on two accounts, namely, (1) because a ryot anxious to get a channel declares it is for ten times the area for which he really wants it; (2) because some influential villager, the Curnum or Head Reddi on whose favour the ryot entirely depends, will often step in and prohibit the intended cultivation. Further evils will be more obvious if I quote some cases, especially that of having to run long channels on sufferance on private land.

10. Experience shows that no applications of the first kind are made, or very few; the "subsequent applications" comprise about half the actual ordinary cultivation; the other half is cultivated without application, and no penalty is enforced for not applying. Mr. Knorpp reports that the first application for water which he received this year through the Collector reached him at the end of August, others not till this month. In the village of Chennai he is irrigating 800 acres, for which no application has been made. It is therefore unavoidable either to lose the irrigation, or to make channels at a great cost in anticipation of demand for them, contrary to the orders of Government, or to construct subsidiaries with rapidity on sufferance on the verbal application of villagers. Even if application for water have been made in form, it will reach the Engineer after the necessary channels, of ten miles long, have been made, or else too late to make them, if not made.

11. The villagers of Bandy Atkoo, Nundial Taluq, made their first application formally for water for 141 acres in the month of July last. The Collector forwarded the application with many others to this office on the 27th August. Owing to the illness of the Head Clerk it was not copied and sent on till the 11th September; and it reached Mr. Knorpp in camp on the 22nd September, who at once handed it to Mr. Bradbury. All these fields could have been irrigated by making subsidiary channels of short length; but the ryots seeing no subsidiary channels made and their inclination to irrigate being changed by some influence, had meantime sown dry crop on all but about 13 acres. Water had been kept flowing in their main distributing (sanctioned) channel all the season, except a short time during the formation of a weir, but without any wet cultivation going on. Mr. Bradbury met the ryots of Bandy Atkoo on the 26th of June, levelled over their fields, and explained to them which he could irrigate and which not. On the 30th June he again met them, and visited the village on the 1st July, and was there again on the 20th July in camp; but had no definite verbal application made to him, such as appeared to him to justify the making of a channel, nor was he informed that the formal applications were made.

12. When Mr. Knorpp was camped at Pichapad, Prodatoor Taluq, Cuddapah, a ryot from Maidekoo, a large village two miles off, came to him one afternoon very desirous to have a channel made for his fields. Mr. Knorpp promised to come next morning, and did come accordingly, but found no ryot until he inquired for him from the Curnum. It turned out that the Curnum had "persuaded" (i.e., ordered) the man to relinquish his intention to irrigate; and he, the Curnum, told Mr. Knorpp that they had a tank in the village, and that there was quite irrigation enough there. The Curnum had land under the existing tank, and had determined that his village should strike against the use of canal water.

13. The Curnum and Reddi of Vellala, Nundicotakoor Taluq, Kurnool, have forbidden and forcibly prevented a ryot of their village from further irrigating his rice field, a well-grown and successful crop, and it has perished. Other ryots of this village have shown their desire to irrigate, and the prohibition which exists in the village by taking up land for rice cultivation in the neighbouring village of Moomurri where irrigation is freely allowed.

14. I may add that the Irrigation Surveyor reports that, in following up the channels through jungles, he has come (as at Shaitankota) on plots of land being cultivated under canal water of which all knowledge has been kept from the Curnum up to the date of his discovery. What motive induced this concealment, I do not know.

15. I hope these cases may show that it is from their Curnums, accustomed to exercise arbitrary control, that the ignorant country ryots need protection; not from the rapacity and violence of Mr. Wilks or Mr. Knorpp, who love to see liberty and independence. The Company's Overseers are not in a position to oppress; they have to account for any crop under irrigation being starved or lost. They, if they cheated, must make money by giving the canal water surreptitiously for a bribe. But it is different with the Curnums. They may merely passively decline to take an application; for the ryot can only make application if the Curnum will take it; and there are, I suppose, not three villages on the canal in which a ryot could be found who would report his Curnum for refusing his application. He dare not do it.

16. It is manifestly impolitic and unjust to charge a ryot double rate for surreptitious irrigation, simply because no application has been sent to the Collector. The fine for not applying should be small, say 4 Annas an acre, and this would ensure the ryot making a satisfactory arrangement with his Curnum. In any case it is *essential* that the Engineer, or his officers, be informed when water is wanted; for it is he who makes the channels to supply it. The Tahsildar or Collector are not the Executive Officers; and it seems obviously unsuitable to insist that urgent applications for water shall be sent all over the country to the Tahsildar, Deputy Collector, Collector, and Chief Engineer, and shall *not* be in any wise sent to the Engineer or Overseer close by, who alone has the key of the sluice and the management of the channels, and can save the crops.

(2.) *RATE.*—In G. O. No. 1,272 of 13th July 1863, a water-cess or water-rate of Rupees 4 an acre for the supply of water to one crop only was fixed. I can find no closer definition of this rate by the Government; for instance, I do not find that Government speak of it as "a charge of Rupees 4 per acre in addition to the dry assessment," as if it did not apply to lands paying a consolidated assessment under Government tanks; nor to such enam lands as pay a quit-rent entitling the owners to the use of works of irrigation under Government control. However this might be, Government in their Order No. 1,348 of 1st June 1866, after stating that "the present price charged for water for ordinary irrigation is Rupees 4 per acre for one crop, the supply being sufficient to bring the crop to maturity," afterwards (paragraph 11) "agree to the enhanced rate proposed," namely, Rupees 6, instead of Rupees 4. In the same order sugarcane is rated at Rupees 12, and Government decline to decide on any special rates for garden crop. Meantime in G. O. No. 1,830 of 5th October 1864, a rule was passed by which claims to remission on the ground of insufficiency of supply, inundation, or defect in the works made by ryots on Government were to be settled; and a charge of "1 Rupee per acre for each effective flooding" was fixed "for occasional irrigation to dry crops" supplied at the discretion of the Company's Officers.

17. I will not stay to point out all the elements of uncertainty in the above orders from a ryot's point of view. In the case of a rice crop reared in the wet season without canal water for half its time, and then matured by canal water, they would seem to me to authorize the charge of Rupees 3 per acre in language; but this is quite opposed to their spirit, and perhaps to the rule on remission. It would be hopeless to collect a rate if deductions were to be made for every portion of the time of growth during which the ryot could dispense with the canal water; yet a recent G. O., namely, No. 2,452 of 18th October 1872, seems based on this view. Again, it seems that the 1 Rupee rate cannot be allowed unless the flooding is taken with the lease of the Company's Officers; yet there is no machinery for giving the ryot proof that he had that leave.

"Dry crops" is a technical Government term, including, as I am informed, all crops except rice and garden crops; and if this sense be taken, dry garden crop (like *tobacco*) is not entitled to flooding. If, on the other hand, "dry crops" be taken to mean any which will ordinarily be sown on dry unirrigated land, and this is I think the fair meaning, seeing that the rules are approved by the Madras Government as between the Secretary of State and the Board, neither of whom know the technical expressions of Madras tank assessment, then *wet korra, raggi*, and other crops are not dry crops; but perhaps some, to me incomprehensible, difficulty arises in reference to treating crops differently under canal irrigations to what they are under Government tanks. The canal is totally different from a tank. In the latter case, when water is short, there is no choice but to sow half wet crops; under the canal there is always choice.

18. To pass on, however, to the ryots. On a Railway, when the general rules as to rates have been fixed by Government, a complete list of fares for passengers and of every kind of goods at every rate is at once published in every station, with perhaps about four columns 18 inches long each of closely printed rules, in English and in the Vernacular. I can only find one notification of the Company's water-rate in six short paragraphs ordered in G. O. No. 1,835 of 7th October

\* See Appendix A.

1863, when the rate was Rupees 4, to be published\* in the *Kurnool Gazette*, a document

of very limited circulation. Possibly subsequent notifications have been inserted in that paper; but such a publication is quite insufficient, and nothing is said about remission, application, flooding, the duration of supply, the area to be charged, etc., etc. The consequence is that the ryots are at the mercy of every flying rumour, and have to get information from the Clerks in offices, or to believe their Curnums; and it only needs a well-timed official letter from a Deputy Collector to canvass the rate or terms of irrigation, or from an Engineer to enable the Curnums to influence the ryots to any extent and induce them to hold out against taking canal water. It does not take a week for any remark, thought to have importance, which I may write officially to the Acting Manager before a garbled version is quoted by Village Curnums to the Engineers in remote villages in Sirwell or Prodatoor.

19. Thus, on the 19th July last nine of the chief ryots of Moottaloorpad, Cuddapah Taluq, Cuddapah, wrote to the Acting Chief Engineer to say that their village authorities had caused it to be notified by tom-tom (publicly cried) in that village that the Revenue Inspector of the Chennoor Firkah in that taluq had issued instructions that persons intending to irrigate under the canal must apply for water for a period of five years at once. On this the Collector of Cuddapah, to whom Mr. Browning referred the matter, says (in his letter No. 34 of 21st ultimo) that "the ryots can give no ground for their complaint to you." It would have been interesting to know whether it were a fact that the report was tom-tomed in this and other villages; there is no doubt that the ryots would be likely to soften down their complaint when it was inquired into by the Revenue Authorities.

20. Again, the ambiguity of the rate, especially in cases of dry crops requiring frequent flooding, and of mixed crops (especially if garden crops) grown together on the same land, has led to a continual correspondence going on between villages and the higher Native Revenue Authorities on the subject of bargaining before-hand for irrigation—a most unsatisfactory circumstance; for, as a matter of course, during the bargaining, the village holds out against irrigation, and probably others combine to be guided by the result. Immediately after last season a bargain with the villagers of Pathakola, Nundikotacoor Taluq, Kurnool, was proposed by the Deputy Collector, and adopted by the Company; and since that the village of Kotapad, Sirwell Taluq, has, through the same officer (his No. 95 of 12th August), obtained permission to grow a succession of crops at Rupees 6 an acre for the whole season. Neither of these villages have tanks.

21. This month is the critical one in Chilli irrigation, which hitherto has received sufficient moisture from rain. This crop was notified by the Collector to every village in Circulars dated the 31st May and 3rd September last, to be one for which ordinary irrigation alone is available. I

\* See Appendix B.

append\* a copy of the Deputy Collector's

No. 137 of 5th instant, recommending at this critical time that the rate be again unsettled, with a copy of my reply. It would seem from it that the Company's Engineers pointed out last season certain chilli crops for which the ryots had

taken ten or twenty floodings, and ought to have paid Rupees 10 or 20. Had that rate been levied the cultivators would have voluntarily taken ordinary irrigation in preference to flooding in future. The above instances prove that the rates have not been understood by the ryots, and confirm the reports of the Company's Engineers to the effect that all kinds of wild rumours tending to check irrigation have been in circulation amongst the villagers throughout the season.

22. Another source of present and future trouble is the custom which has grown up of allowing a ryot to cultivate an irregular portion of his field, and to pay the rate on the net cultivation only. This custom puts the Company at the mercy of their Surveyor, checked by the Engineers. The Government officer appointed to measure the fields as a check on the Company's Surveyor, accompanies the latter and, in fact, learns his work from him. At least in some cases the Government Inspector has great difficulty in measuring any but rectangular fields. This cannot be adopted, and was never intended to be adopted, as a permanent mode, and indeed already it has promoted much attempted evasion. A ryot ought to irrigate his whole field, or to pay for a whole field of which he irrigates part, and the fields should be of a size convenient for him. Now that almost all the village plans are complete, it is time to make this rule. The field area in that case requires no measurement; but is taken from the Government tables, for the completion of which the Company's Officers have been anxiously waiting since G. O. No. 283 of 9th February 1863.

23. It may at first sight have appeared that my remarks disparage the efforts of the Revenue Officers who have had the sole management of the sale of canal water to the ryots for the purposes of irrigation. Certainly the Company's Officers have not interfered to any appreciable extent; and at least every precaution possible and consistent with meeting demands has been taken. The last case of unjustifiable interference of any of the Company's Officers that I know of is that of Mr. Orme who, when Superintendent of Irrigation, was reported to me by the Collector and Magistrate (No. 1,110 of 1st December 1870) of Kurnool, because it had been alleged by some ryots that he (Mr. Orme) told them in reference to some rice crops which had failed to ear, that if they cut the straw and carried it away they would get no remission. [In some districts it is (unless recently altered) the rule that if remission is claimed, the crop must be left on the ground until the claim is settled. This is to prevent deception.] Mr. Chase adds, "I request you to warn Mr. Orme against meddling with Revenue matters with which he has no concern whatever, and regarding which the Government have repeatedly expressed the opinion that the Irrigation Company's Office should abstain from all interference." I instructed Mr. Carruthers to reprimand Mr. Orme, and to remind him that my orders were that he should simply see that water is supplied wherever ryots will take it, and to keep a register of the facts.

24. But I have merely stated existing difficulties, and I see no reason to under-rate existing difficulties, but I have no wish to exaggerate them. They bring to mind strongly the experimental character of the work, and that was known when the guarantee was first given. At the time when experience had thoroughly shown the *engineering* difficulties against which the works must contend, and the insufficiency of the measures adopted by the Company's Officers under the control of the Madras Government, I remember seeing in a newspaper the simple paragraph, "The Madras Irrigation and Canal Company is a gigantic failure." Yet these difficulties had been in a general way foreseen, and it was an important advance to have ascertained them particularly. In the case of *sale of water* also general difficulties have been foreseen; but besides this, the meeting of these difficulties successfully has been confidently foreseen; as an instance of this I need only quote the Secretary of State's Despatch to the Madras Government, No. 81 of 24th November 1863, paragraph 2, "I learn with much satisfaction that there will be no difficulty in carrying into effect the views expressed in my Despatch No. 9 of 30th March last, in favour of the plan of a separate water-rate distinct from the land assessment." My impression is that the well-known skill of the Madras Government in settling revenue matters has hitherto been maintained, and is evidenced by the nearly total absence of any need to withdraw, or reverse, any rule hitherto established. A temporary confusion from obscurity is better than the permanent want of confidence which might follow reversals and fundamental changes. With a scheme allowed to be experimental, I see no other alternative than one of these.

25. The remedy for the confusion appears to me to be to appoint a small Committee to draw up complete rules, by expanding the existing ones according to principles previously agreed to between the Government and the Board. To explain my meaning I will enunciate some principles of the nature I mean, but I will not discuss them here.

- (1.) Rupees 6 per crop per acre is a fair proportion to be paid to the Company as a rate, out of the average excess of the profits of a four months' rice crop over those of dry crop on similar land subject to the same dry assessment.
- (2.) Though the Company have several thousand acres of open water which enable them to give floodings to dry crop in many cases, yet it would neither be right, nor would it pay, to enter into engagements by which their resources for saving dry crop by flooding would be pledged for ordinary irrigation.
- (3.) Hence, when a field amongst many is under ordinary irrigation, it must be estimated that the average hourly supply of water required for that field is being admitted at Soonkasala head-sluiice, and is being conveyed down the canal and channels thence to the field; and if a field take such a supply for a week in dry weather it encroaches on the irrigating powers of the canal (taking them as for one whole crop) as much as if it took such a supply for six months, the canal having only a definite capacity.
- (4.) That in case of salvage of crop, grown to a certain extent without irrigation being desired from the canal, the special water-rate should be a fair proportion of the gross average value of the crop when matured, after deducting the cost of labour since canal irrigation commenced. The necessity of this is clear if we suppose that at a time when the canal has only water available for 1,000 additional acres, 5,000 additional acres were in absolute need of water. The justice is evident from analogy. If a party agree with a Tug-boat Company to bring in all his ships arriving at a certain port, or a Barrister to take all his cases, or a Doctor to attend him by the year, he pays an ordinary price. If he apply for the tug-boat when his vessel is dismantled and ashore, for a barrister for a specially difficult case, or for a physician who attends cases of urgent necessity only, he pays special prices.
- (5.) That the 1 Rupee rate for occasional irrigation for dry crop (which is a part salvage rate in which the Company take no responsibility further than for one flooding) should be discouraged, since it tempts the poorest ryots to gamble, till they sometimes will get nearly ruined, by having to pay a total rate of more than the crop is worth.
- (6.) That the Company, when called in by Government to save crop on tank ayacut from perishing, are entitled to full *ordinary* rate for that crop only. The mutual obligations of the Company and Government seem to me to justify this.
- (7.) That it is expedient to arrange terms between the Company and Government such that the former when called in to save crop under a tank have the use of the tank for the rest of the season. This in any tank might be conditional on the assent of two-thirds of the present Inam holders to the proposal.
- (8.) That rather than have any ambiguity it would be well to classify every field at once and for ever, and to have a scale of water rates for every crop in each class; but that it is of importance to have a single scale if practicable. The former method would be similar to that of goods on a railway.
- (9.) That a division of the fields be agreed on in every village and described on the village map, such as by drawing lines between existing boundary stones, describes fields of a convenient size for wet cultivation. That these be scheduled with their areas, and that in future the irrigation of a portion of any field render the whole liable to water-rate.
- (10.) That the following bye-laws be framed:—
  - I.—To fix the fine for irrigating without application.
  - II.—To fix the maximum fine for cutting any channel (on the Company's land or otherwise) and taking Company's water therefrom without leave.
  - III.—To fix the maximum fine for any attempt to defraud the Company by evading payment of full rate.

IV.—To fix the maximum fine for wilfully damaging any mark sluice, lamp, etc.

- (11.) That a mode of application be arranged by which the Company's Engineers shall have the earliest practicable notice that application has been made to the Curnum, and the ryot shall have evidence in his possession that he has applied, and for what.
- (12.) That a set of rules be drafted in English and Telugu, stating clearly all the information that a ryot needs to know about water-rate, remission, and penalties, suitable for posting in every village.

NOTE.—I have omitted the governing principle stated in the Company's contract, taking it, as a matter of course, that the *rate* is to be a fair proportion of the value of the water in each case, to the user, as nearly as it can be estimated by those who draw up the scheme of rates.

It is a melancholy thing to see such a splendid and much needed navigation as the canal lying idle; and the valuable gates rotting, as the best timber will deteriorate in this country, with their most important bars, the lowest, between wind and water. The absence of any means of communication during all the sowing and half the growing time cannot but tell against the development of the canal. The "road" between Cuddapah and Kurnool (sanctioned, I believe, about 1856) is still in an incomplete state. Its length is 122½ miles which may be thus classed in November, just as the earth has generally dried after the rains.

Miles 0 to 8.—Good.

8 to 9.—Sandy bed of river Pennair and ford.

Miles 9 to 15½.—Fair and moderately metalled, but trenches are cut 2 to 4 chains apart right across the unmetalled road sides, and either large single stones, as big as a man can lift, or heaps of smaller boulders, are placed in the ruts alternately a chain apart, except between the 10th and 11th mile stones.

15½ to 29.—Except through the villages, is totally impassable to a four wheel; and in many places for half a mile together horses and cattle have to climb at a walk over hardened mud cut into ruts about a foot average depth, across and across in all directions, as carts have struggled along. Where there is a track it is sometimes along the side; sometimes in the jungle off the road altogether. Where the road is fair, stones have been put on the ruts as before. Impassable in rain.

29 to 31 Miles.—Three furlongs good, except in places through Dhoor.

31 Miles 3 feet to 50 Miles.—Bad to tolerable; can trot in parts, and even canter along road-side in places.

50 to 57.—The soil begins to be occasionally red, and there forms a good dry-weather road, impassable in rain. The road here and onwards is more carefully drained.

57 to 74.—A good continuous fair-weather road, impassable in rain; metal is red laterite gravel.

74 to 88½.—An insufficiently metalled road on black cotton soil with many road dams and fords. Fair in fine weather; impassable in wet.

88½ to 122½.—A good fair-weather road; passable barely in rain.

The traffic seemed to be 25 to 30 carts a day going towards Madras with cotton bales, firewood, coir rope, and very few going northwards. It seemed to me that a very moderate expenditure would enable *half* the road to be metalled and drained from the 9th to the 88½ mile, and so ensure a good road except at the numerous road dams and fords. By sparing expenditure money is *lost* in unproductive expense: as where men are engaged putting building stones at intervals in the crooked ruts which have to be removed again and do no good, for a rut is no harm if shallow and on strong metal, and prevention of ruts does not strengthen metal, whereas a little fresh metal (and there is plenty of good hard kunker small enough) could be *nearly* as cheaply strewn along the ruts and would answer the object and improve the road. So where lengths of road of half a furlong or under are metalled in the midst of mud, the carts going on and off carry such heaps of mud on to the metal that the value of it is lost. It is of importance to the Company that more money be spent on this road. During the rainy weather Mr. Knorpp had no resource but employing men to *carry* his camp along it. There is no resource for carts but to go along it.

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especially since irrigation has commenced, except between Dipanguntla and Nundial where they all avail themselves of the country track. Omitting the parts in village hamlets in each case, the road between the 15th to 88th miles is inferior to the country tracks. But on the country tracks the villages are often quite impassable, while the roads are carefully kept through the villages. Rupees 100 a mile leaves very little after paying the road coolies' wages; and the road remains useless, if not a public nuisance. But by spending Rupees 1,000 a mile for a few years a good useful road would be obtained, and the value spent on it soon recovered. The neighbourhood could well bear the burden if merely taxed moderately on the increase of wealth and cultivation already brought into it by the canal.

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

APPENDIX A.

NOTIFICATION.

It is hereby notified that, until further notice, the charge for water supplied by the Irrigation Company will be 4 Rupees per acre for a single crop.

2. This charge for water is in all cases additional to the dry assessment of the land.
3. The charge for water supplied by the Irrigation Company for a second crop will be hereafter notified.
4. It is to be distinctly understood that the Government in no way pledge themselves that the charge for water supplied by the Irrigation Company will not hereafter be increased.
5. The Government assessment on the land will, under no circumstances, be increased on account of the advantages which the land may derive from the supply of water.
6. This Notification supersedes all previous Notifications on the same subject.

(True Extract.)

(Signed) J. D. SIM,  
Secretary to Government.

APPENDIX B.

From the Deputy Collector of Kurnool, to the Chief Engineer of the Madras Irrigation and Canal Company, dated Nundial, 5th November 1872, No. 137.

I HAVE the honour to inform you that the three ryots of Kottapilly, Nundial Taluq, noted in the margin have applied to me for canal water to irrigate their chilli crops on 1.75 acres of land. One of them, Tattireddi Ramanna, offers to pay the full water rate of Rupees 6 per acre, while the remaining two, the usual flooding rates of 1 Rupee per acre.

2. In the Circular Orders of the marginal dates and numbers issued by the Collector (copies of which are herein enclosed) it has been declared that the chilli crop will be charged invariably with the full rates of 6 Rupees per acre, irrespective of the number of floodings. This order, it appears, has been issued at the request of the officers of the Company, after some discussion during the settlement of the Nundikotkur Taluq last year. The ground urged for this uniform rate is that the ryots annually apply for two or three floodings, but actually irrigate their chilli crops ten or twenty times during the year.

3. Under arrangements recently made by me, the village officers in my division (Nundial and Sirwell) and Koilkuntla, have been instructed to keep an account of the number of floodings of dry crops by the ryots, in communication with the Water Superintendent, or any other member of your establishment charged with the distribution of water. It is therefore less likely that the abuse complained of will occur during the present season or hereafter. Taking this view of the matter, and considering also the paramount importance of encouraging the wide-spread of canal irrigation, I request you will be pleased to arrive at some definite conclusion as to whether the flooding

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rates could be allowed for chillies, as in the case of any other dry crop; or the spirit of the instructions contained in the circulars above quoted be maintained. Chillies, I beg to add, are grown in several localities, on dry land, with the little water that the periodical rains supply.

4. Should you find it desirable, on a re-consideration of this subject, to modify the views on which the circulars were based, and approve of the levy of the flooding rates. I request you will be pleased to communicate with the Collector in view to the issue of such further instructions on the subject as he may deem proper.

5. I request to be favoured with your decision in this matter for the prompt acceptance by me of similar applications for the future.

6. I beg to refer you to the marginal correspondence between me and Mr. Browning relative to the special arrangements agreed to for irrigation in the Kotapaud village of the Sirwell Taluq.

To Chief Engineer, No. 95 of 12th August 1872.  
From " " 34 of 17th " "  
" " 35 of 26th " "

From the Chief Engineer of the Madras Irrigation and Canal Company, to the Deputy Collector of Kurnool, dated Ayaloor, 11th November 1872.

*Cottapilly Ryots, Nundial Taluq.*

YOUR No. 137 of 5th instant. I have the honour to reply to your letter.

2. G. O. No. 1,343 of 1st June 1864, is, so far as I know, the one which fixes the water-rate for all ordinary irrigation of wet or dry, field or garden, crop. I understand it as fixing that rate at Rupees 6 per crop per acre, excepting sugar-cane only. By a previous J. O. No. 1,830 of 5th October 1864, an extraordinary kind of irrigation called flooding had been made permissible to dry crops; whether field or garden crops was not stated.

3. I understand that you, as representative of the Government, reduced the fixed water-rates in the case of Kottapaud, Sirwell, with the acquiescence of Mr. Browning as representing the Company under paragraph 2 of G. O. No. 1,348 of 1st June 1866. But I look upon it as a rough mode of settling a rate where the practice had been lax in the previous settlement, and the ryots were in doubt as to what they would have to pay, and as not to be taken as a precedent.

4. My impression is that when Government passed their Order No. 1,830 of 1864, they were under the impression that garden crops would have a special rate fixed for them; hence they may not then have intended flooding to apply to any garden crop. It does not follow that flooding was contemplated for garden crops in G. O. No. 1,348 of 1866; but I am inclined to think that it was intended then that gardens and fields should be treated indiscriminately, because there was not sufficient evidence before Government to show where the line should be drawn. Rupees 8 for half a year for gardens had been approved by Colonel Orr and Rupees 15 for a year (namely, G. O. No. 171 of 20th January 1866).

5. I cannot discuss the question—What are dry crops? It seems to me that the Government officers, who alone have direct dealings with the ryots and can learn the facts, have to settle that, basing their judgment on statistics and facts. If these facts are convincing, the Company's Agent would not be likely to object. But whatever decision is arrived at, I approve decidedly of the utmost possible publicity being given to it. I will suggest that you will know what crops were habitually reckoned dry field crops in 1864; then, when in 1866 flooding was apparently extended to dry garden crops, I presume that it would extend to all garden crop which would mature without irrigation of any kind under the same circumstances under which dry field crop would mature.

6. I will observe that flooding repeatedly, besides being unsatisfactory to the Company as exposing them to fraud, is not always a boon to the ryot. It is quite out of the question that he should not be charged for any floodings beyond six. If he take twenty floodings he takes each, because he considers it worth the rupee he must pay for it. The Rupee 1 rate is in its nature partly salvage. If he prefer to take ordinary irrigation at Rupees 6 at any point, he still must pay for previous flooding; hence it is often a kindness to persuade a man to pay for ordinary irrigation from the first.

7. I do not think the rate of Rupees 6 for chillies too high, though the rate for rice may be too low. I cannot think so when I see the ryots irrigating chillies from deep wells. Any statistics you can give will be most acceptable.

Until the Government provide for the existing rates being fixed, intelligible, and well circulated in every village, I must attribute the lamentable failure of irrigation, this year, to the ignorance amongst the ryots of what the rates and claims for remission are, and to their simple hopes that, where all seems uncertain, a determined strike against the use of the canal water will produce a lowering of the rate.

SUBMITTED for the information of Government.

2. Many of the subjects referred to in the Chief Engineer's report and letter *Vide* G. O., No. 2,993, dated 17th Dec. 1872 are at present under the consideration of and G. O., No. 60, dated 8th January 1873. Government and the Board of Revenue. Mr. Latham, in reviewing the irrigation of the season now about to close, has been led to consider what are the causes which have prevented the extension of the area irrigated to a degree more in proportion to the present irrigating capacity of the Company's canal. It may be a matter of opinion how far the Chief Engineer's views, as to the reasons which have prevented the ryots of the Kurnool and Cuddapah Districts from applying for water for their lands, are correct; but it is certain that the subject is one in which the Government are interested in an even greater degree than the Company itself, and therefore the fullest discussion and enquiry are desirable, and can hardly fail to be advantageous.

3. I do not know what proof there is of the capacity of the canal to irrigate Last paragraph of Chief Engineer's No. — , 100,000 acres: that is to say, I am dated 4th December. unaware whether the canal has ever carried 200,000 cubic yards of water per hour for a period which would be sufficient to indicate that it might be relied upon to do so for the whole season, from the 1st June to the 31st December; but at any rate it may be assumed that, in the absence of accidents, the Company were prepared to irrigate a much larger area than the 9,000 acres or thereabouts which have, during this year, been supplied.

4. It is very possible that, now that water has been running in the Main Canal and in many of the distributaries throughout an entire season, the applications for water for next year's irrigation will show a satisfactory increase. Nevertheless, it seems to be in every way advisable that everything which can be done, consistently with perfect freedom of action on the part of the ryots concerned, to facilitate the rapid extension of the irrigated area, should be undertaken as early as possible, so that those who, either from the causes noticed by Mr. Latham, or for reasons not yet surmised, are hesitating as to whether they shall continue to cultivate their lands with dry crops or convert them into rice fields, may have every advantage in coming to the decision most conducive to their interests.

5. Without for a moment doubting that great good may be done, by ascertaining on the spot and from the ryots their views as to the value of canal water, and with no wish to undervalue the possible importance of the causes to which the Chief Engineer is disposed to attribute the want of eagerness on the part of the ryots to avail themselves of the advantages which the canal works have been carried out at a vast cost to secure to them, I am inclined to believe that, among

probably very many reasons of more or less importance there are two which have been highly influential in deterring the ryots from committing themselves to wet cultivation on a large scale. One of these is the fact that, for a series of years, the canal suffered so considerably from accidents, that there was no assurance that a supply of water would be regularly and continuously available throughout the season; and this reason must have been operative throughout the entire length of the canal. Nothing but an unfailing supply, carried for several years in succession, will entirely remove this entirely natural ground of objection to an entire change of the custom of the country in regard to the mode of cultivating the land.

*Vide* G. O., No. 955 dated 22nd March 1869. I do not wish here to press again for that test of the canal's efficiency which some years ago I recommended should be carried out and of which the Government approved, but it seems to me evident that such a test, successfully gone through, would, independently of its value in leading to the correction of defects, have exercised a very important influence on the minds of those possessing land commanded by the canal, and deeply interested in knowing whether it would be safe to abandon a kind of agriculture on which they had hitherto depended, for one which, though under certain circumstances known to be more remunerative, might, and until quite recently certainly would, have proved more hazardous. There are many of the influences which act upon the ryot of which we know nothing, but it seems to me that it would be attributing a great want of intelligence to these ryots to suppose that the absence of security in the supply of water has not been largely operative.

6. The second reason to which I have referred is not applicable to the whole of the canal, but, in the Koondaur valley, and elsewhere to a more limited extent, it must have had considerable weight. It is the description of soil which is of the kind called *regur* and is, in favourable seasons, capable of producing excellent and remunerative dry crops, of which the principal is *jonna* (great millet). The people, as already noticed, are accustomed to this cultivation; the cattle that they possess are adapted to it, and are not adapted to wet lands; the general result of this cultivation is well known to the ryots, and has not, I believe, been bad; the advantages of irrigation are comparatively unknown. Here then there has been a deterrent, which would have acted powerfully with any people, and which, with a race so conservative as this people, cannot properly be left out of consideration in appraising the value of the many influences which doubtless have had their effect.

7. It has been laid down as a principle that the Company are to have no direct dealings with the ryots or people needing or using the canal water. The Revenue Officers of the Government are charged with the duty of receiving applications for water from individual ryots, and transmitting them under certain rules to the Company's officers; they also levy the water-rate when it becomes due. This principle may be said to be a necessary sequence to the arrangements which have been entered into between the Government and the Company, much to the advantage of the latter, so far as the collection of their dues is concerned. It may also be admitted that the rules now in force are, if worked as intended, sufficiently adapted to the circumstances in

the case of all applications for water which are made prior to the commencement of the irrigating season. With regard, however, to all applications for water which are not included in the list which is closed on the 1st April in each year, the

\* No. IV. present rule,\* under which monthly abstracts from the register are forwarded by the Collector to the Company's "proper officer," is insufficient to ensure the required supply being afforded in proper time. What is, I think, wanted is an arrangement somewhat similar to that provided for in the latter part of Rule IX., providing for the flooding of dry crops, namely, the transmission to the Company's officer, who in this case should be the divisional officer, of all such applications as they are recorded. The way, in which this should be done has been the subject of prolonged discussion; the proposals of the Company's officers were somewhat complicated, and other objects, besides the one now under notice of enabling the divisional officer to know at once when water is required and to arrange for its supply, were sought to be attained. What is really required is a more rapid means of communication between the applicant for water and the canal officer who is to supply it.

8. It will perhaps facilitate the solution of this question to point out that while, on the one hand, the Company is not dealing directly with the ryots, on the other hand, there is no reason why the latter should not freely communicate with the local officers of the Company. Under no rules could the canal be efficiently worked if those who are to use the water cannot communicate with those who must regulate the supply except through a channel, which at best must involve great delay, and which generally would be practically absolutely shut. If a ryot gets too little or too much water, he must go to some one close at hand who has the means to meet his wants, if his representations are to be of the slightest benefit to him, and of course he will do so whether his title so to act be admitted or not. It will be much better, I think, to recognize the fact that inter-communication between cultivator and canal officer is essential, and to provide the former with a document which will show at once that to the consideration, which he may at any time have to claim, he is entitled.

9. I would suggest therefore that instead of irrigation permits or water tickets, the ryot making an application for water should be furnished with a copy, Form given in Rule III.

\* By using carbonized paper. or rather a facsimile, of the entry in the register of that application. There would be no difficulty in making any number of facsimiles\* up to five or six that might be considered desirable, but one for the applicant, and one for transmission to the local canal officer would perhaps suffice. The book would be furnished by the Company, and probably it would be convenient to have it much in the form of a Post Office Order Book; and, similarly, a stamp might be used if thought desirable. By the use of pillar letter boxes, placed along the canal at suitable intervals, the canal officer's impression of the register could without difficulty

be placed where it could reach him, as would also any representations which the ryots might wish to make on paper.

10. The Chief Engineer lays considerable stress upon the want of "any authoritative advertisement, within easy access of every ryot, stating with sufficient minuteness what he would be liable to pay for irrigation, subject to the ordinary vicissitudes of agriculture." The evil, whatever its extent and effect may be, is one capable of easy remedy, and whatever information it may, from time to time, be desired to convey to the ryots, should be drawn up in due form by the Company's officers in communication with the Collector and, after approval by Government, printed and distributed with the Collector's stamp affixed to it. Every village might have a canal board for all notices connected with irrigation under the canal, and similarly, at every point on the canal where there is any resident establishment, a notice board might be put up.

11. There are several circumstances noticed in Mr. Latham's report on which it is not necessary to comment here, as they sufficiently explain themselves. Some of these are of a kind which it would seem should have been brought to the Collector's notice at the time; they could be dealt with only by inquiry on the spot, and probably there is some ground for reviving a proposition, which was made some years ago and not disproved by the Board of Revenue, namely, *Vide Proceedings, Madras Government, Revenue Department, dated 5th October 1864, No. 1,830, paragraph 10 of Board's Proceedings.* that a Revenue Officer should "be appointed exclusively for the revenue affairs of the Company under the Collector." The Board at that time thought that this arrangement would be a great convenience, but they doubted whether it was necessary so far as Government were concerned. Eight years have elapsed, and now after many disappointments there would seem to be a probability of water being available for an area which, if irrigated, would at once relieve the State of a material portion of the large sum now absorbed for guaranteed interest. The Government are very deeply interested in doing all that may be possible to bring the canal into use, and no course would seem to be more advantageous to this end than the employment of a Revenue officer of some experience to ascertain what the ryots' views and feelings in the matter are, and to concert with the Company's officers such measures as may be found to be requisite. It will probably not be necessary to keep this officer on the canal for more than one or two seasons, and such an arrangement would, it may be hoped, result in getting at the truth, and in superseding a correspondence which does not appear likely to have any beneficial effect, while it threatens to be endless.

12. The Chief Engineer is anxious that the subject of water rates for crops other than the regular rice crop should be made applicable to the existing circumstances. There is a point too connected with paddy irrigation which it would be well to settle definitively. Mr. Latham says, "in the case of a rice crop reared in the wet season without canal water for half its time, and then matured

by canal water, they (the several rules and orders to which he has referred) would seem to me to authorize the charge of Rupees 3 per acre in language; but this is quite opposed to the spirit and perhaps to the rule on remission." I do not know whether any case of the kind has ever occurred, but the only analogous case which has come under my notice is that of land under Government tanks of which the supply failing, canal water is used to mature the crops. Here it would seem to be quite fair to credit the canal with such a proportion of the normal rate of 6 Rupees as may represent the quantity of water contributed by the canal, and the time during which the supply may have been afforded is the best datum for calculating the amount due to the Company. Then the only point on which a

G. O., 18th October 1872, No. 2,452.

as the divisor : the Collector considers six months as the irrigating season, and the Company's officers would take four months ; the former period is right, if the time the crop is on the ground be taken, but no rice lands require a full supply throughout a season of six months. I should be disposed to make a concession to the Company of the very small advantage which they would gain by allowing a charge of 1½ Rupees per acre per month for such irrigation. It only involves practically a question of a few hundred rupees in exceptional years.

13. At present the irrigation rates in force are—

G. O., Rev. Dept., 1st June 1866, No. 1,348. 6 Rupees an acre for ordinary irrigation.  
12. " " " sugar-cane  
both for the supply required during the whole time the crop is on the ground, and  
1 rupee for each flooding of dry crops or of crops for which a regular supply is not  
needed.

Misconceptions appear to have arisen as to the crops which appertain to ordinary irrigation; but, with the exception of rice, which should be charged as ordinary at all times, all crops should be charged for in accordance with the desire of the ryots when applying for water. If a ryot applies for water for an acre

\* Of about six months.

vate, whether tobacco, chillies, or anything else except sugar-cane. If, however, he is inclined to speculate on the season, and applies only for an occasional supply, it would follow that he would be charged 1 rupee per acre for each flooding. Mr. Latham refers to cases in which, for chillies, ryots had taken ten or twenty floodings, for which they ought to have paid, he thinks, 10 or 20 rupees; this appears to be quite in accordance with the rules, and, moreover, in no way inequitable. How such a number of floodings was obtained is not mentioned. The use of water for occasional flooding is an arrangement not to be encouraged by making it advantageous as contrasted with ordinary irrigation. It is an exceptional mode of neutralizing the effects of unfavourable seasons. The proper way to prevent its use, as a substitute for ordinary irrigation to crops which are generally more or less irrigated, is not, I take it, to say that this or that crop is not entitled to flooding, but to make the charge such as will virtually prevent the use of water in

this way unless for the purpose intended. No ryot would ever pay twice for 10 floodings even, much less for 20 in order to avoid the regular charge of 6 rupees for as much water as he might require. Chief Engineer alludes to "the custom

14. In the third part of his report the Chief Engineer alludes to "the custom which has grown up of allowing a ryot to cultivate an irregular portion of his field and to pay the rate on the nett cultivation only" instead of on the whole of the field. This is quite contrary to the orders on the subject, and the attention of those concerned should be called to the

G. O., Revenue Department, No. 171, 20th  
January 1866.  
No. 662, 15th March 1866.

exception may, with advantage, be withdrawn, for it must be remembered that all the land or almost all has been recently been or is being, laid out for irrigation, and the ryot can easily avoid leaving any part too high.

15. Mr. Latham proposes that a Committee should be formed to draw up more complete rules than those now in force upon principles to be agreed upon beforehand, and he gives some examples. Referring shortly to these it may be noticed that—

No. 1.—As stated would involve a sliding scale, and this is not likely to be agreed to by either side. A rice crop is not limited to four months.

No. 2.—The deduction from the hypothesis appears to have been made on the ground that the ordinary irrigation has the first claim, as the Company undertakes to supply it. The irrigation is subject to water being available.

No. 3.—I do not understand the practical bearing of these remarks. The canal is a long one, and heavy rains in one section might make more water available in another.

No. 4.—The principle here advocated could not, I think, be carried out in practice, and, besides, it rather ignores the fact that the canal works were undertaken, the State bearing the risk, for the purpose of securing the cultivation from the sad effects of unfavourable seasons.

No. 5.—I have taken a similar view in the case of crops which always require more or less artificial irrigation. No discouragement of the flooding in the case of dry crops, such as jonna, is needed; they will never be flooded except when such a process is necessary to save them.

No. 6.—Not tenable, I think; the Company would and should refuse a supply if all their water were required or engaged elsewhere, otherwise the rate to be paid should be approximate to the rate for ordinary irrigation for the time of the supply.

No. 7.—In the absence of the reasons for this rule, I am not able to give a opinion. Anyhow it could not affect the interests of the Company materially.

No. 8.—Such a classification is not consistent with a water-rate system, such as still prevails where no separate water-rate has been introduced. The value of the water is not in direct proportion to any classification of land which has hitherto been attempted. The water-rate, if at any time it should need revision, would be settled with reference to the result of its use on a few descriptions of soil, but nothing better than a general approximation can be arrived at. The lands which pay best often tax

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the least water. Quantity of water used would be one element of an accurate calculation, but such accuracy appears to me out of the question.

No. 9.—This ignores individual ownership.

No. 10.—Bye-laws, on which comment may be deferred. Some points have already been specially provided for, and others may be left for the present, or until some evidence of their necessity is adduced.

No. 11.—Has already been fully discussed in this note, and an arrangement suggested.

No. 12.—The necessity for making such information as is here indicated, known to every one interested, has, I think, been clearly shown.

16. Mr. Latham's comments on the road from Kurnool to Cuddapah via Nundial might perhaps be communicated to the Local Fund Board, though whether they have the means of putting it into order I am not aware. A navigable canal ought to lessen the inconvenience which the bad state of this road has hitherto occasioned; and it may be remarked that the canal is, or with boats will be, available for traffic throughout all the season when, from rain, the roads are of little use.

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

No. 94. ORDER THEREON, 6th June 1873, No. 1,508.

IRRIGATION, No. 11.

THESE papers will be communicated to the Revenue Department with reference to G. Os. Nos. 2,993 and 60, dated

17th December 1872 and 8th January 1873, respectively.

2. The Government are desirous that all which may be possible should be done to make the Madras Irrigation and Canal Company's Canal in the Kurnool and Cuddapah Districts as useful as possible, and agreeing with the Chief Engineer for Irrigation that the time has come for ascertaining, by careful local investigation, what modifications of the arrangements now in force are necessary in order to popularize the costly works which have been constructed by the Company, the Right Honourable the Governor in Council resolves to request the Chief Engineer for Irrigation and the Chief Engineer of the Company, in communication with the Collectors of the Districts concerned, to submit for consideration such measures as may appear to be conducive to the removal of the difficulties which are supposed to interfere with the free use of the canal water for purposes of irrigation. The subject is one of the greatest importance and demands prompt and careful action.

(True Extract.)

(Signed) G. W. WALKER, Colonel, R.E.,

*Secretary to Government.*

To the Chief Engineer for Irrigation.

.. Agent and Manager of the Madras Irrigation and Canal Company.  
.. Revenue Department.

Exd. E. C. Shunker.

P. W. 1873 Report  
P. W. of Gov. for same

From No 2577

The Chief Engineer for  
Irrigation.

To The Secretary to Government  
P. W. D.

Dated 28<sup>th</sup> } December 1872.  
Received 25<sup>th</sup> April 1873.

No. 69.

Submits for information  
of Government report of  
the Chief Engineer M. J. and  
Canal Company for the  
month of October 1872.  
with certain observations

No 1508. 6<sup>th</sup> Decr 1873.

No 1508. P. W. D.

P. W. of the Madras Govt.

Read the following:-

From the Chief Eng. for Irrigation (P. W. No 69) 28<sup>th</sup> Decr.

Respect the original arrangement  
settled in Council, under which  
the matter is left to the Chief  
Engineer for Irrigation & the  
Manager of the Company - to  
send an officer without  
the company special expenses

M

L. D. S.

I beg this with ref. for

I think that a good revenue

officer, passing a few months

in the districts in question would

in consultation with the

local authorities & the

irrigation officers have discussed

a solution of our difficulties

It would be impossible I think

to have a member of the

Board going to the district

These papers will  
be communicated to the  
Revenue Department  
with reference to G.O. No.  
3993 and 60 dated 14<sup>th</sup>  
December 1872 and 8<sup>th</sup>  
January 1873 respectively.

The Government  
are desirous that all  
which may be possible  
should be done to make  
the Madras Irrigation and  
Canal Company's Canal  
in

in the Kurnool and  
Cuddapah Districts  
as useful as possible, and  
agreeing with the Chief  
Engineer for Irrigation  
that the time has come  
for ascertaining, by  
careful local investiga-  
tion, what modifications  
of the arrangements now  
in force are necessary  
in order to popularize  
the costly works, which  
have been constructed  
by the Company, the  
Right Honorable the  
Governor in Council  
resolves to request the  
Chief Engineer for Irri-  
gation and the Chief

in a short time to do this -  
It would be essential that  
the officer detailed should  
know himself in connection  
with the leading native  
landholders. & visit in  
detail a large number  
of villages - It is doubtful  
whether a Member of the  
Board could be spared for  
so long. - as this work will require  
If this could have been  
done. I would have  
selected Mr. Thornhill  
who has had great experience  
in the Northern districts  
especially the Ristnah - I  
do not think Mr. Robinson  
has had any such  
experience - But the matter  
is of so much importance that

I am strongly in favor of Mr. Robinson's objection - and think a man who will be so well & honestly would be amiable - I have not the same confidence in Mr. Johnson. I have rather high doubts in the way of his carrying out in which he got hurt his last week - for he told me the first time I was in the hospital in the morning that he was in the hospital in the morning.

in communication with the Engineers of the Company, the Collectors of the Districts concerned, & submit for consideration such measures as may appear to be conducive to the removal of the difficulties which are supposed to interfere with the free use of the Canal water for purposes of Irrigation. The subject is one of the greatest importance, and demands prompt and careful action.

Yours truly,  
G. W. W.

13/6/73

It was suggested at the last Council that Mr. Robinson would not be able to give sufficient time to his work, and that

if he were <sup>that</sup> it was  
(as I understood) by no means  
clear that the case was one  
for which the services of a  
member of the N<sup>o</sup>. of Rest. would be  
useful. And as it appeared to  
me that our Chief Engineer for  
Irrigation on the one hand, and the  
Company's Chief Engineer, on the other,  
were tolerably well agreed as to what  
ought the new Regulations should be.  
(the question being indeed, ~~and~~ <sup>very</sup> simple) I thought  
it best that we sh<sup>d</sup>. at once entrust  
them two officers with the duty of  
preparing the new Rules - I am still  
much inclined to think that nothing  
more is required. But perhaps it might  
be worth while to <sup>explain</sup> ~~explain~~ the exact state of  
the case <sup>some-officially</sup> to Mr. Robinson, & ask him whether in his  
own opinion, he could be of use in this most  
important matter.

*[Faint, mostly illegible handwriting]*

*[Signature]*  
I think the case sh<sup>d</sup>.  
be dealt with by the  
N<sup>o</sup>. of Rest. & Co.  
I would prefer to have done to make the provisions  
of the Board of Irrigation and Canal  
Company's Canal in the  
Rest. it is a long

25  
These papers will  
be communicated to the  
Board of Revenue in  
continuation of G.O.  
No. 2973 and 60 dated  
17<sup>th</sup> December 1872 and  
8<sup>th</sup> January 73 respectively,  
for an early expression  
of their views.

2. The Government are  
desirous that all which  
may be possible should  
be done to make the provisions  
of the Board of Irrigation and Canal  
Company's Canal in the  
Rest. it is a long



for water keeping pace  
with the capacity of  
supply attained by the  
Canal. The Government  
wish to have the best  
arrangements possible,  
and the interests at stake  
make it desirable that  
the investigations should  
be conducted with per-  
fect freedom from pre-  
judice and with the  
sole view of making the  
Canal as successful and  
beneficial as the circum-  
stances will permit.

G.M.W. 22/3/73

11:93-94

The Hon. R.

M. Sim-

water Keel

Ch. 2577 \*

Govt. of 1873 Madras.

PUBLIC WORKS.

To the Chief Eng. for  
..... Irrigation

1712

Good.

Encl.

G. O. June 1873. No. 1508.

Nos. 9644

M. C. P. P. P. P. P.

as in the report, but  
not by the Chief Eng.

Engine, on the  
K. C. Canal

Oct 72.