

Revenue (1897) Department.

PRESS SERIES.

G.O., No. 577.

DATED 15th July 1897

[Despatch Abstract.]

Method of tasking.

Stating that Government is of opinion that Mr. D. Winton's system regarding the — should be given a trial, and that the P.W. Department should be allowed to adopt it generally, if it considers that the experiment has succeeded.

BACK PAPERS.

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

FURTHER PAPERS.

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

Revenue (1897) Department.

The Hon. Mr. Cross C. S.
The Hon. Sir H. Pollock K. C. S.
14th June 1897

CURRENT No.

From

The Board of Rev.
Rev. Sett.

No. 415 A.

For Orders.

As provided out by the Board
of Rev., setting separate tasks
to each party of 3 diggers
and ¹⁶ auxiliaries involves
considerably more work than
the present system of a single
daily task to a gang of about
100 persons; but it is a question
for consideration whether
Mr De Winton's idea, (taken
from the practice in the N.W. P.)
of fixing the ^{at digging gangs} tasks with
reference to the number of
diggers in the gangs may
not be adopted with adv-
antage. A serious draw-
back to his plan is that
it is taken at least

Dated 3rd June 1897

Received

Registered

Enclosures

Spare copies

SUBJECT.

Passing orders on a reference
from the Collr of Luddaspath
asking for instructions as to
the introduction of a new
method of tasking proposed
by the Suptg. Engineer, III. C.

c 7/7/97

and lift; and the tasks for the auditors may become too light in cases where the lead and lift are small; but this may be remedied by ^{properly} adjusting the number of auditors. In para 3(1) of G.O. 216 the task of digging snatched from a gang should be no more than ~~the~~ can be snatched by the diggers in it

^{as} 4-7-97 This is a new fact and is quite unnecessary for by varying the task and lead ~~to~~ full empl. can be found for both diggers & carriers. If this had been made a little larger the same number of diggers will find work in a very much larger number of carriers. Every addition to the Code means an increased chance of confusion and doubt: and I submit it will be found safe in the end to stick to its provisions and that this innovation ~~is~~ not to be allowed.

47/17
Draft to be sent to Mr. ...

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

But how can any one make the lead a little longer and take this as a proportion to diggers?

Yes. No advantage will be gained by it. The Code prescribes that tasks shall be fixed by gangs, & that no variations should be made except under regard to particular local circumstances & with the sanction of the Commr (10)

Recommendation that if economy is the considered Mr. Dehinton's plan is the best for the work in question in which the lead cannot be varied as proposed by the ...
8/7/97
I agree with the Hon. Secy

REVENUE DEPARTMENT.

1897.



Board of Revenue

(Revenue Settlement, Land Records and Agriculture),
MADRAS.

Recd. } 1897. Enclosures
Regd. } Spare copies

Printed June th.

Proceedings, 3rd June 1897, No. 415A.

JUNE.

Method of tasking.—Passing orders on a reference from the Collector of Cuddapah asking for instructions as to the introduction of a new — proposed by Superintending Engineer, III Circle.

PROCEEDINGS OF THE BOARD OF REVENUE
(REVENUE SETTLEMENT, LAND RECORDS AND AGRICULTURE).

READ—the following letter from A. C. TATE, Esq., Collector of Cuddapah, to the
Famine Secretary to the Commissioner of Revenue Settlement, Land Records
and Agriculture, dated Kasanur, 14th May 1897, Ref. on Cur. No. 223-F. :—

With reference to sections 23, 97, 100, 106 and 107 of the Famine Code, I have
the honour to request the Board's orders on the enclosed correspondence.

2. The Superintending Engineer and, following him, the Executive Engineer wish
to fix earth-work tasks with reference to each digger in a gang and to set a task for
three days instead of for one day. Having done so the task for each unit is to be
obtained from the following formula :—

$$\frac{\text{Task per digger} \times \text{number of diggers}}{\text{Number of units in gang}}$$

Lead and lift are to be neglected.

3. The task per digger is to be taken from the following table :—

Soil.							Daily task in cubic feet.	
							Full.	Low.
Soft earth ...	...	...	...	...	...	...	130	100
Medium earth ...	...	...	...	...	...	...	110	80
Hard earth ...	...	...	...	...	...	...	85	70
Very hard earth ...	...	...	...	...	...	...	85	50

4. The Superintending Engineer says that this plan works well in Northern
India and he wishes to give it a trial here.

5. The idea is that diggers are to be started on the "low task" which is to be
gradually increased to the "full task" as the workers become accustomed to the work.

6. The typical gang mentioned by the Superintending Engineer in paragraph 14
of his letter, No. 4722, dated 26th March, contains 15 men and consists of 96 persons,
all told. Its task in sandy loam would therefore be—

Full	...	...	...	...	...	1,950 cubic feet = 72 cubic yards,
Low	...	...	...	...	...	1,500 " = 55 "

which from the worker's point of view compares favourably with the figures in Form F,
page 66, Famine Code, Madras, and I cannot object to it on the score of being
excessive.

7. My doubt is whether this system of tasking is permissible under the Madras
Code. It is really taking the diggers and not the gang as a whole.

8. With reference to section 100 of the Famine Code the Engineers do not state
whether the proposed task is for A class labourers (diggers?) or for B class labourers
(diggers?); nor is allusion made to the varying of the tasks according as the gang

(digger?) is in "good", "fair" or "low" condition. In my letter, Ref. Cur.
No. 1147-Rev., dated 5th April 1897, to the Executive Engineer, I approved of his
proposal that the tasks of gangs in "fair" and "low" condition should be respec-
tively $\frac{2}{3}$ and $\frac{1}{2}$ of the task of a gang in good condition (but on the works recently
inspected by me I found the officers in charge ignorant of this order. There had
been, however, no fining).

9. Personally, I think Mr. De'Winton's proposal is a good one, but I think it
desirable to obtain the Board's order on it.

ENCLOSURE No. 1.

From S. B. MURRAY, Esq., Executive Engineer, Cuddapah Division, to the Collector of
Cuddapah, dated 13th April 1897, Cur. No. 1388.

I have the honour to forward herewith a copy of a letter sent to me by the Superintending
Engineer giving me instructions as to how the Chopad channel work is to be carried out.

2. As there are several non-professional points involved, I request you will approve of them
or make any alterations that you may consider advisable.

ENCLOSURE No. 2.

From W. B. DEWINTON, Esq., Superintending Engineer, III Circle, to the Officer in charge
of Cuddapah Division, dated 26th March 1897, No. 4722.

As I understand from the Collector of Cuddapah that there is every probability of his
asking you to start the Chopad project (Rajoli-channel) in the near future, I have the honour to
give below some instructions as to how the work should be carried out :—

(1) *Estimate.*—As soon as you know for certain, that the work is to be started, you should
telegraph to Chief Engineer for Irrigation for the longitudinal sections and estimate of earthwork.

(2) *Establishment.*—I have already applied for an Assistant Engineer and two Upper
Subordinates for employment on this work.

(3) *Position.*—The channel starts from the Rajoli anik it across the Kunder and ends
after a course of 26 miles near the village of Vedumur.

(4) *Mile and furlong stones.*—The mile-stones are all fixed in concrete, in what is intended
to be the left berm of channel and are all or most of them boundary marks. The furlong-stones
are simply fixed in the ground in centre of channel and can be removed. It would, however, be
well to replace them in the left berm.

(5) *Alignment.*—The line of channel has been lock-spitted throughout and most of it is now
visible. The line, however, has been changed a good many times, and the curves joining old
and new lines have still to be drawn.

(6) *Land.*—The officer in charge of Kurnool division will be asked to inform you what
amount of land has been provided for in the estimate, and this should be occupied and land
statements submitted speedily.

(7) *Berms.*—If feasible, I should like a berm of 9' left on each side between top of cutting
and toe of banking. If not, please leave as much as possible.

(8) *Location of Relief work.*—I believe the Collector wants the work started (1) at Rajoli
and (2) at Korrapad. As the first few 100 feet pass directly through the village of Rajoli and
the work here is unsuited for famine labour, you had better begin excavation clear of the village
to the southward.

(9) *Nature of soil.*—The channel runs for the first 18½ miles in more or less deep cutting,
the average being, speaking from memory, about 10 feet. Trial pits have been dug all along
the line and the earth found to be ordinary black cotton, or alluvial. No rock was met with.

(10) *Water.*—I believe you will find water everywhere from 12" to 15" below ground surface
and wells should be dug where the Kunder is too far away to draw from. It will probably be
cheaper to dig one in every ½ mile where necessary, rather than to carry.

(11) *Shelter.*—There is, I fear, very little shelter or shade on the line and you should be
prepared with plenty of bamboos and palmyra leaves. It would be quite possible to erect a
movable pandal over the work described below and would enormously increase the comfort of
the workers.

4 BOARD OF REVENUE (REV. SETT., L. RDS. AND AGRI.), 3RD JUNE 1897, No. 415A.

(12) Method of work.—Large experience has been gained in earth-work by famine labour in Northern India; and the conclusions arrived at as to the best method of organising such work are as follows:—

1. To give the diggers of a gang a definite task to perform.

1. To give the diggers of a gang a certain daily task and ignore the fillers and carriers altogether.
 2. To entirely ignore lead and lift; because, it is found that only when the lead and lift are great, have the fillers and carriers as much to do as they can manage.
 3. To set out the task for each individual digger.
 4. To set him a task which will take him at least three days to do before having to move further on.
- (13) The task which has been set out for the diggers is as follows:

(13) The task which has been found suitable for a digger for various soils is given below:—

Soil.	Daily task in cubic feet.		Remarks.
	Full.	Low.	
Soft earth such as sandy loam ..	130		In the rare cases when a woman works as a digger, she should have a 3rd task.
Medium earth	110	100	
Hard earth and clay	85	80	
Strong soil and black cotton soil ..	85	70	
when dug.	85	60	

(14) I want this system given a trial in the Cherapoonji following manner:—

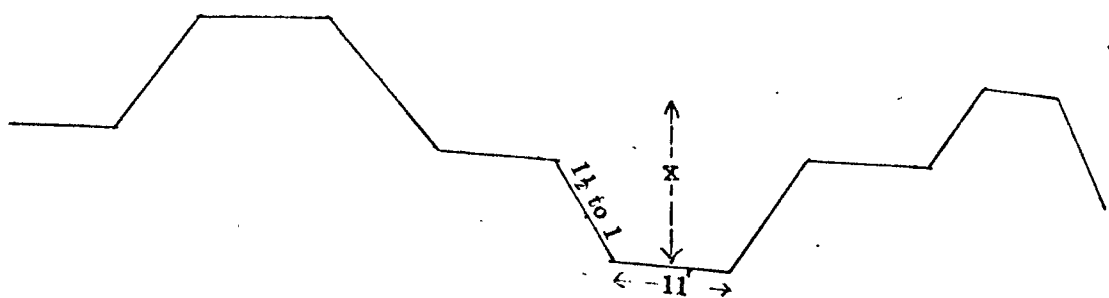
(14) I want this system given a trial in the Chepad Project. It should be applied in the following manner:—

- 1 Say a gang consists of the following number

- 1 Say a gang consists of the following numbers:—
- | | |
|-------------------|-------------|
| 15 Men | = 60 units. |
| 6 Nursing mothers | = 12 " |
| 45 Women | = 90 " |
| 30 Children | = 30 " |
| — | — |
| 96 | 192 |
| — | — |
- Sufficient to take the place of the gang. The auxiliary units are arranged to make 132 units

2. Take the task per digger as 80 c. ft., then the total task per gang = $15 \times 80 = 1,200$ c. ft. = $\frac{1,200}{192} = 6.25$ cubic feet per unit.

3. The section of the channel for the first $18\frac{1}{2}$ miles is as follows:—



Fall 1' per mile, with extra drops of 3" or 6" at siphons, 11' bed width; side slopes $1\frac{1}{2}$ to 1" depth = x , averages 10 feet. Taking x as 10 feet, the cross sections will total $(11 + 10 + 5) \times 10 = 260$ cubic feet per foot run.

(One digger would, therefore, do 5.52 rectilinear feet of the above.)

4. Take, therefore, one digger and one siphon.

4. Take, therefore, one furlong of the channel and divide it into 100 days. Give two of these taks to three diggers and tell them to dig cross sections will total $(11 + 10 + 5)$

4. Take, therefore, one furlong of the channel and divide it into 120 taks of 15.5 each. Give two of these taks to three diggers and tell them to do the left-hand one first, and the right-hand one afterwards. This will keep each party of diggers quite distinct.

5. Divide the remaining numbers of the gang who are not diggers, equally between the diggers. This should give about sixteen fillers, carriers and clod-breakers to each party of three diggers.

BOARD OF REVENUE (REV. SETT., L. RDS. AND AGRI.), 3RD JUNE 1897, No. 415A. 5

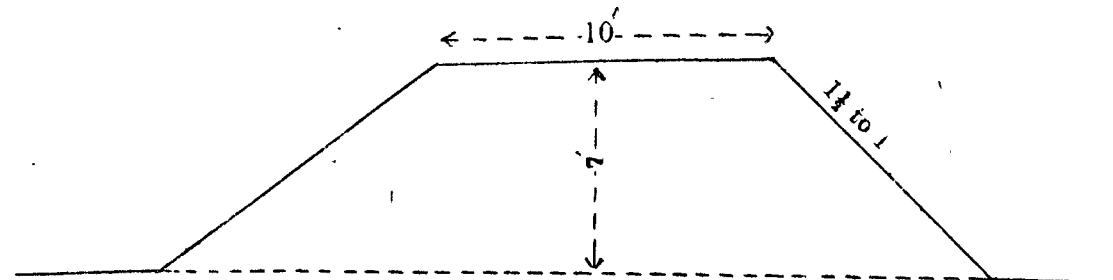
6. A gang comprised as above would, therefore, be employed on digging 55 rectilineal feet of the channel, and the work would occupy them for a fortnight (12 working days). At this rate, it would take a gang four weeks to do $\frac{1}{4}$ th furlong and twelve weeks to do $\frac{1}{2}$ furlong. So each gang had better be given $\frac{1}{2}$ furlong of channel to do, and kept there.

	1	
	2	BANK
	3	BERM
	4	SLOPE
	5	BED
	6	SLOPE
	7	BERM
	8	BANK

7. Before commencing work, the line should be lock-spitted as above with eight lines—

- No. 1 being outside line of bank.
 " 2 " inside "
 " 3 " top of slope on left.
 " 4 " bottom of "
 " 5 " " right.
 " 6 " top of right.
 " 7 " inside toe of bank.
 " 8 " outside " "

This provides for a bank of the following section on either side, which will take



260 cubic feet of earth.

8. The space occupied by the channel should then be lock-spitted across as above described, thus—

Diagram illustrating a rectangular plot divided into a grid of 2 rows and 10 columns. The plot is labeled with 'a' and 'b' in the top row, and 'c' and 'd' in the bottom row. The columns are numbered 1 to 10. The plot is surrounded by a dashed line with arrows at the ends, labeled 'SLOPE BED SLOPE' on the left and '15' on the top. Below the plot, a dashed line with arrows is labeled '55' and '1/12 FURLONG'.

Taks Nos. 1 and 2 to be given to three diggers.
Do. 3 and 4 do. do.

With orders to begin in 1, 3, 5, 7 and 9 and complete them before beginning 2, 4, 6, 8 and 10. This will keep the parties always distinct. The rectangle *a, b, c, d* had better be excavated first to $\frac{1}{2}$ depth of cutting and then the slopes completed to that depth, before the lower $\frac{1}{2}$ is taken up.

9. Measurements must be approximate in first and second day of each three-day period, and on third day, the diggers should be made to finish off with sufficient evenness to admit of rather more accurate measurement. Workers should be allowed to go whenever the day's task is completed.

10. Three women to each party of diggers should be supplied with clod-breakers 24" long 3" diameter at big end tapering to 1" at small end. Probably tumma wood will do best for these; fifteen will be wanted for a gang.

11. Of the three diggers, probably one had better be armed with a crowbar and two with mamooties.

(15) The above measurements, of course, only apply when the depth of cutting is 10 feet. Where it is greater or less than this, the taks marked out must be less or more than 11' in length.

(16) The cost of this work as so carried out will be nearly Rs. 7 per 1,000 cubic feet for labour only without counting head coolies, &c., the estimate rate being between Rs. 4 and Rs. 5. This is rather better than the usual ratio of cost of famine to ordinary labour.

(17) As above stated (paragraph 11), pandals may be erected over the channel, as gangs will remain so long in one place. A mile of channel will give employment for twelve weeks to sixteen gangs, or, say, 1,500 people.

(18) I beg that the system above described may be given a fair trial in a systematic and intelligent manner and the result reported.

ENCLOSURE No. 3.

From A. C. TATE, Esq., Collector of Cuddapah, to the Executive Engineer, Cuddapah Division, dated 19th April 1897, Ref. on Cur. No. 148-F.

In reply to your letter, C. No. 1388, dated 13th April 1897, I have the honour to state that, with the exception of the method of tasking, I see nothing that I have to object to in the Superintending Engineer's instructions.

2. As I understand the matter we must carry out famine works according to the Madras Famine Code, and you will therefore have to set tasks for each gang and not for each digger. It will have also to be a daily task.

ENCLOSURE No. 4.

Copy of letter Cur. No. 33, dated 21st April 1897, with three enclosures, from the Executive Engineer, Cuddapah Division, to the Sub-Engineer in charge of Famine Works, Jammalamadugu.

I have the honour to request you will apply the system of setting tasks for earth-work which is fully described in the letter of the Superintending Engineer to me about the Chepad channel, a copy of which has been sent to you, to all works under your charge on which digging is the task.

This system, as you are aware, consists of considering only the diggers of a gang and ignoring all question of lead and lift where neither the one nor the others is excessive.

For setting the task please use the table given by the Superintending Engineer in his letter referred to above, but remember that this table is a progressive one the idea being, as is no doubt the case, that as coolies get accustomed to a certain kind of work, they can gradually turn out more of it. Your object therefore must be to gradually work up the task from "low" to "full."

To help you in deciding the proper number of diggers to have for a gang under varying leads and tasks, I send you a table which I have drawn up.

By this new system of setting tasks all deductions, except that for distance, will now be done away with.

(On rare occasions when work is stopped by rain, or the coolies having to stop work for the reorganization of gangs or for any other reason for which they are not to blame a certain deduction should be made from the task proportionate to the time so lost.)

The table now sent should be applied as follows: First inspect your gang and see how many men capable of digging it contains. (The number of diggers should never exceed 20 per cent. of the strength of the gang, because each digger requires a filler, two carriers and a clod-breaker). Next, fix your task per digger according to the soil, and measure your lead and then see if you have enough carriers for your diggers according to the scale laid down in the table, remembering that in addition to carriers, each digger is to be given a filler and clod-breaker. Having fixed your task per digger and number of diggers for the gang, the task per unit for that gang will be $\text{number of diggers} \times \text{task per digger}$, when number of units in gang. Setting the task for a gang, the diggers should be divided up into small parties of 3, 4 or 5 and each party given its task. By this means work is much more individualized and a whole gang prevented from being punished owing to the laziness of individual members.

It will frequently happen that a gang does not contain sufficient diggers to find work for the carriers on the scale laid down in the table, but this cannot be avoided. In such cases the extra carriers must be divided up amongst the diggers. The table of carriers is supposed to represent the *minimum* number of carriers, a digger must have under varying conditions.

Three tables accompany this letter—

- (1) Table I is the one from which the task per digger is to be set.
- (2) Table II shows how the day's work of a carrier has been arrived at; this table is sent for information only.
- (3) Table III shows the number of carriers, a digger requires under varying conditions.

Table I.

Soil.	Daily task in cubic feet.		Remarks.
	Full.	Low.	
Soft earth such as sandy loam ..	130	100	In the rare cases when a woman works as a digger she should have a $\frac{2}{3}$ task.
Medium earth	110	80	
Hard earth and clay	..	..	
Strong soil and black-cotton soil when dry. ..	..	..	

Table II.

Lead.	Distance walked per trip.	Trips per hour at 1 mile per hour.	Trips per day at 8 hours per day.	Trips per day as actually taken.	Load per trip (per woman).	Quantity carried per day per woman in cubic feet.	Remarks.
Up to 30 yards	60	29	232	200	0.25 cubic feet.	50	Where the leads are short, a comparatively greater time will be occupied in filling the baskets, so a deduction in the "Trips per day" has been made up to 120 yards lead. A man or a woman can carry 0.25 cubic feet per trip and a child half this load.
30-40	80	22	176	150		37	
40-50	100	17	136	120		30	
50-60	120	14	112	100		25	
60-70	140	12	96	90		22	
70-80	160	11	88	85		21	
80-90	180	10	80	78		19	
90-100	200	9	72	70		17	
100-120	240	7	56	55		14	
120-140	280	6	48	48		12	
140-160	320	5	40	40		10	
160-180	360	5	40	40		10	
180-200	400	5	40	40		10	
200-250	500	4	32	32		8	
250-300	600	3	24	24		6	

Table III.

NUMBER of carriers required for each digger for varying tasks and leads.

Digger for varying tasks and leads.													
Lead in yards.	Task in cubic feet.											Remarks.	
	50	55	60	65	70	75	80	85	90	95	100		110
Up to 30 ..	1	1½	1½	1½	1½	1½	2	2	2	2	2½	2½	In this table a carrier is a man or woman; a child is ½ a carrier. In addition to carriers each digger must have a filler and clod-breaker.
30-40 ..	1½	1½	2	2	2	2½	2½	2½	2½	3	3	3	
40-50 ..	2	2	2	2½	2½	2½	3	3	3	3½	3½	3½	
50-60 ..	2	2½	2½	3	3	3	3½	3½	3½	4	4	4	
60-70 ..	2½	2½	3	3	3½	3½	4	4	4	4½	4½	4½	
70-80 ..	2½	3	3	3½	3½	3½	4	4	4	4½	4½	4½	
80-90 ..	3	3	3	3½	3½	3½	4	4	4	4½	4½	4½	
90-100 ..	3	3½	3½	3½	4	4	4½	4½	4½	5	5	5	
100-120 ..	4	4	4½	5	5	5	5½	5½	5½	5½	5½	5½	
120-140 ..	4½	4½	5	5	5	5½	6	6	6	6½	6½	6½	
140-160 ..	5	5½	6	6	6	6½	7	7	7	7½	7½	7½	
160-180 ..	5	5½	6	6	6	6½	7	7	7	7½	7½	7½	
180-200 ..	5	5½	6	6	6	6½	7	7	7	7½	7½	7½	
200-250 ..	6½	7	7½	8	8	8	8	8	8	9	9	9	
250-300 ..	8½	9	10	11	12	12½	13½	14½	15	16	17	18½	

Note.—Allowance for lift.—Up to 10 yards lead, all lift is at the end of the lead; beyond 10 yards, all lift is at the end of 3 yards.

Note.—Allowance for lift.—Up to 10 yards lead, all lift is to be ignored. Beyond 10 yards lead, add ½ carrier for every yard lift in excess of 3 yards.

Endorsement by S. B. MURRAY, Esq., Executive Engineer, Cuddapah Division, dated 21st April 1897, C. No. 134.
Forwarded to the Collector of Cuddapah for approval.

ENCLOSURE No. 5.

From A. C. TATE, Esq., Collector of Cuddapah, to the Executive Engineer, Cuddapah Division, dated 27th April 1897, Ref. on Cur. No. 223-F.

In reply to your foot-note, No. C-134, dated 21st instant, forwarding for my approval a copy of your letter, No. C-153, dated 21st instant, to the Sub-Engineer in charge of relief works, Jam-malamadugu, in which you have instructed him to apply the system of setting tasks for earthwork described in Superintendent Engineer's letter about the Chepad project, I have the honour to invite your attention to my letter, Ref. on Cur. No. 118-F. of 1897, dated 19th instant, relating to the Chepad project and to say that, as I have to work under the rules of the Madras Famine Code, I must raise the same objections to your present instructions as I made then.

2. It appears to me that, under the present very liberal discretion given to me, to approve of tasks, that if you will make out a fair task for each gang according to the Madras rules, you can still arrange to have the task executed (daily) in the manner desired by Mr. deWinton.

3. I request a very early reply. I had been expecting to obtain from you for approval some task for the Chepad channel work now started.

ENCLOSURE No. 6.

From S. B. MURRAY, Esq., Executive Engineer, Cuddapah Division, to the Collector of Cuddapah, dated Madanapalli, 2nd May 1897, Cur. No. 740-M.

With reference to your letter, No. 223, dated 27th April 1897, I have the honour to inform you that the tasks for all earthwork, which is now being done by famine labour, are set from the following table:—

Soil.	Daily task in cubic feet.	
	Full.	Low.
Soft earth ..	130	100
Medium earth ..	110	80
Hard earth ..	85	70
Very hard earth ..	85	50

2. This table was sent to me by the Superintending Engineer with his instructions about carrying out the Chepad channel, and I understood that you had approved of it. The tasks given in the table are for a digger, so the task for a gang will be the task per digger x number of diggers in the gang.

ENCLOSURE No. 7.

From A. C. TATE, Esq., Collector of Cuddapah, to the Executive Engineer, Cuddapah Division, dated 10th May 1897, Ref. on Cur. No. 223.

Referring to your letter, No. 740, dated 4th May 1897, I have the honour to inquire whether you did not receive my letter, Ref. No. 148-F. of 1897, dated 19th April 1897, and if so to say that I am astonished that you should say in your letter, No. 740, dated 4th instant, that you thought I had approved of Chepad tasks. I clearly stated that, under the Famine Code, tasks must be set for each gang and not for each digger.

ENCLOSURE No. 8.

From S. B. MURRAY, Esq., Executive Engineer, Cuddapah Division, to the Collector of Cuddapah, dated 6th May 1897, No. 791.

With reference to your No. 223-F. of 27th April 1897, I have the honour to request you will inform me what rules of the Madras Famine Code I am contravening in the instructions I give to my Sub-Divisional Officer in my letter, a copy of which was sent to you with my No. C. 134, dated 21st April 1897.

You apparently object to "the system of setting tasks for earthwork described in the Superintendent Engineer's letter about the Chepad project," but as this system consists of considering only the diggers of a gang, and ignoring all questions of lead and lift, where neither the one nor the other is excessive, I do not see what you have to take objection to.

I have the power, according to the appendix VI of the Madras Famine Code which you work under, to organize the gangs. Appendix VI is, I am aware, liable to modification, but as I have received no orders to the effect that I am not to organize gangs, I consider that, according to article 115 of the Code, it is quite within my province to issue orders to my officers about the number of diggers, carriers, &c., there should be in a gang. As I understand the Madras Famine Code, which we both work under, it is for you to approve of a task and for me to arrange for the proper carrying out of it.

RESOLUTION—dated 3rd June 1897, No. 415A.

The Collector of Cuddapah submits, for the orders of the Board, correspondence between himself and the Executive Engineer on the subject of tasks on the Chepad channel work.

2. The Superintending Engineer, III Circle, proposes to adopt the following system which has been introduced into the North-Western Provinces:—

- (1) To give the diggers of a gang a certain daily task and ignore the fillers and carriers altogether.
- (2) To entirely ignore lead and lift, because it is found that only when lead or lift is great, have the fillers and carriers as much to do as they can manage.
- (3) To set out the task for each individual digger.
- (4) To set him a task which will take him at least three days to do before having to move further on.

3. The system approaches the ideal in so far as it aims at setting a task suitable to the capacity of each individual of the most important class of workers on whose efforts the outturn of the whole gang necessarily depends. Government in paragraph 3 (1) of G.O., No. 216 of 1897, has recognised the necessity of fixing the task according to the number of diggers, and not according to the total number in the gang. The only objection that the Board can see to the proposed system is the impossibility of carrying it out. It is owing to the large masses of labourers that have to be dealt with in famine times that it has been found necessary to deal with the gang

10 BOARD OF REVENUE (REV. SETT., L. RDS. AND AGRI.), 3RD JUNE 1897, No. 415A.

and not with the individual. Mr. deWinton realises the necessity of daily measurements. Let it be supposed that there are 16 of Mr. deWinton's typical gangs on the works—a by no means excessive number. Under the present rules, the officer in charge of the work would have to set out 16 tasks each day, and no more measurements would be required unless any of the allotted tasks were not worked up to. Under Mr. deWinton's scheme, it would be necessary to set out 960 tasks every 12 weeks, i.e., an average of over 11 a day, to set out 16 x 5 or 80 tasks every third day and to measure up 16 x 5 or 80 tasks every day. It is true that accurate measurements are only intended to be made every third day, the measurements on the other days being approximate, but this means that there will be a proper check over the labourers' work only once every three days, instead of every day. It is presumably intended to pay labourers according to the outturn of the squad and not of the gang, or else one of the chief advantages of the system is lost. This means that each head cooly will have to make five entries against one under the present system, and all the scriptory work will be increased in the same proportion. Even if it is intended to write up the work lists only once in every three days, scriptory work will be nearly doubled. Under the existing system delays are numerous enough.

4. For these reasons, the Board considers that it is undesirable to add to the complexity of the existing rules for the conduct of works by introducing the proposed system.

5. The Board observes that the Superintending Engineer issued orders to the Executive Engineer to introduce a system totally at variance with the provisions of the Famine Code, without consulting the Collector, although the proposed system involved several points of a non-professional nature. It is glad to note, however, that the Executive Engineer thought fit to consult the Collector in the matter.

(True Copies and Extract.)

Anger
17/6
Famine Secretary.

To the Collector of Cuddapah.
,, Secretary to Government, Revenue Department.

Erd. Md. Pahlvan.

the Hon. Mr. Justice

Print. and Sundry
RS
15-7-97

Sec
85
14/7/97

Sec. 15/7/97

C. No 511.8

Q. Q. C. Press. No. 577 of 15th July 1897

The Govt is of opinion that Mr. deWinton's system should be given a trial as directed by him on the Chepade project, and that if it is found successful the P.W.D. should be allowed to adopt it generally if it considers that the experiment has succeeded.

15/7/97
(*Government*)

The Famine Commr
Mr. W. D.

6 weeks
15/7/97

60/3
14/8/97

RS
13-7-97

Government {1897} of Madras.
REVENUE.

Recd.

Regd.

} 1897.

Enclosures

Spare copies

G.O., No. 577, 15th July 1897.

JULY.

Method of tasking.

Stating that Government is of opinion that Mr. DeWinton's system regarding the — should be given a trial, and that the Public Works Department should be allowed to adopt it generally if it considers that the experiment has succeeded.

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

READ—the following Proceedings of the Board of Revenue (Revenue Settlement, Land Records and Agriculture), dated 3rd June 1897, No. 415A :—

Read—the following letter from A. C. TATE, Esq., Collector of Cuddapah, to the Famine Secretary to the Commissioner of Revenue Settlement, Land Records and Agriculture, dated Kasanur, 14th May 1897, Ref. on Cur. No. 223-F. :—

With reference to sections 23, 97, 100, 106 and 107 of the Famine Code, I have the honour to request the Board's orders on the enclosed correspondence.

2. The Superintending Engineer and, following him, the Executive Engineer wish to fix earth-work tasks with reference to each digger in a gang and to set a task for three days instead of for one day. Having done so the task for each unit is to be obtained from the following formula :—

$$\frac{\text{Task per digger} \times \text{number of diggers}}{\text{Number of units in gang}}$$

Lead and lift are to be neglected.

3. The task per digger is to be taken from the following table :—

Soil.						Daily task in cubic feet.	
						Full.	Low.
Soft earth ...	...	...	...	...	...	130	100
Medium earth ...	...	...	...	...	...	110	80
Hard earth ...	...	...	...	...	...	85	70
Very hard earth ...	...	...	...	...	...	85	50

4. The Superintending Engineer says that this plan works well in Northern India and he wishes to give it a trial here.

5. The idea is that diggers are to be started on the "low task" which is to be gradually increased to the "full task" as the workers become accustomed to the work.

6. The typical gang mentioned by the Superintending Engineer in paragraph 14 of his letter, No. 4722, dated 26th March, contains 15 men and consists of 96 persons, all told. Its task in sandy loam would therefore be—

Full	...	...	...	...	...	1,950 cubic feet = 72 cubic yards,
Low	...	...	...	...	...	1,500 " = 55 "

which from the worker's point of view compares favourably with the figures in Form F, page 66, Famine Code, Madras, and I cannot object to it on the score of being excessive.

7. My doubt is whether this system of tasking is permissible under the Madras Code. It is really taking the diggers and not the gang as a whole.

8. With reference to section 100 of the Famine Code the Engineers do not state whether the proposed task is for A class labourers (diggers?) or for B class labourers (diggers?); nor is allusion made to the varying of the tasks according as the gang

(digger?) is in "good", "fair" or "low" condition. In my letter, Ref. Cur. No. 1147-Rev., dated 5th April 1897, to the Executive Engineer, I approved of his proposal that the tasks of gangs in "fair" and "low" condition should be respectively $\frac{2}{3}$ and $\frac{1}{2}$ of the task of a gang in good condition (but on the works recently inspected by me I found the officers in charge ignorant of this order. There had been, however, no fining).

9. Personally, I think Mr. DeWinton's proposal is a good one, but I think it desirable to obtain the Board's order on it.

ENCLOSURE No. 1.

From S. B. MURRAY, Esq., Executive Engineer, Cuddapah Division, to the Collector of Cuddapah, dated 13th April 1897, Cur. No. 1388.

I have the honour to forward herewith a copy of a letter sent to me by the Superintending Engineer giving me instructions as to how the Chepad channel work is to be carried out.

2. As there are several non-professional points involved, I request you will approve of them or make any alterations that you may consider advisable.

ENCLOSURE No. 2.

From W. B. DEWINTON, Esq., Superintending Engineer, III Circle, to the Officer in charge of Cuddapah Division, dated 26th March 1897, No. 4722.

As I understand from the Collector of Cuddapah that there is every probability of his asking you to start the Chepad project (Rajoli-channel) in the near future, I have the honour to give below some instructions as to how the work should be carried out :—

(1) *Estimate*.—As soon as you know for certain, that the work is to be started, you should telegraph to Chief Engineer for Irrigation for the longitudinal sections and estimate of earthwork.

(2) *Establishment*.—I have already applied for an Assistant Engineer and two Upper Subordinates for employment on this work.

(3) *Position*.—The channel starts from the Rajoli anikat across the Kunder and ends after a course of 26 miles near the village of Vedumur.

(4) *Mile and furlong stones*.—The mile-stones are all fixed in concrete, in what is intended to be the left berm of channel and are all or most of them boundary marks. The furlong-stones are simply fixed in the ground in centre of channel and can be removed. It would, however, be well to replace them in the left berm.

(5) *Alignment*.—The line of channel has been lock-spitted throughout and most of it is now visible. The line, however, has been changed a good many times, and the curves joining old and new lines have still to be drawn.

(6) *Land*.—The officer in charge of Kurnool division will be asked to inform you what amount of land has been provided for in the estimate, and this should be occupied and land statements submitted speedily.

(7) *Berms*.—If feasible, I should like a berm of 9' left on each side between top of cutting and toe of banking. If not, please leave as much as possible.

(8) *Location of Relief work*.—I believe the Collector wants the work started (1) at Rajoli and (2) at Korrapad. As the first few 100 feet pass directly through the village of Rajoli and the work here is unsuited for famine labour, you had better begin excavation clear of the village to the southward.

(9) *Nature of soil*.—The channel runs for the first 18½ miles in more or less deep cutting, the average being, speaking from memory, about 10 feet. Trial pits have been dug all along the line and the earth found to be ordinary black cotton, or alluvial. No rock was met with.

(10) *Water*.—I believe you will find water everywhere from 12" to 15" below ground surface and wells should be dug where the Kunder is too far away to draw from. It will probably be cheaper to dig one in every ½ mile where necessary, rather than to carry.

(11) *Shelter*.—There is, I fear, very little shelter or shade on the line and you should be prepared with plenty of bamboos and palmyra leaves. It would be quite possible to erect a movable pandal over the work described below and would enormously increase the comfort of the workers.

(12) *Method of work.*—Large experience has been gained in earth-work by famine labour in Northern India; and the conclusions arrived at as to the best method of organising such work are as follows:—

1. To give the diggers of a gang a certain daily task and ignore the fillers and carriers altogether.
2. To entirely ignore lead and lift; because, it is found that only when the lead and lift are great, have the fillers and carriers as much to do as they can manage.
3. To set out the task for each individual digger.
4. To set him a task which will take him at least three days to do before having to move further on.

(13) The task which has been found suitable for a digger for various soils is given below:—

Soil.	Daily task in cubic feet.		Remarks.
	Full.	Low.	
Soft earth such as sandy loam ..	130	100	In the rare cases when a woman works as a digger, she should have a 3rd task.
Medium earth	110	80	
Hard earth and clay	85	70	
Strong soil and black cotton soil when dug.	85	50	

(14) I want this system given a trial in the Chepad Project. It should be applied in the following manner:—

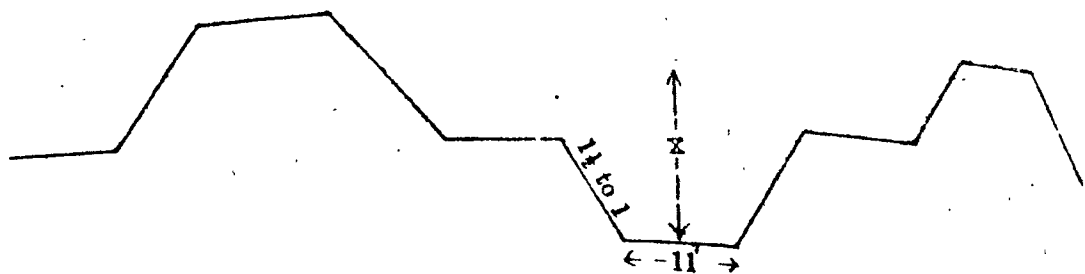
- 1 Say a gang consists of the following numbers:—

15 Men,	= 60	units.
6 Nursing mothers	= 12	"
45 Women	= 90	"
30 Children	= 30	"
96	192	

2. Take the task per digger as 80 c. ft., then the total task per gang = $15 \times 80 =$
 $\text{ft.} = \frac{1,200}{192} = 6.25$ cubic feet per unit.

$$1,200 \text{ c. ft.} = \frac{1,200}{192} = 6.25 \text{ cubic feet per unit.}$$

3. The section of the channel for the first 18½ miles is as follows:—



Fall 1' per mile, with extra drops of 3" or 6" at siphons, 11' bed width; side slopes $1\frac{1}{2}$ to 1" depth = x , averages 10 feet. Taking x as 10 feet, the cross sections will total $(11 + 10) \times 10 = 260$ cubic feet per foot run.

One digger would, therefore, do 5.52 rectilinear feet of the channel: $(11 + 10 + 5)$

4. Take, therefore, one furlong of the channel and divide it into 120 takhs in six days. Give two of these takhs to three diggers and tell them to do the left-hand one first, and the right-hand one afterwards. This will keep each party of diggers quite distinct.
5. Divide the remaining numbers of the gang who are not diggers, equally between the diggers. This should give about sixteen fillers, carriers and clod-breakers to each party of the diggers.

This should give about sixteen miners, carriers and clod-breakers to each party of three diggers.

6. A gang comprised as above would, therefore, be employed on digging 55 rectilinear feet of the channel, and the work would occupy them for a fortnight (12 working days). At this rate, it would take a gang four weeks to do $\frac{1}{4}$ th furlong and twelve weeks to do $\frac{1}{2}$ furlong. So each gang had better be given $\frac{1}{2}$ furlong of channel to do, and kept there.

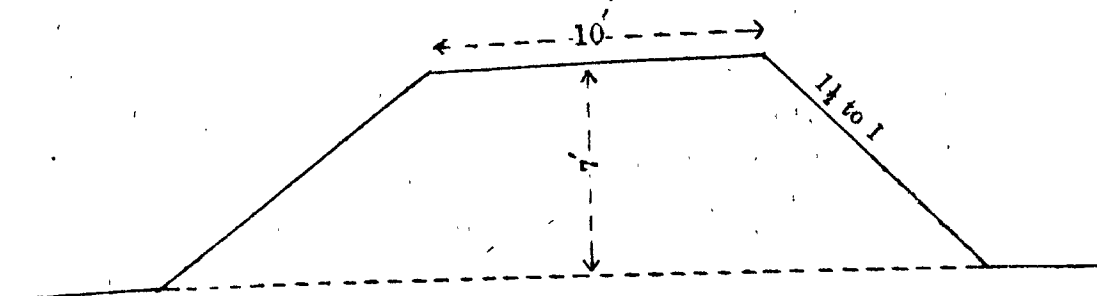
1	
2	BANK
3	BERM
4	SLOPE
5	BED
6	SLOPE
7	BERM
8	BANK

7. *Before commencing work*, the line should be lock-spitted as above with eight lines—

No. 1 being outside line of bank.

- | | | |
|-----|---|-----------------------|
| NO. | 1 | being outside |
| " | 2 | inside " |
| " | 3 | top of slope on left. |
| " | 4 | bottom of " |
| " | 5 | " right. |
| " | 6 | top of right. |
| " | 7 | inside toe of bank. |
| " | 8 | outside " " |

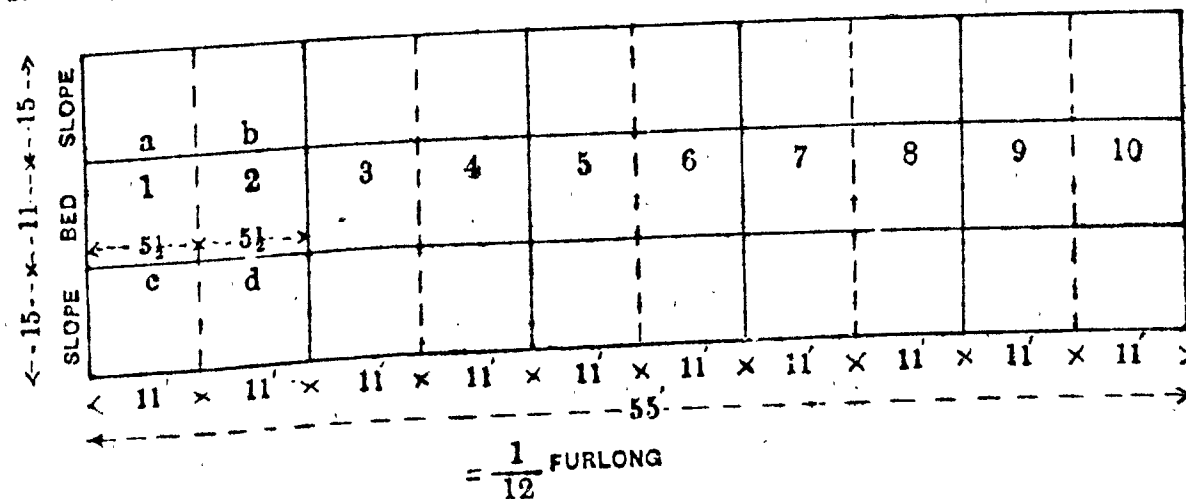
This provides for a bank of the following section on either side, which will take



'260 cubic feet of earth.

260 cubic feet of earth.

8. The space occupied by the channel should then be lock-spitted across as above described, thus—



Taks Nos. 1 and 2 to be given to three diggers.
Do. 3 and 4 do. do.

With orders to begin in 1, 3, 5, 7 and 9 and complete them before beginning 2, 4, 6, 8 and 10. This will keep the parties always distinct. The rectangle *a, b, c, d* had better be excavated first to $\frac{1}{2}$ depth of cutting and then the slopes completed to that depth, before the lower $\frac{1}{2}$ is taken up.

9. Measurements must be approximate in first and second day of each three-day period, and on third day, the diggers should be made to finish off with sufficient evenness to admit of rather more accurate measurement. Workers should be allowed to go whenever the day's task is completed.

10. Three women to each party of diggers should be supplied with clod-breakers 2 $\frac{1}{2}$ ' long 3" diameter at big end tapering to 1" at small end. Probably tumma wood will do best for these; fifteen will be wanted for a gang.

11. Of the three diggers, probably one had better be armed with a crowbar and two with mamooties.

(15) The above measurements, of course, only apply when the depth of cutting is 10 feet. Where it is greater or less than this, the taks marked out must be less or more than 11' in length.

(16) The cost of this work as so carried out will be nearly Rs. 7 per 1,000 cubic feet for labour only without counting head coolies, &c., the estimate rate being between Rs. 4 and Rs. 5. This is rather better than the usual ratio of cost of famine to ordinary labour.

(17) As above stated (paragraph 11), pandals may be erected over the channel, as gangs will remain so long in one place. A mile of channel will give employment for twelve weeks to sixteen gangs, or, say, 1,500 people.

(18) I beg that the system above described may be given a fair trial in a systematic and intelligent manner and the result reported.

ENCLOSURE No. 3.

From A. C. TATE, Esq., Collector of Cuddapah, to the Executive Engineer, Cuddapah Division, dated 19th April 1897, Ref. on Cur. No. 148-F.

In reply to your letter, C. No. 1388, dated 13th April 1897, I have the honour to state that, with the exception of the method of tasking, I see nothing that I have to object to in the Superintending Engineer's instructions.

2. As I understand the matter we must carry out famine works according to the Madras Famine Code, and you will therefore have to set tasks for each gang and not for each digger. It will have also to be a daily task.

ENCLOSURE No. 4.

Copy of letter Cur. No. 33, dated 21st April 1897, with three enclosures, from the Executive Engineer, Cuddapah Division, to the Sub-Engineer in charge of Famine Works, Jammalamadugu.

I have the honour to request you will apply the system of setting tasks for earth-work which is fully described in the letter of the Superintending Engineer to me about the Chepad channel, a copy of which has been sent to you, to all works under your charge on which digging is the task.

This system, as you are aware, consists of considering only the diggers of a gang and ignoring all question of lead and lift where neither the one nor the other is excessive.

For setting the task please use the table given by the Superintending Engineer in his letter referred to above, but remember that this table is a progressive one the idea being, as is no doubt more of it. Your object therefore must be to gradually work up the task from "low" to "full."

To help you in deciding the proper number of diggers to have for a gang under varying leads and tasks, I send you a table which I have drawn up.

By this new system of setting tasks all deductions, except that for distance, will now be done away with.

(On rare occasions when work is stopped by rain, or the coolies having to stop work for the reorganization of gangs or for any other reason for which they are not to blame a certain deduction should be made from the task proportionate to the time so lost.)

The table now sent should be applied as follows: First inspect your gang and see how many men capable of digging it contains. (The number of diggers should never exceed 20 per cent. of the strength of the gang, because each digger requires a filler, two carriers and a clod-breaker). Next, fix your task per digger according to the soil, and measure your lead and then see if you have enough carriers for your diggers according to the scale laid down in the table, remembering that in addition to carriers, each digger is to be given a filler and clod-breaker. Having fixed your task per digger and number of diggers for the gang, the task per unit for that gang will be $\text{number of diggers} \times \text{task per digger}$, when number of units in gang. Setting the task for a gang, the diggers should be divided up into small parties of 3, 4 or 5 and each party given its task. By this means work is much more individualized and a whole gang prevented from being punished owing to the laziness of individual members.

It will frequently happen that a gang does not contain sufficient diggers to find work for the carriers on the scale laid down in the table, but this cannot be avoided. In such cases the extra carriers must be divided up amongst the diggers. The table of carriers is supposed to represent the *minimum* number of carriers, a digger must have under varying conditions.

Three tables accompany this letter—

- (1) Table I is the one from which the task per digger is to be set.
- (2) Table II shows how the day's work of a carrier has been arrived at; this table is sent for information only.
- (3) Table III shows the number of carriers, a digger requires under varying conditions.

Table I.

Soil.	Daily task in cubic feet.		Remarks.
	Full.	Low.	
Soft earth such as sandy loam ..	130	100	In the rare cases when a woman works as a digger she should have a $\frac{1}{2}$ task.
Medium earth ..	110	80	
Hard earth and clay ..	..	..	
Strong soil and black-cotton soil when dry ..	..	..	

Table II.

Lead.	Distance walked per trip.	Trips per hour at 1 mile per hour.	Trips per day at 8 hours per day.	Trips per day as actually taken.	Load per trip (per woman).	Quantity carried per day per woman in cubic feet.	Remarks.
Up to 30 yards ..	60	29	232	200	0.25 cubic feet.	50	Where the leads are short, a comparatively greater time will be occupied in filling the baskets, so a deduction in the "Trips per day" has been made up to 120 yards lead. A man or a woman can carry 0.25 cubic feet per trip and a child half this load.
30-40 ..	80	22	176	150		37	
40-50 ..	100	17	136	120		30	
50-60 ..	120	14	112	100		25	
60-70 ..	140	12	96	80		22	
70-80 ..	160	11	88	78		21	
80-90 ..	180	10	80	70		19	
90-100 ..	200	9	72	65		17	
100-120 ..	240	7	56	55		14	
120-140 ..	280	6	48	48		12	
140-160 ..	320	5	40	40		10	
160-180 ..	360	5	40	40		10	
180-200 ..	400	5	40	40		10	
200-250 ..	500	4	32	32		8	
250-300 ..	600	3	24	24		6	

Table III.

NUMBER of carriers required for each digger for varying tasks and leads.

Lead in yards.	Task in cubic feet.											Remarks.	
	50	55	60	65	70	75	80	85	90	95	100		110
Up to 30	1	1½	1½	1½	1½	1½	2	2	2	2	2	2½	In this table a carrier is a man or woman; a child is ½ a carrier. In addition to carriers each digger must have a filler and clod-breaker.
30—40	1½	2	2	2	2	2	2½	2½	2½	3	3	3	
40—50	2	2½	2½	2½	2½	2½	3	3	3	3½	3½	4	
50—60	2	2½	2½	3	3	3	3½	3½	4	4	4	4½	
60—70	2½	3	3	3	3	3	3½	3½	4½	4½	4½	5	
70—80	2½	3	3	3½	3½	4	4	4	4½	4½	5	5½	
80—90	3	3	3½	3½	4	4	4½	4½	5	5	5½	6	
90—100	3	3½	3½	4	4½	4½	5	5	5½	5½	6	6½	
100—120	4	4	4½	5	5	5	6	6	6½	6½	7	7½	
120—140	4½	5	5	5½	6	6	7	7	7	7	8	8½	
140—160	5	5½	5½	6	6	6	7½	8	8	8	9	9½	
160—180	5	5½	6	6	7	7	7½	8	8	9	9	10	
180—200	5	5½	6	6	7	7	7½	8	8	9	9	10	
200—250	6½	7	7½	8	9	9	9½	10	10½	11½	12	12½	
250—300	8½	9	10	11	12	12½	13½	14½	15	16	17	18½	

Note.—Allowance for lift.—Up to 10 yards lead, all lift is to be ignored. Beyond 10 yards lead, add ½ carrier for every yard lift in excess of 3 yards.

Endorsement by S. B. MURRAY, Esq., Executive Engineer, Cuddapah Division, dated 21st April 1897, C. No. 134.

Forwarded to the Collector of Cuddapah for approval.

ENCLOSURE No. 5.

From A. C. TATE, Esq., Collector of Cuddapah, to the Executive Engineer, Cuddapah Division, dated Tondier, 27th April 1897, Ref. on Cur. No. 223-F.

In reply to your foot-note, No. C-134, dated 21st instant, forwarding for my approval a copy of your letter, No. C-133, dated 21st instant, to the Sub-Engineer in charge of relief works, Jam-malamadugu, in which you have instructed him to apply the system of setting tasks for earthwork described in Superintendent Engineer's letter about the Chepad project, I have the honour to invite your attention to my letter, Ref. on Cur. No. 148-F. of 1897, dated 19th instant, relating to the Chepad project and to say that, as I have to work under the rules of the Madras Famine Code, I must raise the same objections to your present instructions as I made then.

2. It appears to me that, under the present very liberal discretion given to me, to approve of tasks, that if you will make out a fair task for each gang according to the Madras rules, you can still arrange to have the task executed (daily) in the manner desired by Mr. deWinton.

3. I request a very early reply. I had been expecting to obtain from you for approval some task for the Chepad channel work now started.

ENCLOSURE No. 6.

From S. B. MURRAY, Esq., Executive Engineer, Cuddapah Division, to the Collector of Cuddapah, dated Madanapalli, 2nd May 1897, Cur. No. 740-M.

With reference to your letter, No. 223, dated 27th April 1897, I have the honour to inform you that the tasks for all earthwork, which is now being done by famine labour, are set from the following table:—

Soil.	Daily task in cubic feet.	
	Fall.	Low.
Soft earth ...	130	100
Medium earth ...	110	80
Hard earth ...	85	70
Very hard earth ...	85	50

2. This table was sent to me by the Superintending Engineer with his instructions about carrying out the Chepad channel, and I understood that you had approved of it. The tasks given in the table are for a digger, so the task for a gang will be the task per digger × number of diggers in the gang.

ENCLOSURE No. 7.

From A. C. TATE, Esq., Collector of Cuddapah, to the Executive Engineer, Cuddapah Division, dated 10th May 1897, Ref. on Cur. No. 223.

Referring to your letter, No. 740, dated 4th May 1897, I have the honour to inquire whether you did not receive my letter, Ref. No. 148-F. of 1897, dated 19th April 1897, and if so to say that I am astonished that you should say in your letter, No. 740, dated 4th instant, that you thought I had approved of Chepad tasks. I clearly stated that, under the Famine Code, tasks must be set for each gang and not for each digger.

ENCLOSURE No. 8.

From S. B. MURRAY, Esq., Executive Engineer, Cuddapah Division, to the Collector of Cuddapah, dated 6th May 1897, No. 791.

With reference to your No. 223-F. of 27th April 1897, I have the honour to request you will inform me what rules of the Madras Famine Code I am contravening in the instructions I give to my Sub-Divisional Officer in my letter, a copy of which was sent to you with my No. C. 134, dated 21st April 1897.

You apparently object to "the system of setting tasks for earthwork described in the Superintendent Engineer's letter about the Chepad project," but as this system consists of considering only the diggers of a gang, and ignoring all questions of lead and lift, where neither the one nor the other is excessive, I do not see what you have to take objection to.

I have the power, according to the appendix VI of the Madras Famine Code which you work under, to organize the gangs. Appendix VI is, I am aware, liable to modification, but as I have received no orders to the effect that I am not to organize gangs, I consider that, according to article 115 of the Code, it is quite within my province to issue orders to my officers about the number of diggers, carriers, &c., there should be in a gang. As I understand the Madras Famine Code, which we both work under, it is for you to approve of a task and for me to arrange for the proper carrying out of it.

Resolution—dated 3rd June 1897, No. 415A.

The Collector of Cuddapah submits, for the orders of the Board, correspondence between himself and the Executive Engineer on the subject of tasks on the Chepad channel work.

2. The Superintending Engineer, III Circle, proposes to adopt the following system which has been introduced into the North-Western Provinces:—

(1) To give the diggers of a gang a certain daily task and ignore the fillers and carriers altogether.

(2) To entirely ignore lead and lift, because it is found that only when lead or lift is great, have the fillers and carriers as much to do as they can manage.

(3) To set out the task for each individual digger.

(4) To set him a task which will take him at least three days to do before having to move further on.

3. The system approaches the ideal in so far as it aims at setting a task suitable to the capacity of each individual of the most important class of workers on whose efforts the outturn of the whole gang necessarily depends. Government in paragraph 3 (1) of G.O., No. 216 of 1897, has recognised the necessity of fixing the task according to the number of diggers, and not according to the total number in the gang. The only objection that the Board can see to the proposed system is the impossibility of carrying it out. It is owing to the large masses of labourers that have to be dealt with in famine times that it has been found necessary to deal with the gang

and not with the individual. Mr. deWinton realises the necessity of daily measurements. Let it be supposed that there are 16 of Mr. deWinton's typical gangs on the works—a by no means excessive number. Under the present rules, the officer in charge of the work would have to set out 16 tasks each day, and no more to. Under Mr. deWinton's scheme, it would be necessary to set out 960 tasks every 12 weeks, i.e., an average of over 11 a day, to set out 16×5 or 80 tasks every third day and to measure up 16×5 or 80 tasks every day. It is true that accurate measurements are only intended to be made every third day, the measurements on the other days being approximate, but this means that there will be a proper check over the labourers' work only once every three days, instead of every day. It is presumably intended to pay labourers according to the outturn of the squad and not of each head cooly will have to make five entries against one under the present system, and all the scriptory work will be increased in the same proportion. Even if it is intended to write up the work lists only once in every three days, scriptory work will be nearly doubled. Under the existing system delays are numerous enough.

4. For these reasons, the Board considers that it is undesirable to add to the complexity of the existing rules for the conduct of works by introducing the proposed system.

5. The Board observes that the Superintending Engineer issued orders to the Executive Engineer to introduce a system totally at variance with the provisions of the Famine Code, without consulting the Collector, although the proposed system involved several points of a non-professional nature. It is glad to note, however, that the Executive Engineer thought fit to consult the Collector in the matter.

(True Copies and Extract.)

(Signed) L. E. BUCKLEY,
Famine Secretary.

To the Collector of Cuddapah.
" Secretary to Government, Revenue Department.

ORDER—No. 577, Revenue, dated 15th July 1897.

Miscellaneous.

The Government is of opinion that Mr. DeWinton's system should be given a trial as directed by him on the Chepad project, and that the Public Works Department should be allowed to adopt it generally if it considers that the experiment has succeeded.

(True Extract.)

(Signed) G. STOKES,
Ag. Secretary to Government.

To the Famine Commissioner.
" the Public Works Department.

Exd. Shaik Karim.

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