Revenue (1897) Department.

PRESS SERIES.

G.O., No. 958

DATED 16th November—

[Despatch Abstract.]

Forwg. to the Famine Commr. for report. Govt. of India resolution forwarding for information & guidance Sir W. Higham's final note on the management of famine relief-works and revision of Provincial Famine Codes.

BACK PAPERS.

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

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Revenue (1897) Department.

CURRENT No. 3352

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The Govt of India
Rev & Agrl Departt

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SUBJECT.

Re. Mr Higham's Final Note on the management of famine relief-works and revision of Provincial Famine Cod

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GOVERNMENT OF INDIA.

DEPARTMENT OF REVENUE AND AGRICULTURE.

FAMINE.

Erratum.

In clause (2) of paragraph 3 of Government of India, Resolution No. 31—237-2-F., dated the 25th October 1897:—

For

10 ounces of grain ... ... in the case of children between 7 and 12.

Read

10 ounces of grain ... ... in the case of children dependants.

In para. 7 for *38* in first line read (40).

T. W. HOLDERNESS,

Deputy Secretary to the Government of India.

C. C. Press, Simla.—No. 1417 R. & A. D.—21-11-97.—50.

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Notes of an Inspection of Famine Relief Works in the Central Provinces, by Mr. T. Higham, C.I.E., on Special Duty, Famine Relief Operations.

Itinerary.

1. After leaving the Bombay Presidency I arrived at Itarsi at 9-30 P.M. on 30th May, and was met by Mr. White, Executive Engineer, Hoshangabad Division. On the following day we drove to Shahpur, in the Betul District, inspecting the Khesla camp in the morning, and, after resting half way, proceeding to Shahpur in the afternoon. The following morning we inspected the relief works at Bhaorah on the way back to Itarsi, where we arrived in the evening, and proceeded by rail to Piparia *en route* for Pachmarhi. On the morning of the 2nd I went to Pachmarhi, where I had interviews with the Chief Commissioner, Mr. Fox-Strangways, the Chief Secretary, and Mr. Oliver, the Chief Engineer, and returning to Piparia the following day arrived at Jabalpur on the morning of the 4th June. On the following morning I railed out to Shahpura with Mr. Robertson, the Collector, and Mr. Leaventhorpe, Executive Engineer, and returning by the Bombay-Jabalpur Road inspected two relief work charges, extending over 19 miles of road. On the 6th I left Jabalpur by rail for Kirwi in the North-West Provinces.

Character of the relief works.

2. The relief works in the Central Provinces consist almost exclusively of road work, that is, either in making new *kutcha* roads, in improving existing roads and raising them from a lower to a higher class, or in collecting metalling for future use. The works for which administrative sanction has been accorded are all of this kind, and as far as I could ascertain no other is included in the programmes of works that may be undertaken when these are completed. It is said that there is little possibility of constructing irrigation works in these provinces that will be of any service, as artificial irrigation is seldom resorted to for the black cotton soil, and, as a rule, the land suffers more from too much than from too little water.

G. O. C. No. 498, dated 26th December 1896.

3. The general rules and orders for the conduct of relief works by the Public Works Department are contained in G. O. No. C-498, dated 26th December 1896. These instructions are based on those issued in the North-West Provinces as Circular No. 18-P.W.D., dated 5th December 1896, most of which have been incorporated *verbatim*. It may be noted, however, that paragraphs 48 to 52 of the North-West Provinces Circular, which direct that each individual digger should have his own task set out, have been omitted; and it is, on the contrary, declared that it is practically impossible to measure the amount of work done by each individual digger, and that fines for short work must necessarily be inflicted on the whole gang, payments being, however, made to individuals, and children never receiving less than the minimum wage. In the same paragraph (23), it is directed, however, that the diggers only will receive short payment for short work, the pay of the carriers being subject to deduction only when clods have not been properly broken up (*vide* paragraph 26). In the North-West Provinces carriers are fined as well as diggers when the outturn of work is very short.

The only earthwork that I saw in progress was on the Bombay-Jabalpur Road and was carried out on the system described above, the task for the diggers being 90 cubic feet per diem, which appeared to me to be rather light. I will reserve further remarks on the working of this system for my notes on North-West Provinces, when I shall have better opportunities of studying it.

Classification of workers on earthwork.

4. There is, however, a point to be noted regarding the classification of workers employed on earthwork. Under the North-West Provinces system adopted in these provinces, all adult males and females employed as carriers receive only the

D wage, *i.e.*, the cash equivalent of 14 and 13 chittacks of grain respectively. But under paragraph 35 of the North-West Provinces Circular, which has been followed almost *verbatim* in the corresponding paragraph 15 of the Central Provinces Circular, the classification of workers is a matter apart from their remuneration, as expressly stated in the North-West Provinces footnote to paragraph 35. Thus men and women carriers are placed in class B, if they fall within the Code definition of that class, *viz.*, if they are able-bodied labourers, but not accustomed to the kind of work on which employed, even although their remuneration may be limited to the D or minimum wage. This is clearly shown in the form of Gang Register, Field Account Form No. I, which provides for the numbers of B men other than diggers and of D men being shown separately, though they are bracketed together for a common daily wage in evaluating the amount due to them, and B women other than diggers and D women are similarly accounted for. The practice of entering separately as in class B, labourers whose normal remuneration is that of class D, unnecessarily complicates the gang register, and if this classification is maintained in the derived forms, the Monthly Famine Statement A submitted to the Government of India shews under class B a number of workers, who, as far as remuneration is concerned, are actually in class B. On the other hand, it must be noted that in accordance with the footnote to this statement (*vide* page 51, Central Provinces Famine Code), all working children are included in class D. The statement, as submitted, therefore affords no indication of the number of adult workers who are normally in receipt of the D wage.

Classification of metal-breaking gangs.

5. As regards metal-breaking, which is the other principal form of relief work paragraph 24 of the Central Provinces Circular proposes the following tasks for B workers :—

Workers.	Hard metal as basalt.	Ordinary metal as sandstone.
	Cub. feet.	Cub. feet.
Men	4·5	6·0
Women	3·0	4·5
Children, 12-16 years	Same as for women.	

It is directed that for these tasks the B wage shall be paid, but that if less be done the D wage only should be paid. This of course applies only to adults.

In paragraph 26, however, it is said that these tasks are only examples, to be modified at the instance of the Sub-Divisional Officer, in consultation with the Deputy Commissioner, with reference to local conditions, and it is added that this should be on the basis of ensuring to workers wages on the D scale, increasing gradually to the B scale, as the work done approximates to a full day's work. This is somewhat contrary to the direction in paragraph 25 that a B task should be set, the D wage being paid when it is not accomplished. The C class and wage is not recognized in the Central Provinces. The A class, comprising less than 2 per cent. of the whole number of workers, consists almost entirely of the gang mates, who receive 2 pice a day more than the B male worker.

Practice adopted on the metal-breaking works inspected.

6. In the metal-breaking gangs inspected by me I found that, on the Itarsi-Betul Road, the breakers were as a rule all put into class B, except the very feeble who were given a lighter task, and classed as D. At Khesla the maximum fine for B workers was limited to 2 pice, but the D workers, who formed there but 2 per

cent. of the whole, were not fined, and were merely required to do as much work as they could. At Bhaorah the D workers, who formed about 23 per cent. of the adults, were given a task equal to two-thirds of the B task, and were liable to fine, though fines were not imposed on the feeblest. In this sub-division no limit to fines was observed, but the pay of the workers was reduced in proportion to the shortness of the task accomplished. For the five days ending 31st May I found that fines amounted to Rs. 164, the full wages being Rs. 1,924 On the 30th they amounted to Rs. 64 on Rs. 331, or nearly 20 per cent. Mr. White informed me that this was the only sub-division in which there was no limit to fines, but that the fining was carried out under the close personal supervision of the Sub-Divisional Officer, Mr. Desmond, who exercised the greatest discretion, and levied the fines with such fairness that the works were the most popular in his division, while there was a better outturn of work than elsewhere. No complaints about fining were made to us, the *morale* among the workers, among whom were a great many Gonds, was excellent, and there were many indications of careful and sympathetic management. At both works the small children were employed as carriers in supplying the breakers with stone. In the Jabalpur Division there were seven children's gangs employed in carrying under boy-mates and working briskly. The non-working children were fed, but gratuities are given to the adult dependants, the number of whom was, however, inconsiderable.

On the Bombay-Jabalpur Road the breakers were classed as B and D as at Bhaorah, but the D tasks were one-half instead of two-thirds of the B tasks, and fines, both for breakers and those engaged on earthwork or otherwise, were limited; no worker receiving less pay than the penal wage, or 1 pice below the D wage. It may be noted that in this division the B workers were only about 42 per cent. of the adults. Of the men 78 per cent. were in B class and of the women 23 per cent. These proportions are much lower than found in the Hoshangabad Division, where from 77 to 98 per cent. of the adults were in B class.

The B tasks at all these works were as given in the table in paragraph 5 above, except at Khesla, where the metalling was made from hard boulders, and the B tasks were 3·5 and 2·5 cubic feet for men and women respectively. In Jabalpur Division kunkur for soling was being carried for a distance, varying from one to two miles by women. The task set was 3 cubic feet, divided by the length of the lead in miles per diem.

Fines.

7. Fines are not separately shewn in the accounts, nor do the standard forms provide for this being done. Effect is given to them by reduction in the rate of pay, so that it is only by an examination of the month rolls that it is possible to ascertain the extent of the fining. In the Jabalpur Division I found that when B workers did a short task they were paid in full, but were reduced to the D class in the next pay sheet. If they then did a full task they received only the D wage, but were put up again into class B in the next pay sheet, and so on, but the advantages of this arrangement are not obvious.

I may add here that the form of the gang register on Field Account No. 1, which is identical with that proposed in North-West Provinces Circular No. 18-P. W. D., dated 5th December 1896, appears to me to be open to several objections, but I will reserve comment on it for my report on the relief works in the North-West Provinces.

Position and duties of the officer in charge.

8. The "officer in charge" of each camp is an official nominated by the Deputy Commissioner, whose services are placed at the disposal of the Public Works Department, and who is posted by the Divisional Engineer to the Sub-Divisional Officer, and works under his direct orders. He is the cashier and general supervisor on the spot, and has one or two sub-overseers according to the size of the charge to assist him in giving out work and classifying the workers. He has a vernacular clerk qualified to act as sub-cashier, and a clerk who can keep accounts in English, the salary of both these men varying from Rs. 15 to Rs. 20 per mensem. There is also a tools-moharrir, who receives from Rs. 8 to Rs. 12 per mensem.

9. Payments are made by the gang-moharrirs, one of whom is employed for every 900 or 1,000 workers. The circular already quoted provides for payments being made daily at first, though it is remarked that they may eventually be made twice a week, and this was the practice on all the works that I visited. Following the system in North-West Provinces, the daily wage is fixed at the aliquot number of pice most closely corresponding with the true wage as given in the Ready Reckoner. If the true wage exceed an aliquot number of pice by less than 2 pice that number of pice are given, if the excess is 2 pice or more the next higher aliquot number of pice are paid. This system is unavoidable when payments are made daily, though it is somewhat more in favour of Government than of the worker, and in some cases may for a long period press heavily on the latter. It is less necessary when payments are made only once or twice a week, as the amount due for the period can be calculated on the true wage, payment being made to the nearest pice, which is the practice in Bombay. There is no doubt, however, that the practice of fixing the daily wage at an aliquot number of pice is the more convenient, whatever the interval of payment, and that the advantages outweigh the disadvantages. It would, however, be less open to objection if the higher number of pice were paid whenever this exceeded the true wage by $1\frac{1}{2}$ pies or less.

Payments.

Wages are fixed by the Sub-Divisional Officer in consultation with the Deputy Commissioner, but are not altered for variations of less than 10 per cent. in the price of food grains, and then only after a reference to the Commissioner, except cases of urgent necessity to be immediately reported. In this respect the practice differs from that in Bombay and Madras, where the Tahsildar intimates all variations in the price of food grains direct to the officer in charge, and the corresponding alterations in the rate of wage for each class. At Khesla the workers complained of the low wage, and it appeared that, owing to the joint operation of the 10 per cent. and 2-pie rule, they were being underpaid a pice per diem all round, and the Executive Engineer undertook to get this rectified.

10. It is difficult to form any reliable estimate of the average rates of the value of the work done to the amounts paid in wages or on all accounts. At Khesla I found that 403,161 cubic feet of metalling, mostly from boulders, had been collected, and that after allowing twice the normal rates for excavation, collection of boulders, etc., the amount spent on breaking was Rs. 6·3 per 100, or about double the normal rate. At Shahpur 543,796 cubic feet metalling, of which 76 per cent. was basalt and 24 per cent. sandstone, had been collected at a cost of Rs. 7-1-0 per 100 cubic feet, the normal rate being Rs. 4-10-0. In the Jabalpur Division I found that the wages paid for 205,349 cubic feet yielded a rate of over Rs. 15 per hundred, but I have not noted the lead or normal cost. With so large a proportion of the workers in the D class, the rates must necessarily have been higher than on the other works noted above. These rates exclude expenditure on gratuitous relief, hutting, establishment and other incidental charges. The Local Administration has recently furnished further figures in the Chief Secretary's No. 1149-C., dated 19th June 1897, which are extracted below:—

Ratio for the actual value of work done to total payments for labour.

Sub-division.	Class of work.	Working rates for 100 cubic feet.	
		Normal rates.	Famine Relief rates.
		Rs. A. P.	Rs. A. P.
Nagpur	Quarrying and breaking metal ...	3 8 0	6 1 0
Bhandara	Breaking metal	1 14 0	2 11 1
	Moorum quarrying	0 8 0	0 9 0
	Earthwork	0 6 0	0 6 9
Chindwara	Hard moorum	1 0 0	1 6 0

These rates appear favourable, but it is doubtful whether the figures include all the earlier expenditure before the works were in full operation. For special establishment, hutting and other incidental charges an addition of about 20 per cent. should apparently be allowed. It is probable that the total payments on all accounts will not be less than double the value of the work done at normal rates, but this would be a moderate proportion.

11. Piece-work had not been introduced in the Central Provinces at the time of my visit, but instructions for its gradual introduction had been issued by the Chief Commissioner in G. O. No. 355—3571-A., dated 15th May 1897.

Piece-work.

As far as the Hoshangabad District was concerned, it had also been ordered that no new comers to the work were to be given task work unless certified as weak and feeble by the medical subordinate in charge. Several applicants met us on the road who had just been refused task work in accordance with this order. They were all in very fair condition, and when told that piece-work would be given to them they did not appear to object, though I cannot say whether they have actually taken it.

In a subsequent circular letter No. 385—3822-P.W.D., dated 28th May 1897, the Chief Commissioner pointed out that, while the piece-work system did not admit the existence of *dependants* paid daily wages side by side with the piece-workers, it did admit the existence of *infirm gangs* paid at task work rates (and if necessary dependants upon persons employed in such gangs) where this might be found requisite in any district in which there was not a work on the task system to which these infirm gangs could suitably be drafted. It was accordingly directed that in any work in which inefficient labour, that is, labour not able to make a sufficient living by piece-work existed to a larger extent than 25 per cent., it would not be worth while to reorganize the work on the piece-work system, except as an optional alternative to the task work. It was laid down as a cardinal principle of the piece-work system that it should not be introduced when the proportion of weak inefficient labour is large, and also that in introducing it adequate provision should be made for the employment of the inefficient labour, whatever it may be, either on a neighbouring work or in an infirm gang employed on the same work in task work. I have quoted this order almost *in extenso*, as it shews that one of the main difficulties in connection with piece-work has been foreseen.

In the instructions relating to the introduction of piece-work issued with G. O. No. 355—3571-A., dated 15th May 1897, it is said that it may be possible in some cases to follow the plan adopted for metal-breaking at Nagpur, and which had been proposed by the Commissioner for another work, *viz.*, to select a suitable, substantial and reliable Public Works contractor, who would undertake the position of work agent, arrange the gangers and provide the necessary daily payments, the total work done being measured up and payments made to him weekly or fortnightly. I note this proposal here, but will reserve comment on it until I make my final report.

12. As regards the interference of relief works with the supply of labour to private employers, I have had some correspondence with Mr. Michel, the District Engineer on the Saugor-Katni Railway, who was unfortunately unable to meet me at Katni, as he was engaged on inspections at the other end of the line. Mr. Michel writes:—

Interference of relief works with the supply of labour to private employers.

"There is no doubt that the relief camps are prejudicially affecting the supply of labour to our works. As a case in point at a place called Pahi, 8 miles west of Rithi, a relief work in the form of an earth dam has been engaging some 2,000 people for four or more months. Within $1\frac{1}{2}$ miles of this dam I have large earthwork approaches to the major bridge across the Lallpura Nullah, where I have not been able to get more than about 300 coolies at a time all this time; and now doubt if I shall be quite safe for the floods.

"Our lowest initial rates for earthwork is Rs. 2-12-0 per thousand for first 100 feet lead, and 6 annas per 1,000 for every 100 feet further lead. The lift rates are :—

	Rs. A. P.
From 5 to 10 feet	0 8 0 per 1,000.
„ 10 to 15 „	1 2 0 „
„ 15 to 20 „	1 14 0 „
„ 20 to 25 „	2 14 0 „
„ 25 to 30 „	4 2 0 „

"Fifteen months ago when the people here were in great distress and of poor physique, I made the following note of a type case, where local labour was working for contractors at the above rates :—

Lead, 78 feet ...	2 full grown men ...	Completed 100 cubic feet in a day, and would get Re. 0-3-6.
	1 young man of 19 ...	
	1 girl of 15 ...	

Rice was selling at 13½ pies per seer, or 14 seers per rupee ; for the above Re. 0-3-6 they would get 3 seers of rice. Had grain been selling at 18¼ seers per rupee, they would have got 1 seer each = 4 seers."

If this party had been working under the famine relief system, one of the men would probably have been put into the B class and the other adults into D, and they would have earned the following :—

	Rate, 14 seers to rupee. Rs. A. P.	Rate, 10 seers to rupee. Rs. A. P.
One man, B class	0 1 6	0 2 0
„ „ D „	0 1 0	0 1 6
„ woman, D class	0 1 0	0 1 3
„ girl	0 0 9	0 1 0
Total ...	0 4 3	0 5 9

According to the rates given by Mr. Michel, the party would have earned 4·4 annas, but these rates were then given to the petty contractors, and the amount actually paid to the labourers was 3·5 annas. It will be seen that at the 14-seer rate (which is, however, a lower rate than contemplated in the Ready Reckoner of the Code, which begins with 12 seers), the party would earn a little more under the Code than they were earning under petty contractors. With the famine rate of 10 seers to the rupee they would earn over 60 per cent. more than the contractor would pay them, because the contract rates do not rise with the price of provisions. The family could not live on the works at the contract rates, but Mr. Michel says that the Loonyas, under the railway initial rates and extra good lift and lead rates managed to keep both themselves and their children fat and flourishing even at present grain rates.

It is obvious that the ordinary famine labourer could not earn a subsistence for himself on the railway works during a season of famine prices, but the question remains whether relief works are so attractive as to keep Loonyas and other professional labourers from railway work. Under the system that now obtains in the Central Provinces, a Loonya family, constituted like the family mentioned by Mr. Michel, would not be able to earn any more than that family, *viz.*, Re. 0-5-9, unless indeed the second man took service as a digger, when it would be able to earn Re. 0-6-3. But at contract rates it would be able to earn at least twice as much as the typical famine family, or say seven annas, though it would have to work much harder than on the relief works. On the other hand, the greater freedom and sense of independence would probably induce a preference for contract work, but the scale may be turned in the other direction if the relief works are nearer the home, or if there is no objection to the dependants going to the relief kitchens. With grain at 10 seers to the rupee, one form of work might be about as attractive as the other ; but with a higher grain rate the relief work

would probably be preferred unless the railway raised its rates, while with a lower grain rate there would be a much stronger inducement to go to the railway.

Mr. Michel tells me that he had agreed with the Deputy Commissioner of Jabalpur that ballast should be broken by famine relief coolies which the railway would take over at normal rates, but that he is so apprehensive of the effect of having a relief camp so close to his own workers that he has asked the Deputy Commissioner to agree to its being considered only as an experiment, to be discontinued if found to draw labour away from the railway works. He also says that when work was commenced he issued orders that only the suffering local people were to be employed. This was done at the request of the Civil Department, communicated through the Chief Engineer. Mr. Michel considers that this arrangement would have proved satisfactory if Government could have made arrangements to sell grain on the works at a privileged rate of 18 or 20 seers to the rupee, and to assist in this way the local labour. Since the relief works have been started he has been obliged to change his orders and to employ Loonyas and professional labourers of that class.

Works in charge of civil officers.

13. All road works are carried out by the Public Works Department, but there are a number of minor relief works which are managed by the Deputy Commissioners. They are most important and numerous in the Jabalpur and Damoh Districts, where the average daily attendance, according to the latest returns shown to me, amounted to 15,000 and 10,000 respectively. The works comprise the construction or deepening of village tanks, diversions of the courses of nullahs which are damaging valuable land, and improvements in the approaches to fords, but the first of these is the principal form of minor relief work. In addition to this advances are made to landlords for petty improvements, such as the embankment of fields, the making of *kutcha* wells, and the extirpation of *kans* grass from the black soil land. Each minor work is supposed to employ not less than 500 or more than 2,000 labourers, but there are occasional exceptions, and in one case of a large village tank as many as 5,000 were employed. The works are conducted on the principles laid down for the management of relief works by the Public Works Department in G. O. No. C-498, dated 26th December 1896, with a few modifications, the chief of which are that the gangs are to be of smaller size, consisting of about 20 members, and payments are to be made by the officer in charge. The system of payment by the piece has not been adopted.

Relative position of the Civil and Public Works officers as regards the management of relief works

14. The Famine Code of the Central Provinces does not contain any section corresponding to sections 31 and 38 of the Bombay Code, or to similar sections in the North-West Provinces, Bengal, Madras and Punjab Codes, under which the officers of the Public Works Department employed on relief works are placed under the orders of the Collector and his assistants in all but purely professional matters. When the necessity for undertaking relief works was first recognised, it was indeed proposed by the Chief Engineer that the District Sub-Divisional Officer should be made over to, and act immediately under the orders of, the Deputy Commissioner, who, under the Famine Code, would delegate to the Sub-Divisional Officer such powers as he might consider desirable. It was, however, subsequently decided in supersession of these proposals to entrust the management of all major relief works entirely to the Public Works Department, *vide* G. O. No. C-498, dated 26th December 1896. The officers in charge of the works are directly under the orders of the Public Works Divisional or Sub-Divisional Officers under paragraph 9 of the instructions issued with the G. O. last quoted, an arrangement which is permissible under section 50 of the Famine Code. But the Deputy Commissioner is kept fully informed of the progress and conditions at each work, the officer in charge regularly submitting to him the weekly returns required under sections 79, 80 and 80-A of the Code. He is also consulted by the Public Works officers in regard to wages and tasks, drafting of labourers from one work to another, opening new works, etc. Under G. O. No. C-154, dated 20th March 1897, an order book (not an inspection book) is kept up for each

separate charge at the site of works for the use of officers empowered to give orders to the officers in charge, *viz.*:—

The Executive Engineer or Superintendent of Works.

The Sub-Divisional Officer.

The Deputy Commissioner (when he finds it necessary to interfere).

The Civil Surgeon or Medical Officer on special famine duty (in regard to sanitary matters only).

The Deputy Commissioner's assistants are not authorised to give orders to the officer in charge direct, but are directed to look at the order book and see that orders recorded have been attended to by the officer in charge, reporting to the Deputy Commissioner, for the information of the Executive Engineer, cases in which they have not been complied with. Inspection reports may be written by the Deputy Commissioner and forwarded by him to the Executive Engineer, and there is a prescribed form of Inspection Report for the Revenue Assistants, District Staff and Medical Officers visiting the works. These reports are forwarded direct to the Deputy Commissioner, and are sent on by him, with his own remarks or recommendations, to the Executive Engineer, or in the southern part of the province to the Superintendent of Works, and on these officers the responsibility rests of taking the necessary action.

This arrangement appears to have worked very satisfactorily. The Public Works Department is primarily responsible for the conduct and management of relief works in accordance with the principles laid down in the Famine Code and in supplementary G.Os., and maintains intact its own organisation and discipline, but the Deputy Commissioners are kept fully informed of all that is being done, their advice is taken on all important points, they may, when necessary, issue orders to the officers in charge of the works, while their Revenue Subordinates and other members of the District Staff are allowed to visit all works freely, and to report to them the results of their inspections in a form which can be passed on at once to the Public Works officer for any immediate action that may be necessary.

15. The ordinary establishment of the Public Works Department has required considerable strengthening from outside, in order to enable it to cope with the extra work caused by the famine. Two Assistant Engineers from the Military Works Department and two other Lieutenants in the Royal Engineers have been posted to these provinces, together with three Staff Corps officers, from the 3rd, 6th and 17th Madras Infantry. An Executive Engineer has also been transferred from Coorg. With the assistance of these officers and a general suspension of leave to the regular establishment, the effective management of the relief works has been possible, but the want of more Upper and Lower Subordinates has been much felt here, as in other provinces.

Establishment.

16. The most noticeable points in connection with the relief works in the Central Provinces are the following:—

Concluding remarks.

(*a*) The major works, or those under the management of the Public Works Department, consist entirely of road works.

(*b*) The system of task work in force in the North-West Provinces, and described in North-West Provinces Circular No. 18-P.W.D., dated 5th December 1896, has been introduced which involves the total elimination of class C, and as far at least as earthwork is concerned the employment of a greater proportion of workers on the D wage than would be usual under the Code classification.

(*c*) The Public Works Department is solely responsible for the efficient management of major relief works, and its officers are not subordinated in any way to the officers of the Civil Department.

As regards (*b*) the proportion of D workers, though higher than in Bombay, is not so high as in the North-West Provinces, as in the Central Provinces most of the work is metal-breaking, and the general practice is to put efficient metal-breakers into the B class. But both on earthwork and metal-breaking the number actually receiving the D wage is higher than the number returned as in that class, after deducting children. In spite of this there appears to be a unanimous opinion that the condition of the workers has generally and considerably improved since they came to the works. The introduction of piece-work has been sanctioned by the Chief Commissioner for one reason, among others, that "there can be no doubt, and it is a very satisfactory feature of the relief operations, that the general condition of the relief workers has greatly improved," and this opinion was repeated to me by Dr. Mackay, Civil Surgeon of Jabalpur. I found the workers generally in good condition, the worst being those who had been last to come.

The works generally are about 20 miles apart, and a good many of the workers live on or near the works, though there is not much hutting. In many parts the country is well wooded and good shelter is given in the forest. A large proportion of the labourers consists of Gonds and other aboriginal tribes, who are rather tardy in finding their way to the works, but appear afterwards to work well, and to be very amenable to discipline.

It may be added that the *mahwa* flower is reported to have been very abundant in the Central Provinces during the season, and to have been of the greatest assistance in enabling the people, and especially the hill tribes, to maintain themselves when prices were very high, and in supplementing the wages earned on the works.

Dated Simla, 1st August 1897.

T. HIGHAM.

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Notes on an inspection of Famine Relief Works in the Bombay Presidency, by Mr. T. Higham, C.I.E., on special duty in connection with famine relief operations.

Details of tour.

1. My tour in the Bombay Presidency commenced on the 18th May, when I left Bombay for Mahableshwar, meeting Mr. Joyner, Superintending Engineer, Central Division, *en route* at Poona, and arranging with him the programme of a tour through that Division, which comprises five affected districts, Poona, Sholapur, Ahmednagar, Nasik, and Khandeish. Want of time prevented my contemplating a visit to the Southern Division, comprising the Bijapur, Satara, Belgaum, and Dharwar Districts, in the first two of which only were the relief operations of considerable magnitude. At Mahableshwar I had interviews with His Excellency the Governor, the Honourable Mr. Nugent, Member of Council, the Honourable Mr. Spence, Commissioner, the Honourable Mr. Monteath, Secretary to Government, and the Honourable Mr. Thomson, Chief Engineer and Secretary to Government, Public Works Department. I left Mahableshwar on the afternoon of the 21st, arriving at Poona the following morning, when I proceeded at once by rail to Kharkala, accompanied by Mr. Joyner and Mr. Davidson, Executive Engineer, Poona District, and visited two of the three relief camps in the neighbourhood, one at Kharkala, and the other about 6 miles distant at Kaneh, the work in progress at each being the collection of metalling for the Bombay-Poona Road. We returned to Poona in the evening, and on the following Monday, which was a holiday on the relief works, being the Queen's Birthday, I railed out with Mr. Joyner to Pomalwari, proceeding thence by road to Indrapura, about 15 miles from the station. On the following morning we were joined by Mr. LeQuesne, Executive Engineer, Poona Irrigation Division, and visited the works at the Shetphul Reservoir, about 8 miles from Indrapura, and returning to Pomalwari in the evening, went on to Barsi Road station, and on the following morning inspected the relief works in the neghbourhood of the Barsi-Pandharpur Light Railway. I here met Mr. Morrison, Collector of Sholapur, Dr. Standish, the District Medical Officer, and Mr. Godboli and Mr. Clifton, Executive Engineers, Sholapur, the latter being in charge of the railway relief works. Mr. Joyner and I left in the evening for Ahmednagar, where we were met at daybreak of the 27th by Mr. Woodburn, the Collector, and Mr. Hatherley, Executive Engineer, Ahmednagar District, and drove out at once to the Kapurwadi Reservoir, which is being undertaken as a relief work for the purpose of improving the water-supply of Ahmednagar and the cantonments. On the 28th we proceeded by rail to Belapur, again accompanied by the Collector, Mr. Woodburn, and by his Assistant, Mr. Perceval, and visited a camp about 4 miles from the station where road-metalling was being collected, after which Mr. Joyner and I went on by rail to Munmar, where I met Mr. Stewart, Assistant Collector, and Mr. Strange, Executive Engineer, Nasik District, and also Mr. Partik, Executive Engineer, Khandeish District. On the following morning we inspected a large camp near Munmar, where the collection of road-metalling was in progress, and I afterwards met Dr. Clarkson, the Sanitary Commissioner, who had kindly come down from Bombay to meet me. During the night I left Munmar for Itarsi, in the Central Provinces. In the course of my tour I thus visited four road-metalling works, two large irrigation reservoirs, and one railway camp, and had the advantage of meeting all the Executive Engineers and many of the civil officers of the Division.

Character of the relief works originally started and proposed for the future.

2. The relief works originally started in this Presidency consisted almost entirely of roads or road-metalling works. At the time that relief operations were instituted larger projects had not been prepared, and irrigation works have hitherto proved so unremunerative directly, that the construction of new works of this class had not been very seriously contemplated. The road works had moreover what was at first considered an advantage in providing small relief

works at no great distance from the affected villages. The collection of road-metalling is not, however, a very satisfactory form of relief work. The supervision of so many small and detached camps distributed over a large area is costly and difficult, the majority of the people are not accustomed to this kind of work, and above all the effective demand is soon more than covered. On the Bombay-Poona Road the metalling collected is sufficient to meet all probable requirements during the next ten years, and a stock has been collected on other lines of communication, for the metalling and subsequent maintenance of which the requisite District funds are not likely to be forthcoming for many years. The Superintending Engineer and his officers therefore lost no time in preparing estimates for more important and useful works, principally in the form of irrigation tanks or reservoirs. Although such works have not been financially successful in the Deccan, they are nevertheless indirectly very beneficial, as has been shown in the case of the Nira Canal, constructed as a famine work in 1877, which completely protected last year an area of about 30,000 acres, in which there has been in consequence no distress and no necessity for relief works. It was considered therefore that if large sums of money had to be expended on relief works, it would be better to spend it on useful works of this class than to waste it in the collection of road-metalling, much of which would probably never be required at all, while much more would lie unused for many years. Mr. Joyner informed me that altogether fifty irrigation schemes have been considered in his division, of which thirty-four have been examined more or less in detail. Of these eighteen have been submitted to the Government of Bombay and thirteen have been already sanctioned and are under execution, while orders on the remainder are shortly expected. There remain sixteen projects which are either unsuitable or of which the final detailed surveys cannot be completed in time to be of immediate use. There are besides sixteen schemes which have not been considered in any detail at all, some of which are at present under investigation, while others are of no promise or would be of little use for relief works.

The normal cost of the irrigation projects that have been submitted is about Rs. 75,00,000, of which Rs. 22,00,000 is for work that would be suitable for relief purposes. Increasing this by 75 per cent. to meet the extra charges inevitably involved in the execution of public works on relief principles, the value of the work available for relief purposes may be taken at Rs. 38,50,000, and allowing an average outlay of Rs. 3 per worker per mensem, this would suffice for the employment of 320,000 workers for a period of four months. As will be shown later on the actual cost of relief works exceeds the normal cost of the work done by much more than 75 per cent., but this seems a fair proportion to be aimed at, and an underestimate is for present purposes an error on the side of safety.

In addition to these irrigation projects there is the light railway from Barsi Road to Pandharpur (32 miles), and its extension from Pandharpur to Sangola (18 miles). These are now in active progress. There is also the length of the Tapti Valley Railway from Amalner to Dhurramgaon which has been reserved for famine relief purposes, and on which operations have commenced in the Khandeish District, though not very actively. Mr. Joyner estimates that these railways will between them give work for 324,000 labourers for four months. Altogether there appears to be plenty of work to employ relief labour on in the Central Division for about six months from the 1st of June, and it is possible that some other useful works can be proposed if necessary.

Advantage of large works.

3. One great advantage of these larger works is that supervision will be more efficient and concentrated. There is however another advantage. It has already been said that the works originally started provided employment at a reasonable distance from the affected villages, but this is now realised by Civil and Public Works Officers alike as a real disadvantage. It is thought by all that the works have been much too popular, and that the labour test alone is under the Code system of working quite insufficient as a test of the urgency for relief. People who still have considerable resources of their own are not unwilling to supplement them by what they can get from relief works when this can be done by merely attending daily with their families at works within four or five miles of their villages. So strongly has this been realized that it is now often the practice to insist that no applicants should be received on the new relief works who have come from a distance of less than ten miles, but that they should be drafted to other and more distant works, though I am not aware that this has been authorised by a Government order. There is, however, an order that when camps have been provided residence in them should be made a condition of relief of any kind at the works where the camps are. This practice and the closure of many petty works have tended to reduce the number of applicants for admission to relief works. The total number of relief workers on the 10th April in the Central Division was 203,265, of whom 18,724 only were employed on irrigation and railway works. On the 15th May the total number had been reduced to 194,556, but the number on irrigation and railway works had risen to 77,028, employed on 23 charges. The drafting from the smaller works was still in active progress during my tour, so that the petty works may be gradually closed before the advent of the rains. These figures indicate that although the opening of the new works may have checked further increase in the number of relief labourers, there is no great difficulty in inducing all who are really in need of assistance to migrate to them.

Camp arrangements.

4. One of the most striking features of the relief works in the Deccan is the complete arrangement of the camp. Except on works like the Barsi Light Railway where the labour is being continually shifted forward as the work progresses, the huts are of very ample size and substantial character, laid out in streets with great regularity, so that the encampment has the appearance of a well ordered village. All camp arrangements are carried out in close accordance with Appendix IV, Bombay Famine Code. The cost of such encampments is considerable, hutting alone costing on an average about eight annas per head, but in cases, like irrigation reservoirs, in which all the labour will be located on the same spot for some months and has to be accommodated during the night, such expenditure must be regarded as necessary.

Dependants and kitchens.

5. The proportion of dependants to workers stood as high as 40·3 per cent. for the whole Bombay Presidency in the week ending 3rd April 1897. These dependants are mainly children who form at least 90 per cent. of the number. All children under seven, but with not less than two teeth in each jaw received as much as two pice a day, so that the presence on the works of two or three children under seven makes a considerable addition to the earnings of a family, which are further enhanced by the wages paid to children over seven who are only nominally workers. It was said that many parents who did not come to the works at all sent their children in charge of other women. During the month of April therefore the system of cash payment was abandoned in favour of a cooked ration, consisting of a cake of jowari flour, etc., corresponding to the Code allowance of 6 ounces per diem, with a little pulse, etc. This change was very unpopular, and resulted in an immediate falling off in the number of dependants. Mr. Morrison, Collector of Sholapur, showed me a statement from which it appeared that in one case the number of dependants had actually risen to 70 per cent. of the number of workers, and that this fell sharply to 8 per cent. on the introduction of kitchens, though in the course of two or three weeks it rose again to 24 per cent., which is near the average. The percentage for the whole of the Bombay Presidency fell rapidly from 40·3 for week ending 3rd April to 26 per cent. for week ending 22nd May, and this proportion has since remained remarkably constant, the percentage for week ending 26th June 1897 being 25·7. It is found that the cooked ration costs little if anything less than the two pice formerly allowed, but under the new system the number of dependants is very largely reduced, and there is also said to be a great improvement in the condition of the children. The objection of the parents to the kitchens does not appear to be very deep-seated, though they would no doubt prefer to receive the money allowance. They are, however, very sensitive and suspicious about the children. At both Shetphul and Munmar my visit to the kitchens was followed by a general stampede of all the workers, on a rumour that we were engaged in poisoning the children. They were soon reassured, but at another camp I found 1,200 workers and no non-working children, as

they had all been removed a few days before in consequence of a hospital assistant having been sent out to the camp. It may be inferred from all this that many of the parents are not in very urgent need of relief for their children, but for those that are the kitchen is the more appropriate form of relief.

Working children.

6. Whether non-working children receive an allowance or a cooked ration their presence on the works is considered very objectionable. In the case of sucklings this cannot be prevented, but those who are able to run alone get into every one's way, and prevent others working, especially their elder brothers and sisters. It is also difficult to distinguish the working from the non-working children, and so to insist on the former working. At most works therefore it is now the practice to keep the non-working children in the kitchen shed or in an enclosed playground adjoining, and to appoint a few adults to look after them. This had been done at Shetphul with great advantage to the work, but there was only one such enclosure for five separate camps. The Executive Engineer was going to erect another at the other end of the work, but probably a third will be required in an intermediate position, so that the parents may have no difficulty in visiting their children during the meal hours, and may never have them very far out of sight. On the Barsi railway works no attempt had been made to segregate the non-working children and the result was very marked in the general confusion that prevailed, as compared with works in which the separation had been effected. It may be remarked that in this camp arrangements had been made for distributing the food from the kitchens to the children on the works. This arrangement was made as the workers were being continually moved and appeared to work satisfactorily.

In connection with this question the Public Works officers represented that some discretion should be allowed them as to the age at which children should be admitted as workers. The Bombay Code fixes the age at seven years, and in many camps the Collector had objected to children over this age being placed on the list of dependants. It is urged, however, either that the age limit should be raised to ten years, as it is in Bengal, or that it should be left to the discretion of the works officer in charge to admit as workers only children who really will work, and to relegate others, even if over the age of ten, to the kitchen. As the minimum wage of a working child is one anna, or twice that of a child dependant, this would be felt as a punishment, and the children on the work would be induced or compelled by their parents to work. I have seen many children barely over seven years who were model little workers, setting a good example to all around them, but there are others much older who are incorrigible idlers, and who are merely brought on to the works so that their parents may draw on their behalf the working wage.

Road-metalling works.

7. I now come to the important question of the classification and tasking of the workers, and it will be convenient to consider in the first place the works for the collection of road-metalling, partly because this was until lately the principal form of relief work in the Bombay Presidency, many charges being engaged on it even at the time of my visit, and partly because it is a class of work for which no rules or tasks have been laid down in the Bombay Famine Code, although it has been largely resorted to in this Presidency and in the Central Provinces. As already observed, the majority of the people are not used to this kind of work, and it is undoubtedly less suitable for them than ordinary earthwork, because every man, woman and child of the labouring classes is so well accustomed to the work of carrying a load either of earth or water on the head, for which they may be said to have an inherited muscular system, developed by constant exercise. But though the breaking of metalling is not popular, it is found that both women and children become fairly expert at it after a little practice, and its unpopularity is perhaps not altogether a disadvantage. In many cases it is the only useful work that can be found, it is well adapted for small camps distributed over a long line of road, and it possesses the great advantage that the tasks actually set, whether for gangs or individuals can be clearly defined and the work done accurately measured. In

all the camps that I saw in Bombay the workers were divided into gangs containing about 50 people, each gang having its own mukaddam or mate, who receives from $2\frac{1}{2}$ to 3 annas per diem. The gangs were ranged in parallel lines, the day's work of each being exhibited in a small heap in front of the worker, and these heaps being collected so as to form a central stack, the additions to which are measured day by day, so as to show the ten day's work of the gang. For every four gangs there is a karkun or moharir who writes up the muster rolls, records the progress and the wages due, but the measurement of the stacks is conducted by work agents of the sub-overseer class who are responsible for bringing the quantities collected on to the proper returns.

Classification of gangs on road-metalling.

8. The classification of the gangs was originally carried out as far as possible on the lines laid down in the Famine Code, but, as will be shown, the present practice is not uniform, and there is a tendency to paying all workers more or less in accordance with the work done, subject to a minimum wage. As a general rule there are no women in class A, as women can seldom be regarded as professional stone-breakers, and the few men of this class are not employed in stone-breaking but in the harder and more skilled labour of quarrying the stone by blasting and picks. They form therefore a special class, generally receiving the A wage in return for a full task, or for keeping a certain number of breakers supplied with stone. In some cases they are, I understand, paid by the piece, and in others receive, as specially trained and capable workers, something higher than the A wage, the whole work of the gangs depending on their exertions. The adult breakers, whether men or women, are usually classed as B, and have a task set them. Many of the B men are however employed in sledging the larger stones outturned from the quarries, so as to break them up into spawls for the breakers. In some cases weavers and others have been classed as C, and given a smaller task than the B workers, but the present more general practice is to class all able-bodied workers as B, and to fine them for a short outturn. The D workers consist of mothers nursing young children (though these receive an A wage until the child is five or six weeks old), very old men and women, and weak persons incapable of performing a fair task. For this class either a very light task is set or they are untasked and are simply required to do what work they can. The nursing mothers receive the wages of their class when the child is over five or six weeks old, and two pice on account of the child until it has teeth in both jaws, after which they receive food on the work until they can walk, when they are sent to the kitchen. Children over seven are set small tasks, and are often employed in carrying spawls to the breakers. In some cases the B, C and D workers are ranged in separate B, C or D gangs; in others the gangs contain workers of all classes, each individual being set his appropriate task.

Payment by individual tasks or the task of the gang.

9. Opinion is divided on the question whether payment should be made according to the task done by individuals or on the aggregate task of the gangs. Some officers prefer the former, which is called the ticket system, but the majority appear to prefer the latter. At Karkhala the ticket system was in force. Each worker's pile was gauged by the mohurir at the end of the day, and he was allowed the full wage of his class, the so-called minimum, or D wage, or the penal wage (one pice below the D wage) according as it was judged that a full task, more than half or less than half the task had been performed. The gauging at Karkhala was done by the eye, the general result being checked by the result of the measurement of the day's stock by the sub-overseer or work agent, and it was said that the agreement was sufficiently close, and that both the karkuns and workers soon became expert at this rough gauging. In other places each pile is actually measured in small baskets or pans, so many baskets being required, but this is a very long and tedious process. The system is a good one, inasmuch as it prevents a man suffering from the idleness of other members of the gang, and is readily understood, but it throws too much power into the hands of unscrupulous karkuns and makaddams. Mr. Davidson tells me, however, that he has found it to work more satisfactorily than the gang system, which he had formerly adopted, and that it was now in use throughout his district.

10. The gang system was in force at Munmar. Under this system the daily task for the gang is fixed on the aggregate of the tasks set for the component members, which in all gangs varies according to sex and age (children having smaller tasks than adults), and in mixed gangs varies with the class, sex and age. In the Central Division payments are as a rule made only once a week, a matter which will be referred to later on, and the actual progress for the week is compared with the normal aggregate task for six days. The amount due to the workers at full rates is then reduced as a rule proportionally to the deficiency, and the amount so reduced is distributed among them, either rateably or at the discretion of the works officer or subordinate in charge among the known and recognised defaulters, some discrimination being generally exercised in this respect.

The gang system.

11. At the road-metalling works near Belapur, in the Ahmednagar District, I found another system in force, which is, I understand, peculiar to the subdivisional charge. In this district, as indeed generally, it is complained that under the Code system it is most difficult to get higher tasks out of the people than will suffice to ensure them the D wage, and that when B or C tasks are set they are not performed, the workers preferring being fined down to the D limit. In this subdivision this position was accepted, and a scheme of tasking was drawn up accordingly, which has been fully approved by the Collector. Under it a D task is set to all breakers, as follows:—

Belapur system of tasking.

Men, 54 baskets* per week	... ...	= 9 per diem.
Women, 36 baskets per week	... ...	= 6 „
Children, 21 „ „ „	... ...	= 3½ „

If these tasks were performed the adult workers receive the D wage in full, and the children the wages prescribed for them in the Code. If there was a deficiency the gang was fined at the rate of one pie for each basket short, and the amount of the fine was distributed among the adult workers. If there was a surplus the gang received a bonus of one pie for every basket in excess, which was distributable among the adult workers. The children were not liable to fine or eligible for bonus.

This system was introduced on the 17th April, and I was able to examine the figures for four weeks. As to fines, the average daily attendance in three different charges amounted to 5,361 persons, and the fines for the same period averaged Rs. 34 per week, giving an average fine of 1·2 pie per head *per week*. The bonuses during the same period amounted to Rs. 4-4-7, or practically *nil*. The workers may thus be said to have just done their minimum task, but to have made no effort whatever to exceed it.

Before this system was introduced the workers were divided into A, B, C and D classes, and for five weeks preceding the 17th April, 6,737 workers were fined Rs. 292, or an average of 8 pie each. Previously to that the works had been under another subdivisional officer, and the fines appeared to have been much heavier and to have averaged as much as 1½ annas per week.

On the 24th April the subdivisional officer (Mr. Ralph) carefully observed the work done by seven men, six women and six children, who were kept steadily to work for eight hours (from 7 to 11 A.M. and 2 to 6 P.M.), with the result that the average outturn for the day was—

Per man	7·7 cubic feet	... ...	= 23·1 baskets.
„ woman	5·4 „	... ...	= 16·2 „
„ child	2·0 „	... ...	= 6·0 „

The minimum tasks set on the strength of this experiment were therefore very moderate, except perhaps in the case of the children.

* A basket being equal to one-third of a cubic foot.

12. The tasks required in breaking metalling vary with the quality of the stone and the size of ring prescribed, but the following were noted, the unit being the cubic foot in all cases:—

Tasks for breaking metalling.

Site.	Class A.		Class B.		Class C.		Class D.		Children	
	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.	16 to 12.	12 to 7.
Kharkala, Poona District ...	10·0	...	8·0	6·0	(a)	(a)	(b)	(b)	(a)	(a)
Ahmednagar District ...	8·0	7·0	6·0	5·25	4·0	3·5	3·0	2·0	2·0	1·0
Khandeish District ...	7·5	5·0	5·62	3·75	3·75	2·5	(b)	(b)	2·0	1·0

(a) Not noted.
(b) No fixed task.

A men are now practically never employed on breaking. The stone used at Karkhala and in Ahmednagar is trap, broken to 1½ ring, but it was generally larger than this at Karkhala. In Khandeish boulders are used, and the tasks for the men employed in collecting and splitting the boulders are as follows:—

A men	16 cubic feet.
B „	12 „
C „	8 „

At Belapur the quarrymen were paid A, B or C class wages accordingly as they quarried 100, 80 or 60 cubic feet of solid stone, and hammermen accordingly as they split 150, 120, or 90 cubic feet of spawls, equivalent to 100, 80 or 60 cubic feet of solid stone. Woman carriers are required to carry 20 seers = 23 cubic feet metal, six miles daily, returning with empty baskets, *i.e.*, for a lead of 1 furlong to make 48 trips.

13. The practice in regard to fining is not uniform, nor have any special rules been made on the subject either by Government or the Superintending Engineer. At Karkhala and in some other subdivisions fines are limited to the amount that will reduce the wage to one pice below the D wage, or to the penal wage. In others less than the D wage is not given, but in others fines are levied in proportion to the deficiency of the work, though only under the special order of the Engineer or subordinate in charge of the work when this would reduce the amount paid below penal wage. In the muster rolls and day-books that I examined on the works I found no case of fine that would have the effect of reducing the pay below this limit or even below the D wage. Much is left to the discretion of the Engineer or upper subordinate in charge of the work, but the general tendency appeared to be to avoid fining as much as possible, and to meet repeated deficiencies in outturn by transfer to a lower class.

Fines.

14. It is the practice at almost all works to make payments only once a week, though in some cases payments are made bi-weekly. Fines are therefore imposed with reference to the deficiency on six days' work, and not on that for a single day, which the worker has the opportunity of making up on the following day. The wage rate for each class is communicated to the officer in charge by the tahsildar from time to time, in accordance with the rise or fall of market prices, and is worked out to the nearest pie. The amount due for the week or half-week is also calculated to the nearest pie, but the amount actually fixed is to the nearest pice. This practice of making payments only once a week is at variance with article 82 of the Bombay Code, but it is urged that more frequent payments would be a very heavy tax on the slender establishment, and that the people themselves are quite contented with a single payment in the week. I reserve an opinion on this point until I have seen what is the practice in other provinces.

Payments.

15. To return to the question of breaking metal. It is obvious that the system referred to in paragraph 11 *supra* of giving a minimum wage and imposing a minimum task must result on very high working rates, although if the value of the outturn be disregarded, as it may be in works of an almost useless character, it reduces the cost of relief to a minimum. The effect of a low task on the rates is well shown from some figures given me by the Executive Engineer, Khandeish Division. With jowari at 16 lbs. to the rupee, the cost of collecting and breaking 100 cubic feet of metalling would be—

Effect of low classification on the working rates.

	Rs.	A.	P.
With all workers in A class and doing a full task ...	5	2	10
Workers in A class, but doing only half task, and paid down to D wage	6	15	4
All workers in B class and doing full B task ...	5	11	6
Workers in B class, but doing only half task, and paid down to D wage	9	4	6
All workers in C class and doing full C task	6	15	2
Workers in C but doing half task, and paid down to D wage	12	1	8

The normal cost of 100 cubic feet metalling in this district is from Rs. 3-8-0 to Rs. 3-12-0 only. It is thus clearly shown how the effect of a reduction in class is to increase the working rate, and how this is further increased by short tasks, as long as prices are not proportional to the deficiency but are limited by the minimum wage.

16. The following figures show the actual cost of collecting and breaking up 1,036,849 cubic feet of metalling, at eight different works in the Khandeish District :—

Cost of collecting metalling, under Famine relief system.

Numbers of workers employed			876,234
Workers' wages, including Sunday wage	Rs.		83,582
Average wage per unit	„		0-1-6
Wages per 100 cubic feet outturned	„		8-0-6

	Rs.	Per 100 cubic feet.	Per cent of wages.
Charges for establishment ...	4,240	0·41	5·01
Charges for tools and plant ...	1,486	0·14	1·78
Gratuitous relief	14,906	1·44	17·83
Water-supply	1,253	0·12	1·50
Hutting	2,962	0·29	3·56
Total incidental charges ...	24,847	2·40	29·68
Labour charges, as above ...	83,582	8·03	100·00
GRAND TOTAL ...	1,08,429	10·43	129·68

The normal cost being from Rs. 3-8-0 to Rs. 3-12-0, the ultimate cost may be taken at merely three times the real value of the work, though the rate would be reduced to Rs. 9 if gratuitous relief were excluded. The number of dependants was 319,557, so that the average cost per head was about eight pie. These appears to be fairly typical figures of the cost of collecting road-metalling in this Presidency.

17. As regards earthwork the Code system of classification is systematically adopted. The gangs comprise workers of all four classes, but the D class are not tasked, but employed on clod-breaking and other miscellaneous work. The task for the gang is the task set for the diggers, who are selected from the A and B male members of the gang, each being assigned a digging task in accordance with the excavation tasks in the well arranged table of standard tasks, given in Appendix III of the Bombay Code, the task for the gang being the aggregate of the tasks given to the individual diggers. The carriers for the gang are then selected from the three classes A, B and C, the carrying task of each individual

Classification on earthwork.

being the task of his class for the given lift and lead, as found in the same table, the number of carriers being so arranged that their aggregate task shall equal or nearly equal the tasks set for the diggers. No great difficulty has been found in this Presidency in thus equating the tasks of the diggers and carriers, as in the large tank and railway works that have now been started there is plenty of work for the carriers. I was told that the standard tasks laid down in the Code had been found appropriate, and were regularly worked to, but I was unable to test this on the works visited. At Shetphul, where the gangs appeared to have been very carefully constituted, the principal work in progress was the excavation of rock in the trench under the dam, which was of a character that could not be fairly or accurately tasked, but the workers were all working actively and energetically and were kept very fully employed. All arrangements at this work were excellent. At the two other large earthworks visited the gangs were being reconstituted, and were not in full working order. On my return from Madras however I met Mr. Joyner at Sholapur, and obtained from him a copy of the gang register for three days ending 16th July on the Kuradvadi section of the Barsi-Pandharpur Light Railway, from which I have extracted the following results :—

Excavation.

Kind of soil.	No. of gangs	No. of diggers.	Task per digger.	Full task for gang.	Task actually set.	Task done.	Remarks
				c. foot	c. foot	c. foot	
Black soil ...	5	26A	120	2,730	2,765	2,455	1 gang on 15th and 4 on 16th.
		1B	90				
Soft muram ...	5	30A	80	2,400	2,392	2,108	3 gangs on 14th and 2 on 15th.
Average muram ...	2	16A	60	960	964	798	1 gang on 15th and 1 on 16th.
Total ...	12	73	...	6,090	6,121	5,361	

The number of diggers are the total number employed for a day ; thus for soft muram the actual number of diggers in each gang was 6. The deficiency in tasks was not followed by fine as it occurred mainly on the 15th when work was interrupted by rain, but partly on 16th, which was a pay day. On the 14th full tasks were accomplished. I understand from Mr. Joyner that the diggers' tasks are easily worked up to and are considered light and that they have been recently increased on some works by about 30 per cent., so that the Code A tasks are now taken from B workers.

Carrying.

The total number of carriers employed for the removal of the 6,090 cubic feet which formed the full task of these gangs was 590 against 73 diggers. The average lead was 45 feet, with a lift not exceeding 5 feet. Details are as follows :—

		A child units.
A Men ...	87	261
A Women ...	176	352
B Men ...	72	162
B Women ...	58	87
C Men ...	58	82
C Women ...	48	48
Small children ...	91	68
TOTAL	590	1,060

No D workers are shown in the register, as they are untasked. Mr. Joyner says they are very few in number, and were perhaps mustered in separate gangs. It will be seen that all other classes are represented, and the large proportion of A class among the carriers and especially of A women is remarkable. These were all given and performed an A task, but it may be doubted whether so many were really able-bodied professional labourers.

We may assume that the children employed were on the average of the B class, and that, in accordance with the notes in the last column of Appendix III of the Bombay Code, they may be regarded as equal to three-fourths of a child unit of the A class. The total number of child units of A class will then be, as shown above, 1,060, and the quantity to be carried per unit becomes $\frac{6,000}{1,060} =$ 5·75 cubic feet for a lead of 450 cubic feet. The task for an A male unit will have been three times this, or 17·25 cubic feet, but according to Appendix III the standard task for this lead is 22 cubic feet. The carriers therefore appear to have been undertasked by over 20 per cent. according to the standard task table, which is probably due to the omission of fractions in the tabular tasks, and in the tasks for intermediate leads derived from the tables, and also to minimum tasks having been set for all children, or less than one-third of the male adult task, assumed in the Code. I consider, however, that the standard task is itself much too light, for 22 cubic feet carried 450 feet is equivalent to 99 cubic feet with a lead of 100 feet, and at this rate 10 able-bodied professional carriers would be required per 1,000 cubic feet for every 100 feet of lead, the normal rate for which in Bombay does not, I believe, exceed 8 or 10 annas. As regards carrying therefore the standard task table certainly appears to be light.

The wages paid to the workers in this case, calculated on the basis of 20 lbs. grain to the rupee, amounted to Rs. 72-3-2 for 5,361 cubic feet of earth-work, or about Rs. 13·5 per 1,000. The normal cost at ordinary contract rates would probably not exceed Rs. 6 per 1,000.

18. The figures given in the preceding paragraph for earthwork on the Barsi-Pandharpur Light Railway indicate that out of a strength of 663 workers no less than 335, or nearly 50 per cent., were of the A class. This is, however, quite exceptional, and I have already suggested that the classification was incorrect. The following table shows the proportions of the various classes for the whole Presidency, and for the Sholapur and Ahmednagar Districts on the 29th May 1897 as reported in monthly famine statement E:—

Proportions of the different classes of workers.

Class.	Bombay Presidency.	Sholapur District.	Ahmednagar District.	Percentages.		
				Bombay.	Sholapur.	Ahmednagar.
A	22,544	11,908	1,655	9·33	14·08	4·55
B	96,344	41,221	2,722	39·86	48·72	7·48
C	45,830	8,548	16,058	18·96	10·10	44·11
D	15,983	948	8,543	6·61	1·12	23·47
Children	60,956	21,974	7,435	25·24	26·00	20·41
Total ...	241,657	84,599	36,413	100·00	100·00	100·00

It will be seen that more than half of the A workers in Bombay Presidency are in the Sholapur District (in which the railway lies), but that even here the A workers are but 14 per cent. of the whole, while for whole Presidency they are but little over 9 per cent. On the other hand the bulk of the workers in the Ahmednagar District are of the C or D class. I have already stated that in the Belapur subdivision the whole of the workers were put into the D class, while the general complaint in this district was that people could not be induced to do more than

a minimum task and were quite content to do it for a minimum wage. The tendency has therefore been to avoid fining by putting the workers into the lower classes, which must be the explanation of the larger proportions of C and D classes in this district.

The table shows that over the whole Presidency 42·9 per cent. of the workers were in classes A and B, but it does not follow that this percentage received the A or B wage, as in the event of short tasks the earnings of several will have been reduced to the C or D wage. In Ahmednagar the A and B classes constituted together only 12 per cent. of the whole.

19. These figures are interesting with reference to the recent contention of the Government of Madras that the C and D wages are inadequate for the proper support of labourers who do any work at all. When at Munmar I asked the opinion of Dr. Clarkson, the Sanitary Commissioner, on this point, and showed him the representation of the Madras Government, as contained in their letter No. 296, dated 4th May 1897. I especially mentioned to him how large a proportion of the labourers in the Ahmednagar District were receiving only C or D wages, though I was not at the time aware that the proportion was as high as shown by the figures given in the preceding paragraph. Dr. Clarkson in reply said that he was quite unable to say what were the conditions in Madras, but that as far as the Bombay Presidency was concerned, he remarked emphatically that there had been nothing to indicate to him or his officers that the wages given were insufficient, or that there had been any deterioration in the physical condition of the coolies who came to the works, either in Ahmednagar District or elsewhere. A similar opinion had been previously expressed to me by Dr. Standish, Medical Officer in the Sholapur District, whom I met at the Barsi Road, and who had had frequent opportunities of examining the gangs in that district. Both officers were careful to state that they did not know to what extent the people were dependent on the works, or whether they had any supplementary resources of their own.

Sufficiency of the Code wage.

20. Another point connected with the remuneration of labour is the extent to which the relief works interfere with the supply of labour to private employers. The Executive Engineer of Khandeish informed me that Mr. Middleton, Agent of Messrs. Purves & Co., who have taken the contract for the Bombay and Baroda section of the Tapti Valley Railway, had offered to take as many men as would go to him, at the following rates:—

Excavation and short lead—

Earth ... ... 5 annas per hundred,
Soft murum ... ... 6 " " "

increasing by 1 anna per hundred for every 5 feet of lift.

Effect of relief works on the supply of labour to private employers.

The labourers on the Takhri Road works were asked to go at these rates and refused. The relief works were then closed and out of 2,000 only 800 went to the railway, the remainder going to their homes. The distance to the railway works was 30 or 40 miles, but this was not further from their homes than the Takhri works had been. The Executive Engineer offered to pay expenses in transit for all the men who went.

Just as I was leaving Munmad, Mr. Stewart, Assistant Collector, Nasik, told me that the District Engineer at Munmar had complained to him that his men left the railway for the relief works, but that he had obtained no particulars from him.

Mr. Ralph, the subdivisional officer at Belawal, informed me that 1,053 men had left his works for the Godavari Valley Railway, of whom 500 returned to the works saying that they received only 3 annas per hundred cubic feet from the petty contractors who were paid 6 annas, and that women and children were not allowed to work. This was but the statement of the men who returned which has not been verified, and must be taken for what it is worth.

I do not propose to discuss this question very fully at present, but it appears almost unavoidable that relief works should be more attractive than railway work when prices are ruling very high. Railway contractors do not raise their rates with every rise in the price of grain, and are hardly disposed to raise them at all in

seasons of dearth, when the demand for employment is keen. Nor will they give half an anna a day for every non-working child that accompanies its parents to the work, or 1 anna a day to every child over seven years of age who can carry a basket, or a living wage for every infirm dependant adult. Nor will they make payments for work that has not been done, in consideration of unavoidable interruptions, such as rainfall, or for the sake of giving rest for one day in seven. If relief works were carried out by piece-work it might be possible to compare the remuneration of labourers employed on such works and of those serving under private contractors, but at present such a comparison is hardly possible.

Introduction of piece-work.

21. All relief works in Bombay have been carried out on the Code system of task work, but shortly before my tour commenced the Local Government had called for the opinions of the Public Works officers on a proposal to introduce piece-work, in general accordance with the principles laid down in North-Western Provinces, in the Resolution No. 753, dated 16th March 1897.

These opinions had not been formulated at the time of my visit, but all the Public Works officers with whom I discussed the subject were in favour of the introduction of a system of gang piece-work, in which no intermediate contractor should be employed, but each gang should earn according to the amount of work done. The general opinion also was that there should be a maximum limit to the payments to be made to individuals, though no suggestions were made as to the most convenient practical method of imposing this limit. I understand that since I left the Bombay Presidency piece-work has been actually introduced in some works. Mr. Joyner has informed me that the local Public Works and civil officers consider it a success, but that sufficient experience has not yet been gained to justify a confident opinion, and he is himself doubtful whether many of the workers succeed in earning a living wage at the rates in force, though it is probable that after a time they may succeed in doing so.

Works in charge of civil officers.

22. The relief operations in the Central Division are almost entirely in the charge of the Public Works officers. In Sholapur District an average number of 13,080 workers attended works in charge of the Civil Department during the month of December last, while the number on Public Works was 26,145 only. But the principal civil works were transferred to the Public Works, so that in January the numbers were 848 and 42,340 for Civil and Public Works respectively, while after the month of March there were no civil works open in this district. In the Khandeish District however the average daily number on Civil Department relief works in month of June stood at 10,577 against 16,882 on Public Works, the numbers standing at 3,999 and 13,595 respectively in May, after some works had been transferred to the Public Works Department. In Nasik District no civil relief works have been opened at all, and in Ahmednagar the maximum average daily numbers have been only 57 and 1,727 in the months of March and May respectively. Except in Khandeish therefore the works under civil officers have been very few and unimportant, and have been restricted to places where it was inconvenient to place them under the charge of the Public Works Department. In this respect the practice differs greatly from that which obtained in the famine of 1876-77 as shown by the following figures for Central Division.

Department.	Average daily attendance during eight months ending	
	June 30th, 1877.	June 26th, 1897.
Civil Department	42,693	6,823
Public Works Department	99,513	129,301
Total on relief works	142,206	136,124
Dependants on works	9,191	56,162
Grand Total ...	151,397	192,286

Comparison of prices in 1876-77 and 1896-97.

23. The foregoing table shows that the total numbers of workers on relief works in 1896-97 did not differ greatly from those in 1876-77, but that there was a considerable increase in the number of dependants.

Prices appear however to have been much lower in the latter than in the former year, the average for the seven months ending May 1877 and May 1897 being approximately as follows:—

District.	Average number of lbs. sold for one rupee during seven months ending	
	31st May 1877.	31st May 1897.
Poona	21·5	17·6
Sholapur	19·0	19·0
Ahmednagar	24·9	19·1
Nasik	28·4	17·4
Khandeish	29·7	17·6

24. The larger relief works in the Presidency are placed in charge of the special civil officers whose duties are defined in sections 90 and 92 of the Bombay Code. They are appointed by the Collector and are usually natives holding subordinate appointments in the Revenue Department, such as clerks, or candidates for appointments of a higher class. With reference to the direction in section 90 in only one of the works visited did I find that the special civil officer in charge was invested with summary powers as a Magistrate, and he possessed them before being posted to charge of relief works. The Collectors with whom I discussed this subject said that they did not consider that such powers were necessary, and that they had declined to recommend their being granted. As far as I could hear, these special civil officers were performing the duties required of them satisfactorily, though many of them had been very helpless in the first instance, and until they had been taught their work by the Public Works officer or subordinate attached to the work. I found however a very strong feeling among all the Public Works officers regarding the position which these men occupied on the relief works under their control. It was said that as they were appointed and dismissed by the Collector they considered themselves independent of the Public Works Department, and were not very ready to recognise the authority of the officers of that department. They were frequently inclined to be obstructive, and either on this account or from sheer timidity, would often hesitate to comply with orders from officers responsible for the works until they had communicated with the Collector. I did not consider it very necessary to enquire very closely into these complaints, though they were made in every district that I visited, but it seems very natural that difficulties of this kind should arise when works are put in the nominal charge of men of this class, who, however well fitted they may be for the special duties assigned to them in section 92 of the Bombay Code, have had no experience in the organisation and management of large bodies of labourers. Many of the works are under the immediate supervision of Assistant Engineers of the Public Works Department, or experienced upper subordinates of very good position, and the co-ordinate or independent position, and authority which is given to or assumed by the special civil officer is not unnaturally resented by them. I need not do more than note here the dissatisfaction which is felt on this point, as it is but part of the more general question of the responsibilities and authority of the Civil and Public Works officers respectively in connection with the execution of famine relief works.

25. As part of the same question may be noted the strong objection expressed by the Public Works officers to the whole of section 38 of the Code, with the exception perhaps of clause (*d*), especially when this is read in connection with section 39 (*a*) under which the Executive Engineer of the district is held jointly responsible with the Collector that relief works do not fail in their object. It was urged by all, from the Chief Engineer downwards, that when once large relief works have been started the responsibility for these being carried in accordance with the instructions and spirit of the Famine Code should rest entirely with the Public Works Department, and that the legitimate authority and influence of the Collector in respect of such works could be effectively exercised without subordinating all the officers of the Public Works staff to officers of somewhat corresponding rank in the Civil Department. Here again I will reserve my opinion for the present, and will only observe that although the anomalous and not very clearly defined position in which Public Works officers are placed by the language of the Code has undoubtedly in some cases produced a good deal of friction and unpleasantness, this has on the whole been much less than might have been anticipated—a result which is due to the good sense of the Civil and Public Works officers concerned. The Famine Code, in section 38 (*c*) and elsewhere ignores the existence of the Superintending Engineer, but in practice the whole work of designing relief works and controlling their management is entrusted by Government to the Superintending Engineer, and all questions in dispute between Collectors and Executive Engineers are as a rule settled by him and the Commissioner, working in harmonious co-operation. Subject to this control, the Collectors appear to have been generally willing to give the Executive Engineers a free hand in the management of relief works, and to have abstained from vexatious interference, while the Engineers on the other hand have endeavoured as far as possible in all cases to meet the views and wishes of the Collector.

In the lower ranks the friction has probably been greater, but however indefinite or unsatisfactory may be the language of the Code in defining the relations between the Civil and Public Works officer, I think that in practice each has been content to leave to the other the duties that naturally belong to him, and that both have worked together, shoulder to shoulder, in this famine campaign. In thus bearing testimony to the good spirit and feeling that has prevailed generally between the two departments, I do not mean to say that the provisions of the Code bearing on this relation are not in need of amendment. That is a question to be considered at leisure later on, but I think it may fairly be said that this cordial co-operation has been attained, not in consequence, but in spite of the instructions that are contained in section 38 and other parts of the Code, and by the mutual and creditable forbearance of the officers concerned in both departments.

26. The famine has naturally put a great strain on the Public Works Department in the matter of establishment all over India. In Bombay the stress as regards engineers has been met by restricting leave and by transferring a few officers from Sind, where expenditure has been as far as possible curtailed, to the Deccan, and the services of two Royal Engineer officers have also been placed at the disposal of the Government of Bombay. What is most wanted here as elsewhere for relief operations is an increase in the staff of reliable and experienced upper subordinates. The best of these would be employed in subdivisions, in the superintendence of the works on two or more charges, while others would be placed in subordinate charge. Five Upper and three Lower Subordinates have been transferred from the Military Works Department to the Bombay Public Works Department, but when the services of such men are required in all the famine-stricken provinces in India much assistance cannot be relied on from this source, and Bombay is the only Province to which such tranfers have been made. The Chief Engineer also informed me that great difficulty had been experienced in obtaining cashiers or paymasters for the various charges. These officials are required to furnish security to the amount of Rs. 1,000, but the duration of the appointments is so uncertain and the work is so hard and unpopular that it is difficult to get men of the class that can furnish this security to come forward.

Concluding remarks.

27. It has been my object in these notes to direct attention to those features in the management of relief works in this Presidency which it seems desirable to compare with the practice in other provinces, and I have abstained as far as possible from making any criticisms or recommendations. In conclusion, however, I must observe that the relief works appear to have been conducted in as close conformity with the provisions of the Famine Code as has been possible. It is true that in many matters of detail the practice varies in almost every Public Works Division, if not in every subdivision or large charge. This is partly due to the Superintending Engineer or principal controlling officer having been himself very fully employed in the preparation of new projects, and partly to his own desire to give as much freedom as possible to his divisional officers, leaving each to work out for himself what appeared to be the best method. But now that this varied experience has been gained and large works have been started at which labour will be concentrated, greater uniformity on the most approved lines will be possible. The most noticeable feature in the administration of these relief works has been the gradual substitution of large and useful for scattered and almost useless works, and the success even at this season of the year which is attending the efforts to draw the people to these larger works, and to make them reside on them. It is indeed possible that the works have been too popular, and that for nine months many attended them who were not absolutely without other resources. But there must be an intermediate stage between that in which relief works are altogether unnecessary, and that in which a large section of the population is entirely dependent on them, nor can there be any objection on principle to people whose own resources are too slender to entirely support themselves and their families supplementing them by attendance on relief works. The difficulty is to draw the line that will admit these, but exclude those who are really capable of supporting themselves. The first duty of maintaining the health and vitality of the labouring classes has been successfully accomplished in the face of the evils of cholera and plague which threatened on every side, and if the works were at first too popular, so as to attract many who might have kept away from them, the mistake has been on the right side and the Local Government has been prompt to rectify it by the various measures that have been taken, and especially by the arrangements that have been made for opening large and beneficial works which will give employment to those who really need it, but are not likely to attract those who do not. It may safely be said that if unfortunately the present distress should be prolonged the Bombay Government are, as far as relief works are concerned, in a better position to satisfactorily meet it now than they were when operations commenced, whether regard be paid to the intrinsic utility of the works to be executed, or their efficiency as a means of famine relief.

DATED SIMLA;
26th July 1897.

T. HIGHAM.

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Notes on the Famine Relief Works in the Punjab, by Mr. T. Higham, C. I. E., on special duty, Famine Relief Operations.

1. The Punjab was not included in my tour of inspection of famine relief works. I proposed at one time to visit this province last of all, or on my return from the Madras Presidency, but my tour had extended so far into the rainy season that I was advised that the principal relief works in the Punjab would be practically closed before I could arrive there, and with the approval of the Government of India I returned to Simla without visiting this province. I have however obtained a certain amount of information about the works that have been in progress there, which may be conveniently recorded in the present note.

Province was not personally visited.

2. Relief works in the Punjab at the beginning of June were confined to seven districts, as in margin, of which the first five belong to the Delhi Civil Division, the sixth to the Jullundur and the seventh to the Rawalpindi Division. Works were closed in the Gujrat District on the 19th June, and the number of relief workers employed at the end of that month in the Ferozepore, Umballa and Delhi Districts were under 1,000 in each. Relief works have been carried out by the Public Works Department in the Hissar, Rohtak, Karnal and Gujrat Districts, the works in Hissar being more important and more numerously attended than those in all other districts put together. Petty works under the civil authorities have also been carried out in other districts, but they had all been closed before the 1st June.

Distressed districts.

Hissar.
Rohtak.
Delhi.
Karnal.
Umballa.
Ferozepore.
Gujrat.

3. The works carried out by the Public Works Department were works of public utility, the most important being the Ghaggar Canals in the Hissar and the Jhelum Canal in the Gujrat District. The latter is a project which has already been sanctioned by the Secretary of State as a productive public work, but its construction has been held in abeyance pending the completion of the Chenab Canal for want of funds. Relief workers were however put on to sections of the proposed main line, and the work done by them will reduce, *pro tanto*, the amount of excavation to be done when the construction of the canal is put in hand. The Ghaggar Canals form a project which has been under consideration for some years in the Punjab, and for which detailed plans and final estimates had fortunately been completed shortly before distress was declared. It consists of two canals taking out from the right and left banks of the Ghaggar river about 12 miles below Sirsa, which after crossing the Hissar-Bikanir boundary run for some miles in Bikanir territory, the aggregate length of the two channels being about 100 miles, of which 54 miles are in Bikanir. The project is one which will probably be remunerative, and will certainly be very useful and beneficial in protecting a large area of land in the valley of the Ghaggar. The Bikanir Darbar has agreed to contribute its fair share towards the cost. The canals were completed on famine relief principles during the season of distress and I understand that water is now flowing in them. The works in both British and Bikanir territory were carried out under the superintendence of the officers in the Punjab Irrigation Branch, Public Works Department, and afforded relief to great numbers, the average number employed in the Hissar District being over 15,000 and in Bikanir over 6,000 daily for nearly six months. These canals were situated in the very part of the district in which distress was most acute, and thus formed an admirable relief work. In addition there were other canal works, consisting of cuts for cutting off long loops in the old Western Jumna Canal, one of which was carried out in the Umballa and one in the Hissar District, and an important new distributary, called the Nardak Rajbaha, in the Karnal District. These works were all carried out by the officers of the Irrigation Branch, but there were two other works in the Hissar District, which were carried out by the officers of the General Branch. These were the principal relief works in progress, and all

Character of the relief works.

of undoubted utility, but there were in addition various petty works carried out by Municipalities and District Boards. The Deputy Commissioner of Hissar, Captain-Dunlop Smith, has informed me that 250 village tanks were excavated and enlarged in that district under the supervision of the civil officers. The following extract from his letter is interesting:—

"Our plan of campaign in this district was to start only major works in charge of Engineers at the beginning of the famine in November last. The people all howled for tanks from the beginning, but I refused to start them on anything like a general scale till the beginning of the hot weather, when the major works began to give out, and it was desirable to avoid hordes of labourers being camped together. The result is that now the major works have all been finished or are drawing in; out of a rough daily average of 70,000 on relief works all but 20 per cent. are on tanks. This policy of keeping the tanks to the end has been completely vindicated. The work itself is good, as it is very remunerative to and appreciated by the people, and now it is keeping them close to their homes, so that they can start work on their fields as soon as the rain comes."

Distance of Ghaggar Canal works from affected villages.

4. The Superintending Engineer, Colonel Jacob, states that "people came from considerable distances to the works on the Ghaggar canals, as far as 50 miles in some cases. When another relief work, the Ranjir cut, about 50 miles off, was started some 2,000 labourers left the Ghaggar works to go there because it was near to their homes. When operations were at full height on the Ghaggar Canals about 90 per cent. lived on the works. *Sirkhis* were supplied to them, and they made little huts of these and the branches of trees. The villages were very small and far between, and the country very jungly. Wolves visited the camps and bit children, some of whom died, but the workers lived on in these huts. The people will leave their homes when really hard up, but not otherwise. When works were opened close to a village all the village turned out to work, but when that work was completed and another was opened farther away only those continued to come to the work who were really hard up."

Classification of workers in Hissar District.

5. In the Hissar District applicants for work on first arrival were put into class A or class B according to their appearance, but very few professional labourers joined the works. As the work progressed the labourers were redistributed into their proper classes according to their capacities. A man doing the full A task or over receives the A wage, and so on. Workers were thus promoted from a lower to a higher class for good work, and degraded from a higher to a lower for short work, but the Deputy Commissionor says that from 50 to 60 per cent. of the workers all over the district were permanently in class B. Nursing mothers were always given the A wage.

Tasking.

The unit for tasking was as in Bengal, the subgang of two to four diggers with the necessary complement of carriers. At first these subgangs were formed according to code classes A, B, or C, all workers in an A gang receiving an A wage, but in hard soil, when it was found that the diggers could not keep the carriers fully employed, the A wage was latterly given to the diggers only. Practically however the mass of the workers were in the B class and when the B task was not done the minimum or D wage was paid, though in some cases when the B task was nearly done the C wage was allowed. The wage was very rarely reduced by fines below the D or minimum limit. There were very few labourers in the D class, the proportion being generally less than 2 per cent. of the whole. They included merely those who were quite feeble, but not infirm enough to be entitled to gratuitous relief as dependants. They were put into the gangs as extra carriers, in addition to the normal proportion.

6. The tasks for diggers in class A varied from 75 cubic feet in the hardest soil to as much as 225 cubic feet in soft soil, the B task being generally 80 per cent. of this. I have no details of the average task actually exacted from the carriers,

most of whom received the B wage, but the standard task tables of the Punjab Famine Code prescribe a much higher task for carriers than those of any other Provincial Code, though it is not in my opinion excessive, or more than has been actually exacted during the present famine throughout Bengal. I am unable to say however whether the carriers' tasks actually exacted in the Punjab were higher or lower than those contemplated on the Punjab Code.

Working statistics on Ghaggar Canals.

7. I have obtained the following working statistics for the five weeks ending 3rd July 1897 relating to the Ghaggar Canals:—

Attendance in British territory—

	Worker units.	Dependant units.
Men	118,972	1,566
Women	132,335	2,060
Children	32,095	51,668
Total ...	283,402	55,314
Male units	230,259*	...
Child units	...	59,984

*1 Man ... 1 male unit.
1 Woman ... ½ " "
1 Child ... ¼ " "

Percentage of male adults 42.

Payments were as below:—

Item.	Amount paid. Five weeks ending 3rd July.	Amount paid. Up to date.	Percentage on item 1 of up to date outturn.
	Rs.	Rs.	
Labourers' wages	(a) 38,921	(b) 3,68,889	...
Sunday wage, etc.	2,843	12,069	3·27
Work charged establishment	8,297	32,565	8·83
Hutting	4,518	28,493	7·72
Miscellaneous	11,036	34,783	9·43
Gratuitous relief	4,230	47,381	12·84
Total ...	69,845	(c) 5,24,180	(d) 42·09

	(a)	(b)	(c)	(d)
British territory	27,518	2,63,722	3,52,469	33·65
Bikanir "	11,403	1,05,167	1,71,711	63·27

Sunday wages, etc., include all wages paid when no work is done, as on day of arrival wet days, etc.

Other items form a much higher percentage on the labourers' wages in Bikanir than in British territory. The excess percentage in on all items except gratuitous relief, hutting special establishment and miscellaneous expenses amounted to nearly as much in Bikanir as in British territory, though the expenditure on wages in the former was only 40 per cent. of that in the latter. The work in Bikanir was managed and paid for by the State, the duties of the Public Works officers being mainly confined to supervision of the work.

The value of work done, calculated at normal rates, was as follows :—

	During five weeks.	Up to date.
	Rs.	Rs.
In British territory	16,491	1,74,275
„ Bikanir „	7,236	70,120
Total ...	23,727	2,44,395

The total value of work done up to date was therefore 66·24 per cent. of the amount paid as wages paid to labourers, this proportion being practically the sum in both British and Bikanir territory. If the cost of gratuitous relief and other items are included the actual value of work done may be taken as 46·65 per cent. of the total expenditure incurred, the proportion in British territory being 49·44.

According to some figures in a note recorded by the Chief Engineer the value of work done to end of April amounted to 80 per cent. of the wages paid to labourers. The reduction of this rate to 66·24 on the up to date figures to 3rd of July is due to the great falling off on outturn during the months of May and June, when much of the work consisted of clearing, and when the heat is greater than in almost any other part of India, and there are perpetual sandstorms night and day which come up from the Bikanir desert. Free labour does not work at all in these parts at this season of the year, and would certainly not be attracted by the normal rates annexed, which are those payable in the cold weather.

The normal rate for channel excavation on the Ghaggar Canals is Rs. 2-12 per 1,000 cubic feet, but the average rate, including work on embankments, is about Rs. 3, while the actual cost of labourers' wages has been about Rs. 4-12. As famine labourers cannot ordinarily do more than 60 per cent. of the tasks executed by able-bodied professional labourers this rate is not excessive, especially when the conditions of the climate in May and June are considered.

The average wage per male unit employed in British territory during the five weeks ending 3rd July was $\frac{27,518}{230,259}$ =1 anna 10 pie, the grain rate during this period being 10 seers to the rupee. On this basis the code wage for a B male is 1 anna 11 pie, so that practically the B wage was paid all round, and the cost of relief per male unit was high compared with the average in Bengal or North-Western Provinces.

The cost of relief to dependants in British territory during the five weeks was $\frac{1,011}{59,984}$=0·5 anna per child unit. Relief was at first given in the form of cash doles, children receiving half an anna, and male adults 5 pice. The numbers were so great that it was deemed advisable to open kitchens, the immediate effect of which was a great reduction in number, as they were very unpopular. In Bikanir gratuitous relief was always given in cash.

8. Particulars of three other works under the officers of the Irrigation Department have been given in the Chief Engineer's note already referred to.

Other works in Delhi Civil Division.

Particulars.	Hansi Canal Cut off Hissar District.	Abdullapur Cut off Umballa District.	Nardak Rajbaha, Karnal District.
Total number of workers or day units ...	...	123,143	289,546
Total number of male units ...	4,758	103,979	219,609
Percentage of male adults ...	43	46	44
	Cubic feet.	Cubic feet.	Cubic feet.
Total quantity of work done ...	208,485	3,839,000	11,072,000
Average work done per male unit ...	43·8	42·9	58·9
	Rs.	Rs.	Rs.
Total wages, including Sunday wage ...	630	11,915	31,502
	Rs. A. P.	Rs. A. P.	Rs. A. P.
Average wage per male unit ...	0 2 1½	0 1 10	0 2 3
Rate per 1,000, excluding Sunday wage and exclusive of dressing, etc. ...	3 0 0	2 10 5	2 7 0

The average wage per male unit is high compared with that paid in Bengal or North-Western Provinces as almost all workers were placed in the B class, but the outturn of work was very good and the cost of wages per 1,000 cubic feet of earthwork was but little above the normal rate. It will be noted that in all the works in this part of the Punjab the proportion of male adults varied from 42 to 46 per cent. of the total number of workers.

Works in Delhi Division under the control of Public Works officers.

9. The relief works in the Delhi Civil Division were entirely under the control and management of the officers of the Public Works Department. It was originally contemplated that, in accordance with the famine code, the works should be managed by the district officers, the duties of the Public Works officers being confined to their proper professional work. This was the arrangement originally recommended by the Chief Engineer, but when His Honor the Lieutenant-Governor visited the works in January, he found that the Commissioner, Deputy Commissioner and Superintending Engineer were all unanimously in favour of leaving all arrangements in the hands of the Public Works Department, a conclusion in which His Honour concurred. Orders were passed accordingly and the works were managed from start to finish entirely by the Public Works officers, native officials belonging to or nominated by the Civil Department being placed under their orders. I understand, however, that the management of kitchens was undertaken entirely by the civil officers.

Jhelum Canal works.

10. The Jhelum Canal works in the Gujrat District were started on a different system, as the entire control of the work was vested in an Extra-Assistant Commissioner, the responsibility of the officers of the Public Works Department being strictly confined to the supervision of the setting out of the work, the supply of necessary tools, the formation of the labour gangs after classification, the fixing of the tasks and the measurement of the work done. This arrangement was introduced on the suggestion of the Superintending Engineer, Chenab Circle, who considered that the Public Works officers would not have time to attend to the

duties of a Famine officer, though they would be willing to render every possible assistance in the way of professional supervision. As in the Delhi Civil Division the Public Works Department was, in the first place, very unwilling to undertake the management of the works.

Working statistics for Jhelum Canal.

11. Work was commenced on 25th December 1896. The labourers were almost all put into the A or B class, but the members of both these classes appear to have at first received the same, or A, wage, irrespective of classification. Feeble labourers who could do no more than a nominal task received the D wage. There were no workers in class D. The initial task set was 40 cubic feet per worker, the average lead being 200 feet and lift 4 feet. This task was heavy for relief workers of the ordinary type, but not for workers who were all receiving the A wage, and who should therefore have belonged to the class of able-bodied professional labourers.

It would not have been excessive for ordinary relief workers if reduced by one-third or to 26 cubic feet per worker, but during the first five weeks the average outturn was 9·3 cubic feet only or less than a quarter of the task assigned, and the cost of earthwork for wages paid, and exclusive of all incidental charges, amounted to over Rs. 14 per thousand. The average wage per worker during this period was 1·65 annas, and there was practically no fining. Under these conditions the work became very popular and was overcrowded. The work was then reorganised, and during the next five weeks better tasks were obtained, the daily outturn per unit rising to 17·1 cubic feet, though the lift was increasing, and the cost of wages fell to Rs. 8·22 per 1,000 cubic feet. It was then found convenient to transfer the charge of the works to the Public Works Department, which became responsible for the management from the 7th March to the 19th June (when they were closed), or for a period of 15 weeks. During this period the improvement which had been manifested during the five weeks ending 6th March continued, the average task per worker during the 15 weeks rising to 19·1 in spite of a considerable increase in the mean lift, while the average wage per worker fell, in consequence of a stricter system of fining, to 1·29 annas, and the working rate per 1,000 to Rs. 5·24, which was not much above the value of the work done at normal rates. Taking the whole period from the commencement until the work was closed on the 19th June, or for 25 weeks, the average outturn per worker was 14·7 cubic feet per diem, the cost of the wages paid working out to Rs. 8·26 per 1,000, and the average daily wage being 1·54 anna per working unit. This is for the labour employed on the earthwork only. The final rate, including all expenditure, including gratuitous relief, working out to Rs. 12·79 per 1,000, the average normal rate for the work if executed by ordinary contract being estimated at Rs. 5-8 per 1,000 cubic feet. Details of these other items are as follows:—

	Amount in rupees.	Percentage on item (1).
(1) Wages to labourers on earthwork	2,49,416	...
(2) Labourers employed on general and conservancy duties...	6,948	2·79
(3) Dependants on workers	51,580	20·68
(4) Gratuitous relief under section 140-A, Punjab Famine Code.	7,776	3·17
(5) Paid to sick persons	142	
(6) Hutting and miscellaneous charges	49,375	19·80
(7) Work charged establishment	21,251	8·52
Total expenditure ...	3,86,488	54·96

Dependants on Jhelum Canal.

12. It will be seen that the payments to dependants exceeded 20 per cent. of the amount paid to the workers, which is extraordinarily high. In the statement from which these figures have been obtained all adults who were put in class D, *i.e.*, old and infirm members or dependants of the working families who did work of no account, have all been included among the dependants, and not, as elsewhere, among the workers, but the payments made to them have not been shown separately, though the total number of these adult day units is given as 148,716, some of whom would of course have been true dependants. Apart from this, however, the number of non-working children was excessive, amounting to 1,195,564 day units or 45·66 per cent. on the number of day unit workers, which was 2,618,440. This is a remarkably high percentage, for in no province has it exceeded 25 per cent., and in the Punjab itself, including the Gujrat District, the average percentage has been very much less. As relief works in this district were closed on the 19th June, it may reasonably be inferred that distress was less acute here than elsewhere, and that the relief given to dependants was therefore unduly liberal, although under the present code little discretion appears to be allowed in this matter, and there is no restriction on the percentage of dependants to whom relief may be allowed. On going into details it is found that during the five weeks ending 30th January the number of non-working children was 59,963 against 125,952 workers, or 47·6 per cent. This proportion increased in the four succeeding weeks, attaining a maximum in the week ending 27th February when there was an average daily attendance of no less than 20,794 non-working children against 27,741 workers of all kinds, or almost exactly 75 per cent. In the following week kitchens were established in two subdivisions, and this was followed by an immediate reduction in the proportion of non-working children, though it had not fallen to less than 20 per cent. until the week ending the 3rd April. The average proportion during the fifteen weeks following the introduction of kitchens was 26 per cent.

The expenditure on hutting and miscellaneous charges was also high on this work. In regard to the former the Commissioner reported at the end of January that "hutting is ready in a double line for roundly 4,000 people, but as far as I could judge, and in this all are agreed, probably not over 2,000 use the huts put up for them. Much hutting does not seem wanted, the neighbouring villages seem so charitable in giving shelter." Hutting is very necessary when the people have to reside on the works, but there is no doubt that it may often be overdone if huts are erected much in advance of the demand for them.

The cost of special establishment bore a proportion of 8·52 per cent. to the amount paid as wages to earthwork labourers, or about the same as on the Ghaggar Canal works.

Improvement in efficiency as works proceeded.

13. When the Jhelum Canal work was started almost all who came were offered the highest wage permissible under the famine code; there was no restriction on the number of dependants, and no attempt was made to enforce full tasks. All this, even the leniency shown at first in the matter of tasks, was in accordance with the famine code, except that the proportion of labourers in the A class appears to have been excessive. It was soon found, however, that the only effect of this liberality and leniency was to attract people to the works who had no intention of working, and probably many others who were in no need of relief, and that the expenditure on such a system would be enormous in proportion to the value of work done. The same mistake appears to have been made initially on the Ghaggar Canals, where, according to the note recorded by His Honour the Lieutenant-Governor on the 18th January, the cost of earthwork was originally six times the normal cost, though it was afterwards explained that this included many special and incidental charges. As this work was from the commencement under whole-time Public Works officers the classification and tasking were from the outset stricter than on the Jhelum Canal, though perhaps not as strict as they should have been. On both works, however, the initial mistakes were

soon realised, and persistent efforts were made to improve matters, the tasks eventually realised comparing favourably, as far as comparison is possible, with those obtained in other provinces, while the cost of the earthwork was often little below normal rates. The wages paid were higher than has been found necessary in the North-Western and Central Provinces and in Bengal, when reduced to the same grain rate, but the Punjab followed the famine code in regarding the minimum or D wage as that which should be paid only to individuals who were too weakly to be tasked at all, all workers doing a fair task eventually receiving something like a B wage, whether employed as diggers or carriers, and with the tasks eventually attained these wages were not very excessive.

Conditions favourable for introduction of piece-work.

14. The question however suggests itself whether both these works, the Jhelum and the Ghaggar Canals, might not with great advantage have been carried out by piece-work from start to finish. I know of no works on which the conditions were, *primâ facie*, more favourable for such an experiment.

I believe it is true that in both districts, Hissar and Gujrat, and especially in the latter, distress was, however widespread, far less acute than in the North-Western and Central Provinces, in parts of which piece-work would have been hardly possible. I understand that when works were started the people were in fair condition and with so much work available, and so many able to work, no other relief was possibly required than that afforded by employment. For on both these canals there was plenty of employment of the most useful kind for as many as were willing to work. Both works have been recommended as likely to prove directly remunerative, apart from their value as protection against famine, and when once sanctioned and started the greater the progress at reasonable rates, the less the ultimate actual cost to the State. If the amount expended on these works had been expended under the piece-work system, the result would have been that the value of the work done would have been greater, while the amount distributed to the labourers would not have been less, or would indeed also have been greater by the saving in cost of special establishment. When the work is of a comparatively useless kind, the former consideration has less force, but the characteristics of both these works is that the ultimate cost to Government will not materially exceed the difference between the actual expenditure and the value of the work done at normal rates. It may indeed be said that if the amount spent on these works had been distributed only between those who were willing to attend them as piece-workers, many of those in real need of relief would not have received it, and that a large number of workers would be more or less professional labourers attracted from remoter parts where there was no acute distress. The latter difficulty can be easily guarded against, and as regards the former it may be noted that in the Jhelum Canal relief was given to 2,694,196 workers and 1,344,280 dependants, of whom 148,716 were adults. The sum paid as wages to the workers amounted to Rs. 2,49,416, while the dependants received Rs. 51,580, or a little over 20 per cent. on this amount. If the work had been carried out on the piece-work system from the beginning, these workers might easily have increased their earnings by 20 per cent, and with the increase would have been able to support this army of dependants, the numbers on the works would have been reduced by nearly one-third, there would have been a great saving in the cost of establishment and of incidental expenses, and the wholesale demoralisation caused by what is little better them a system of gratuitous relief would have been wholly avoided. To say that the workers if offered an opportunity of earning enough for themselves and their dependants would either not exert themselves to earn so much, or after earning it would not apply any portion thereof to the support of the dependants, is to say that they would act contrary to their own time-honoured and most firmly established custom, and this is so doubtful that it cannot but be regretted that under such favouring conditions the experiment should not have been tried.

On Ghaggar Canals piece-work, if not the ordinary contract system, might have been adopted.

15. On the Ghaggar Canal the conditions appear to have been equally favourable, and indeed the Superintending Engineer, Colonel Jacob, has expressed an

opinion that almost all the relief required would have been afforded if these canals had been carried out by the officers of the Irrigation Branch under the ordinary petty contract system. He writes as follows :—

"The possible corruption of all the native staff is what makes the famine work so difficult, and the whole task of prevention hangs on the European subdivisional officer. Our case should therefore be to simplify. One great advantage of piece-work over the present system would be to simplify, therefore piece-work is incomparably better, yet it will be quite spoiled if Government, in its rage for statistics, will have the people daily counted, and these elaborate returns sent in. Every additional man put on as mate, mistri, etc., retains something of what should go to the people.

It is for this reason I so far prefer working with petty contractors. I do not say it can always be done, I admit that it is not possible, but in a case like the Hissar District, where the people never got emaciated or pulled down, but were all strong and in good health throughout, and where we had lots of petty contractors who have worked with us for years, and whom we have thoroughly in hand, I am perfectly sure that we could have relieved every bit of distress in this way with only the addition of a few poor-houses and kitchens in a few places.

Of course there would have been more trouble with these contractors, but these known men whom we have employed for years, and who expect to be employed for years more, would be so much more amenable than new men who knew they would soon be sent adrift, and who had therefore to do their cheating sharp.

These contractors know how to marshal the men, get the best work out of them, measure up, etc. We should make them of course take all able to work, but many who came to famine works and played at working would not work with contractors, but would be fed by the wages of their stronger relations.

I don't think this kind of work would do except with your own contractors, nor would it do if the people were much weakened at any time. All I contend is that the Hissar work could have been run on these lines, with great profit to Government, with perfect famine relief for the district, and with far less effort and friction, and above all without the disorganising of the native system of relief among themselves.

Without poor-houses, work-houses, etc., natives in ordinary times care for their poor far better than the European does with all his appliances. Any breaking up of their system would be a terrible calamity, but the famine code system goes far to break it up, and is most objectionable in consequence. Far better that the strong should work for and support the weak. The piece-work system will be a great improvement on the daily wage, but it partakes of some of its disadvantages, and if my suggestion could have been carried out it would dislocate nothing.

For instance in Hissar I would have undertaken to run the whole thing, if I had been allowed, on the lines I have stated. The civil authorities to be critics and judges, to step in at once when they saw that distress was not being met, or where any deterioration in general health or strength was apparent. With critics like this watching us with keen eyes, knowing that they would be called to account if they allowed the people to suffer, what fear would there have been."

This is a forcible statement of the case for carrying out relief works under either a contract or piece-work system, and by preference the former, put forward by an officer who is specially qualified to form a sound opinion on the point. It is indeed doubtful, as he himself admits, whether conditions in acutely distressed districts would often justify the employment of contractors, though in certain case such men would be the most efficient agents that could be employed, and I think it not improbable that in the particular cases of the Ghaggar and Jhelum Canals the provision of employment for all in the ordinary manner, through the agency of well-known and reliable contractors, would have afforded nearly all the relief required. Opinions will however probably differ as to the expediency of using the agency of contractors, but there are at least many indications that the conditions in both the Hissar and Gujrat Districts were exceptionally favourable for the introduction of piece-work.

Reasons for non-introduction of piece-work at commencement of operations.

16. Piece-work would probably have been tried from the outset in both these districts were it not for the restrictions of the Punjab Famine Code. In this as in all the other provincial codes the only system contemplated on relief

works is the task-work or daily labour system, and no discretion is given, even to the Local Government, to authorise the introduction of any other system. It may be noted, however, that in the case of the Ghaggar Canals the Punjab Government proposed in its letter No. 01038-I., dated 20th October 1896, to the Secretary to the Government of India, Public Works Department, that the construction of these canals should, at least in the first instance, be carried on as an ordinary public work, and not as a famine relief work. It was said that "the project will afford employment for numbers of able-bodied men and their families who, under the pressure of impending scarcity, may be expected to flock to the work from adjacent villages, and will thus render it unnecessary to start other works of a less useful character," and it was anticipated that, if the work were thus carried out on the ordinary public works system, the expenditure would not exceed the value of the work to be done, at normal rates. The Government of India, however, replied in their letter No. 234-I., dated 3rd November 1896, that the grants under head "43.—Minor works and Irrigation" in the current or subsequent years would be insufficient to meet the expenditure proposed, and that therefore any work which it might be necessary to carry out immediately upon the project should be regarded as undertaken solely to give relief to a famine-distressed district, and should be carried out under the conditions of the Punjab Famine Code. Funds could thus only be made available for this work on the condition that it was classed as a relief work, and carried out in accordance with the instructions of the famine code, under which piece-work is not permissible. The result has been that owing to the inability of the Government of India to increase the grants for ordinary public works, the Local Government was forced to carry on this work as a relief work, that is to say on a wasteful and demoralising system which was in its opinion hardly required in this tract, however necessary it might have been to provide employment.

Piece-work introduced at a later stage of operations.

17. As has been explained in the notes on other provinces the disadvantages of the code or daily labour system have been so great as to induce all Provincial Governments to consider the expediency of substituting piece-work for task-work wherever practicable. On the initiative of the Government of the North-Western Provinces the proposal that piece-work might, under certain precautions and conditions, be permitted on relief-works was heartily approved by the Government of India as intimated in their letter No. 255-F., dated 16th January 1897. The later modification of these proposals made in North-Western Provinces Circular No. 753—73-S., dated 16th March 1897, were forwarded by the Government of India for information to Local Governments and Administrations under Circular No. 20—91-2-F., dated 19th April 1897, and as a result piece-work in some form or another has been introduced in all provinces though not until the later stages of operations were reached. Had piece-work been recognised at an earlier stage as falling within famine relief principles it is very probable that almost all the relief-works in the Punjab would have been started on this system. I understand that piece-work was introduced towards the end of operations on the Jhelum Canal and the Nardak Rajbaha, and that the result was a great gain in economy and efficiency. Some statements in regard to the Jhelum Canal indicate that the work done by 41 working parties during three days when paid by the piece exceeded the work done by the same parties in the same time when in receipt of a daily wage by as much as 90 per cent.

Concluding remarks.

18. The foregoing particulars regarding relief works in the Punjab have been obtained from official reports and from communications received from some of the officers employed on them. As I did not personally visit the works I am unable to describe them in greater detail, but the information given will suffice to show generally to what extent the Punjab system of working differed from those in other provinces. It will be seen that the Punjab did not follow the practice adopted in the North-Western and Central Provinces and in Bengal,

under which all labourers who could do no more than carry received only the minimum or D wage, but that, as in Bombay, the classification and tasking of labour was in close accordance with the system prescribed in the famine codes, although the workers, in some cases, appear to have been initially too highly classed, and excessive leniency was shown in the enforcement of tasks. By degrees, however, mistakes of this kind were rectified, and after the first two months, the tasks ultimately realised were full tasks, even with reference to the high wage paid to the carriers. The works in the Hissar District were almost from the first entirely under the management of the Public Works officers and the same arrangement was ultimately made in Gujrat although originally a civil famine officer was in charge of the works, and exercised sole control over the classfication, payments, etc.

Distress in the Punjab was less widespread and of shorter duration than in other provinces, and even where it existed was probably less acute. The relief works required were therefore fewer in number, and it was fortunately possible to start works of great public utility, which would have been started sooner or later even if there had been no famine, as desirable and remunerative projects. The Jhelum Canal will probably be started as a productive public works next year, and the work recently done on it will be all to the good. The Ghaggar Canals have been completed, and will soon be earning revenue, an area of over 6,000 acres having been actually irrigated since they were opened. In this province the real cost to the community of relief operations will therefore have been little more than the difference between the expenditure actually incurred and the value at ordinary or normal rates of the work done. This difference would undoubtedly have been much smaller than it actually is, with but little if any diminution in the extent of the relief afforded, if the works could have been carried out from the beginning either under the ordinary contract system, or by the method of departmental piece-work, as the workers would have done more for the wages actually paid them and the large amount distributed in the form either of cash doles or cooked rations to the dependants that flocked to the works would have been given to the working members of their families in exchange for more work done. It is in consequence of the fact that in the existing famine codes piece-work is not recognised as in accordance with famine relief principles that a great opportunity was lost of testing its efficiency as a means of relief in a province in which all the circumstances were exceptionally favourable.

14th October 1897.

T. HIGHAM.

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Notes of an inspection of famine relief works in the North-Western Provinces and Oudh, by Mr. T. Higham, C. I. E., on special duty.

Itinerary.

1. My tour in the North-Western Provinces commenced at Kirwi, in the Banda District, where I arrived from Jabalpur on the night of the 6th June, and where I met Mr. Cruickshank, Commissioner of the Allahabad Division, Mr. Ferard, Collector of Banda, and Mr. C. G. Palmer, Superintending Engineer, Famine Relief works. On the morning of the 7th we inspected the Diwangaghat Tank work, and a somewhat similar work was visited in the afternoon. On the morning of the 8th we visited the Gali tank, and in the evening went on by rail to Allahabad, inspecting *en route* the poor house and some petty village works at Manickpur. On the afternoon of the 9th I went to Jasra, accompanied by Mr. Fuller, Collector of Allahabad, Mr. Palmer, Mr. Sutherland, the Executive Engineer, Mr. Dupuis, Sub-Divisional Officer, and Mr. Meares, the Sectional Officer. We here inspected the work on three village tanks and a village circle camp. The 10th and 11th were spent in Allahabad, when Mr. Palmer gave me much information about the relief works. I left Allahabad on the night of the 11th by rail for Unao where I arrived the following morning, after being met by Colonel Pulford, R. E., Superintending Engineer at Cawnpur. We were met by Mr. Bruce, the Deputy Commissioner, who accompanied us in the afternoon to a large drainage cut that was being executed as a relief work on what is called the modified intermediate piece work system, which I saw here in operation for the first time. In the evening we went on to Lucknow, where I was the guest of the Commissioner, Mr Hardy. No works were inspected on the 13th which was Sunday, but on the following morning I went with Mr. Hardy and Colonel Pulford to the Machhi Bhawan, where a large and useful relief work was in progress. In the afternoon I drove with Colonel Pulford and the Executive Engineer, Mr. MacDowell, to the Chinhat tank, about 7 miles from Lucknow. The works at Machhi Bhawan and Chinhat were both being conducted on the "modified intermediate system" which is in force throughout the Lucknow Division, excepting the Hardoi District. Colonel Pulford and I left Lucknow by the night train for Sandila, in the last named district, and on the following morning inspected a relief camp on the Sandila-Mandwan road, about 8 miles out from Sandila Railway Station. This work was conducted on what is called the Code system, which was in force in Bundelkhand and South Allahabad. On our return we met the Collector of Hardoi at Sandila. We left in the evening for Lucknow, and on the evening of the 16th I revisited the Machhi Bhawan for the purpose of seeing payments carried out. On the following morning I left Lucknow for Gorakhpur, and arrived in the evening, accompanied by Mr. Heinig, the Superintending Engineer, who met me *en route*. I remained at Gorakhpur for two days as the guest of Dr. Hoey, the Collector.

On the 18th I met the Commissioner, Mr. Alexander, and the Executive Engineer, Mr. Holme; the latter explained to me the system of piece work in force in this and the Azamgarh District, and we visited a work in progress in Gorakhpur. On the morning of the 19th Dr. Hoey drove me out to the Amipur Nallah bunds works, which were being carried out on the Gorakhpur piece work system, and we met there the Commissioner and the Superintending and Executive Engineers. I left Gorakhpur in the evening of the same day for Bankipur, and so passed from the North-Western Provinces into Bengal.

Character of the relief works.

2. The relief works in the North-Western Provinces and Oudh consist principally of tank and road works. The former are of two kinds, the formation of a reservoir in hilly or uneven country by the construction of an embankment across the natural drainage line, and the construction or clearance of village tanks or ponds. Works of the former class are carried out in Bundelkhand, where the country is well adapted for them. Wherever they can be made, they strengthen the position of the adjacent villages, as a certain amount of irrigation can be effected from them, and a supply of water is impounded for

use of the cattle. The embankments form excellent relief works, as there is a long lead for the earthwork, and a high proportion of carriers to diggers can be effectively employed. Whatever advantages may be claimed for such work, they cannot, of course, be regarded as in any sense remunerative, and the indirect benefits derived from them, if expressed in money, would bear a very small proportion to the actual outlay incurred on them. They can only be regarded as works of improvement such as a liberal landlord might undertake for the benefit of his tenants after a year of unusual prosperity, but which Government would only be justified in undertaking in seasons of adversity, when its first care is to find employment for the labouring community. In the South Allahabad District, road works were at first started, but owing to a severe outbreak of cholera in March, it was decided to break up the large camps, and to draft the labourers in small companies to petty village relief works in the vicinity of their homes, and consisting principally in the excavation of new village tanks, or in the clearance and deepening of old ones.

A statement is appended shewing the number of road, tank and other works under the Public Works Department in each district and other particulars for the week ending, 27th February 1897, when the numbers were at a maximum. The numbers of workers in the seventh column include dependants in the districts officially recognized as distressed. From this it will be seen that there were 283 relief charges altogether, of which 214 were roads, 52 tanks, and 17 other works. Of these 283 charges 55 were test works in districts not officially declared as distressed, the particulars for these and the true relief works being as shewn below:—

Class of works.	Number of works.	Total number of works.	Average number on each charge.	Approximate area of affected taluks in square miles.	Average area in square miles covered by each charge.
Test works in districts not officially recognized as distressed.	55	75,201	1,367	15,426	281
Relief works in districts officially recognized as distressed.	228	1,235,048	5,417	33,843	148

The average number on each regular relief work was thus 5,417 of whom about 24 per cent. were dependants. The average area served by each charge in the distressed districts was 148 square miles, and if it be assumed that these districts were divided into a number of regular hexagons, each of this area, with a relief work in the centre of each hexagon, the maximum distance of any village from a relief work would be 7·5 miles, or the length of the semi-diagonal or side of the hexagon, while the distance between work and work would be 13 miles. Of course the distribution was not as regular as this, and the average distance of villages from works will probably have been nearer 10 than 7½ miles.

The new Fatehpur branch of the Ganges Canal, with its distributaries was in progress in the Cawnpur and Fatehpur districts, and work was carried on partly ordinary public works principles, and partly as relief works.

There were no large encampments on any of the works that I saw, as in Bombay, but a certain amount of shelter is provided for those who come from long distances, many of whom however find shelter in the neighbouring villages. When the village is not more than four or five miles distant, the workers generally return to their own homes of a night, but for greater distances they remain on or near the work.

3. The normal system of famine relief works in the North-Western Provinces and Oudh is that prescribed in the Local Government's Circular No. 18, Public Works Department, dated 5th December 1896, which has been briefly referred to in my notes on the Central Provinces,

The normal North-Western Provinces system of relief work.

where the same system has been followed with very slight modifications. It was generally referred to by the North-Western Provinces officers whom I met as the Code system, to distinguish it from other systems that have been more lately introduced in these Provinces, which will be presently referred to; but it differs so considerably from what is contemplated in the Famine Codes that it will be more convenient to call it the "original North-Western Provinces system."

I understand that it was formulated on the experience gained in 1896 on the relief works which it was then found necessary to institute in Bundelkhand. The essential features of the system are:—

(*a*) Class A is practically and class C absolutely abolished, all adult workers, with the exception of a very few who received special pay at A class rates as mates, water-carriers, etc., being classed either as B or D. There is a nominal classification in paragraph 35 of the Circular which has no reference to wages and which it is unnecessary to consider, the true or actual classification on which wages depend being as prescribed in paragraph 59. Under this classification all diggers are placed in class B and all carriers in class D. Under the Code, men in class B are entitled to 19 and women to 17 *chataks* of grain a day, but the circular allows only 16 *chataks* to a woman digger, who thus receives an allowance intermediate between that of a B and of a C woman under the Code. The difference is of slight importance as practically no woman digs. All women therefore and all men who are unable or unwilling to dig are placed in class D, and are entitled to the minimum or D wage, *viz.*, 14 *chataks* for a man, 13 for a woman. Working children are divided into two grades, grade I including children over 12 and under 16 years of age, and grade II those over 7 and under 12. The wage for grade I is 10 and for grade II 6 *chataks* of grain, although according to the North-Western Provinces Famine Code the maximum and minimum wages for working children are 15 and 10 *chataks*.

(*b*) The daily wage for each class is fixed at an aliquot number of pice, most closely approximating to the true value of the grain equivalents noted above in (*a*) at the current rate for calculating the cash equivalents. This rate is fixed by the Engineer in the first instance in consultation with the Collector and is not to be altered for variations of less than 10 per cent. in the price of food grains, and then only after previous reference to the Commissioner, except in cases of urgent necessity to be immediately reported. If the exact money equivalent of the grain wage exceeds the nearest aliquot number of pice below by two pie or more, the next highest aliquot number of pice is given, if the excess is less than two pice, the aliquot number of pice next below is given.

(*c*) A daily task is marked out for each digger, and a party of carriers is assigned to him. If the deficiency of work is slight, the digger only is fined, but if it is considerable, the digger and all adult carriers are fined, under the idea that the influence of the women, who are generally related to the carriers, will bring about a reformation.

4. From paragraph 3 (*a*) above it will be seen that the great majority of the adult workers receive the D or minimum wage, and also that all children are paid only the minimum wage. This deviation from the scale of individual wages prescribed in the North-Western Provinces Famine Code has been explained at some length in paragraphs 55 and 56 of the Circular, but it will suffice to quote here the latter part of paragraph 56.

Low wage for carriers and children.

"There are different scales of wages, and in making a selection several points have to be considered. Special care must be taken that the joint wages of a family, while

sufficient for subsistence, shall not be greater than unskilled labourers can earn elsewhere. Otherwise all labour will be attracted from other work on to the relief works. This result would be undesirable."

In further explanation of the system of classification and tasking adopted it is stated in paragraph 45 of the Circular that experience has shewn "that the fillers and carriers are far too numerous for the diggers."

"The people must, however, be taken as they come, and the diggers must be distributed in the proportion they happen to bear to the fillers and carriers." "Under the system of wages laid down in the Code a man's income is very greatly increased by bringing all his women and children on to the works. The Indian peasantry are very much alive to their own direct interests and there is no reason to suppose that there will ever be much difference in the proportion of men to women and children. As a rule, then, it is safe to omit all calculations as to lift and lead in any work done by famine labour under this system of wages."

This is a very clear statement of the case for the North-Western Provinces system, which has now been adopted with very slight modifications in the Central Provinces and Bengal. Briefly it may be said that many of the people who flock to the works can do nothing but carry, that the scarcity of diggers renders it impossible to give them fair carrying tasks or tasks that are often anything more than nominal, and that having regard to the members of each family that swarm to the works, the minimum wage is sufficient for all who cannot dig.

This argument, as thus stated, applies with full force only to earthwork. It may be stated somewhat differently for the collection of road metal, but in the North-Western Provinces there is comparatively very little of this form of relief work.

Scale of wages in terms of pice.

5. As regards (*b*) and (*c*) of paragraph 4 I have referred to the practice of pice wages in paragraph 9 of my notes on the Central Provinces. At the time of my tour the basis of conversion was 10 seers to the rupee in the Allahabad and 12 seers in the Lucknow Civil Division, and I give separately the scale of wages for full, short and very short tasks which I found in force in these two Divisions.

I.—Allahabad Division—basis, 10 seers to rupee. Full task 80 cubic feet.

Task done in cubic feet.	Mates.	Diggers.	Adult carriers.		Children.		Remarks.
			Men.	Women.	12—16.	7—12.	
	Pice.	Pice.	Pice.	Pice.	Pice.	Pice.	
Over 70	9	7	5	5	3	2	
Over 60, not over 70 ...	8	6	5	5	3	2	
Over 50, not over 60 ...	7	5	4*	4	3	2	
Under 50	6	4	3	3*	3	2	*Below dependant's wage which is: men 5 pice, women 4 pice.

For a full task or over 70 cubic feet the mate receives 2 pice more than the digger, or an A wage, and for all shorter tasks also 2 pice more than the digger.

For a full task the digger receives B wage, but for short work is paid gradually down to 4 pice, which is 1 pice below the D or minimum wage.

The men and women carriers receive the same pay all down the scale beginning with 5 pice or the D wage. Under the grain scale, the man is entitled to 14 and the woman to 13 *chataks*, but under the pice system and on a 10 seer basis their wages in pice are equal: this is an accident. It will be seen that the mate and digger only are fined when the task is not over 70 cubic feet, but when

it is not over 60 cubic feet the carriers are fined also, and their wages fall to 1 pice below the Code minimum, and in the case of men to 1 pice below the dependant's wage. For very short tasks the carriers are again fined, with the result that the wage is reduced to 3 pice, or 2 pice below the Code minimum for men. A task of less than 50 cubic feet is, however, very rare. Children are not fined; but, as already pointed out, the children of grade I receive the minimum Code wage for children, and children of grade II the equivalent of 6 *chataks* of grain, or on the 10 seer basis 1 pice less than the children's minimum according to the Code.

II.—Lucknow Division—basis, 12 seers to rupee. Full task 100 cubic feet.

Task done in cubic feet.	Diggers.	Adult carriers.		Children.		Remarks.
		Men.	Women.	12—16.	7—12.	
Full task of 100 ...	6	5	4	3	2	
Between 75 and 100...	5	5	4	3	2	
Between 50 and 75 ...	4*	4*	3*	2	1	*Penal or dependant's wage.

In this Division there is a slight difference in the management, and for special reasons the mates are paid separately (see paragraph 10 below). On the 12 seer basis there is a difference, as shewn, in the wage of the man and woman carrier. Here also the digger only is fined for a moderate short outturn of work, but when less than 75 per cent. of the task, the digger is fined two, and all carriers one pice. The orders of which I obtained a copy are thus worded, but I am not sure whether the children are fined. The scale does not provide for a task of less than 50 cubic feet, and the orders direct that in the rare case of so short a task special enquiry should be made and proper action taken accordingly.

Tasking the diggers.

6. I visited works conducted on this system at Kirwi in the Banda District and at Jasra in the Allahabad District of the Allahabad Division, and near Sandila in the Hardoi District of the Lucknow Division. As shewn in the preceding paragraph, the full task for diggers is ordinarily 80 cubic feet in the Allahabad Division, and 100 cubic feet in the Lucknow. This difference is fully accounted for by the difference in the soil. At the Diwanganghat tank, near Kirwi, the full task was as low as 60 cubic feet, and I was told that the average was not more than 45 cubic feet at this work, the soil being excessively hard. Mr. Palmer told me that he had for a long time been unable to get higher tasks than 60 cubic feet in Bundelkhand, but that the efficiency of the diggers had improved, and he had been able to raise the full task to 80 cubic feet. I consider this a light task, as the soil did not appear harder than that in the Central Provinces where the full task is 90 cubic feet.

The tasks are set out for each digger in such a way that he can clearly see what he has to do in order to complete a half, three quarters or full task. When the task is short in a few pits only, the workers in those pits are fined separately, but when there is short work in all pits, the reduction of wages is made on the whole gang. In the Lucknow Division payments and fines are in all cases made on the pit, unless the diggers in two or more pits combine, when the work done by them is all measured up together, and payment made according to the total.

7. In all the works visited by me fines were treated as reductions in the rate of pay, and were not shewn separately as deductions from pay at the full or normal rates. In the Allahabad Division there were orders that the latter course should be adopted, as showing more distinctly the amounts of the fines imposed, and Mr. Palmer told me that this was the practice in many parts of the Division, but it was not so on the works inspected.

Fines.

In the Lucknow Division fines are never separately shown as such, though the system of initial accounts adopted renders it an easy matter to ascertain the daily amount of the fines or deductions from normal pay. Thus at Sandila I found that the wages at normal rates for a full week was Rs. 1,774, the actual payments being Rs. 1,581, showing Rs. 193 as fines, or nearly 11 per cent. The average task during same period had been 75 per cent. of full task. The short payments were not however due entirely to fines, but partly to half-day absences. The question whether fines should be shown separately in the initial accounts or whether effect should be given to them by merely reducing the rates of pay is one that will be considered in my final report.

The rules for fining in both divisions are excellent. Leniency is enjoined at first, and in case of persistent default enquiry into its cause and the dismissal of the mate rather than continued fining; but otherwise a strict enforcement of the task, which is in all cases moderate.

8. The gang register in use in the Allahabad Division, and prescribed in the Circular No. 18, dated 5th December 1896, which has also been adopted in the Central Provinces, appears to me to be open to several objections. It does not show the details of the daily musters, but only an abstract, nor does it show the amount earned daily by and paid to each individual worker. Another great objection is that it has to be maintained in duplicate, one copy being used for each alternate day, so that the record on the work is not continuous. These are all matters of great importance in checking the musters and enquiring into complaints. In the Lucknow Division a greatly improved form of gang register and muster roll has been introduced, in which all these defects are remedied, and the system has also been adopted of giving a ticket to each worker when first brought on to the gang register, showing the number of his gang and his own number in it.

Gang Registers and Muster Rolls.

9. The officer in charge of the works is generally, as in the Central Provinces, a man of the position of a Naib Tahsildar or other employé in the Civil Department, whose services are placed at the disposal of the Superintending Engineer, by whom he is posted on the requisition of the Executive Engineer. He is the cashier and general supervisor on the spot, and is assisted by work agents or sub-overseers who set out the tasks and measure up the work, and by clerks or moharrirs, as in the Central Provinces. For every three or four charges there is appointed an Inspecting officer, of the upper subordinate class, whose duty it is to visit each charge in succession for the purpose of instructing and checking the work of the work agents, making necessary arrangements for tools and plant, assisting in aligning new work, and correcting all faults in organization, etc. The inspections of superior officers will be presently referred to.

Officer in charge of work and his establishment.

10. Payments are made in the North-Western Provinces daily, except on Sundays. The advantages and disadvantages of daily payments will be considered in my final report, and it will suffice to note here how they are in practice made. There is no independent cashier, as in Bombay or Madras, but, as in the Central Provinces, the payments are made through the gang moharrirs. In the Allahabad Division the system is the same as described in my notes on the Central Provinces, and detailed instructions for the daily routine have been drawn up by Mr. Palmer, the Superintending Engineer. In the Lucknow Division a somewhat different system is followed as the payments to each gang are made directly by

Payments.

the mate, who receives the exact amount required from the jemadar, an official corresponding to the moharrir in Allahabad Division and Central Provinces. The mates in Lucknow Division are a superior and more intelligent class than has been obtainable in Bundelkhand and they are paid a higher wage as works establishment, varying from Rs. 5 to 8, and not as daily labourers. The procedure followed will be best understood from the copy of the detailed instructions for payments which are appended to these notes. When I was at Lucknow, the Commissioner expressed the greatest satisfaction with the working of this system. On the morning of the 16th I revisited the Machhi Bhawan works at Lucknow with Colonel Pulford, for the purpose of seeing payments made. We went without notice and at 9-30 A.M. ordered all labour to be paid at once, or three hours before the ordinary time. At time of our arrival the sub-cashier was engaged in making up piles of two anna pieces and 1 pice. On the order being given for payment the jemadars came to the office and received as many of these piles as would cover the amounts to be paid by their mates. Each then counted out and put into a separate bag the exact amount due to each of his ten mates, in some cases having a mate to assist him. The diggers on this work each received 7 pice if he did a maximum task, as most of them did, and the practice was to put a two-anna piece into each bag for each digger, and the balance of the amount required in pice. The total amount in each bag was then written on a slip of paper which was put into the bag, and when all bags had been filled, the jemadar returned the balance of cash made over to him to the sub-cashier. When this had been done, the mates were summoned, and paraded in groups of ten outside the office. The jemadars then made over the bags to the mates, each of whom opened his bag, counted the money, and signed the slip inside, which was returned by him to the jemadar as his receipt. All this took about an hour, during which the labourers remained at work. The jemadars and mates then returned to the works, accompanied by the officer in charge, work agents, etc., and the signal was given for payments to be made. Each gang then repaired to its own flag, and the mates went round paying to each member the amount due. Each digger received a two anna piece giving one or two pice back as change, accordingly as he was entitled to seven or six pice and the other workers received the pice due to them. Amounts unclaimed were returned by the mates to the jemadars who returned them to office as arrears unpaid. The whole of the payments were completed in half an hour or by 11 A.M. There were over 2,000 labourers on this work, but the payments could have been made almost as quickly with 5,000, as there would have been a proportionate increase in the number of jemadars, mates, etc.; but of course the larger the attendance the less close is the supervision during time of payment that can be exercised by the officer in charge and his assistants. I do not think that this system can be improved on.

11. In addition to the workers must be considered the number of dependants who accompany them to the works. The proportion of these to the workers varies considerably; but from a statement prepared for me by Mr. Palmer I find that the total number of dependants during the 8 months ending May 1897 in the Allahabad Division (in which the North-Western Provinces system now under consideration is most extensively employed) amounted to 17,306,796 units, the number of workers during the same period being 71,289,165. The percentage of dependants on workers was over 24 per cent., which agrees very closely with the experience in Bombay and Central Provinces. Of this number 90 per cent. were children, $5\frac{1}{3}$ per cent. women, and $4\frac{1}{2}$ per cent. men. Under the North-Western Provinces Circular already quoted the male adult dependants are entitled to 12 and the female to 10 *chataks* of grain, the allowance for children not in arms and under seven being 3 *chataks*, while one pice is given to the mother for all infants in arms. Under Appendix E (2) of the North-Western Provinces Famine Code the allowance for children not in arms is 5 *chataks*.

Dependants and kitchens.

The cash wage for dependants under the North-Western Provinces circular is as follows—

Class.	Basis 10 seers to rupee.	Basis 12 seers to rupee.
	Pice.	Pice.
Adult males	5	4
Adult women	4	3
Children not in arms	1	1
Children in arms	1	1

In Bombay children not in arms received two pice, and, as shewn in paragraph 5 of my notes on that Presidency, the attendance was very high as long as cash wages were paid. In North-Western Provinces only one pice has been paid, but even with this low wage the attendance of small children has been very great. On many of the works, including those seen by me in the Banda District, kitchens have been introduced, and a ration is given in lieu of a cash wage, consisting of a "*khichari*" of rice and *mung dal* in the proportion 1 *chatak* of rice to ½ a *chatak* of *mung dal*, which makes 3 *chataks* of cooked food, one such meal being given in the morning and one in the evening. One *chatak* of ghi is added to every seer of raw material, and melted and mixed in with the "*khichari*" after it is cooked. Sometimes barley *suttu* is substituted for rice as a change, and for not more than two days in the week. Kitchens have not been started at every work where this North-Western Provinces system is in force, but only where they have been ordered by the Collector. On the smaller or village works in South Allahabad they have been considered unnecessary, and throughout the whole of the Hardoi District, where the North-Western Provinces task work system obtains, the children are not fed, but receive the pice wage. I understand that the feeding costs about 5 *pie* per head, and is thus more expensive to Government than the cash wage, as the numbers in attendance do not appear to have fallen off on the works where kitchens have been introduced. But here, as in other Provinces, it seems to be generally the opinion that if Government is to undertake the maintenance of dependant children, it should be in the form of a cooked ration and not of a daily wage, and, as might be expected, the condition of the children is much better on works where the former system has been adopted than on those on which the pice allowance is made.

Advantages and disadvantages of the original North-Western Provinces system of task work.

12. I have endeavoured in the preceding paragraphs to give a general idea of the essential and accidental features of the North-Western Provinces system of task work before considering its merits and disadvantages. It is in my opinion a far simpler and more workable system than that which has been contemplated in the Famine Code, and what is of great importance is much more easily understood by the people, especially when the payments are made daily in pice. Its chief drawback appears to me to be that it tends to perpetuate the evil of a want of diggers which has been put forward as the justification of the system. I have already said that I considered the digging tasks rather light, but nevertheless the digger is the hardest worked man in the gang, and as far as I could learn no one was particularly anxious to be classed as a digger. It is true that he nominally receives two pice a day more than a carrier, but, as will be seen from the wage tables in paragraph 5 *supra*, he alone of all the gang is fined when the task is short, but not very short, and as a general rule therefore he receives only

one pice more than the carrier and is inclined to grumble when he finds that he is the only man fined. Although an increased outturn on the part of the digger is the great desideratum, no encouragement is given to him to do more than the task, and however much he may do, he cannot receive more than the B wage, although this would be permissible under Section 108 (11) of the North-Western Provinces Famine Code. There is on the other hand a temptation to do less than the task. Referring again to the wage tables for Lucknow Division, in paragraph 5 *ante*, suppose that the digger completes a task of 75 instead of 100 cubic feet. He will lose one pice, but each of the carriers will receive the same wage in either case, although the carrying task will be reduced by 25 per cent when the digger does no more than 75 cubic feet. It is conceivable that by a mutual arrangement the carriers might agree to take turns in making up to the digger the pice that he loses by doing only a three-quarter task, so as to receive an easy task all round. I do not mean to say that this is done, but if we regard a party in a pit as all of one family (which is very often the case), with perhaps one or two dependants who are sure of their dole however short the task, it is obvious that the difference to the whole family when a three-quarter task is done in place of a full one is one pice only. As already noted in paragraph 7, I found that the average task done at Sandila was exactly 75 per cent of a full task. This average was struck on a whole week's work when the average daily attendance was 4,438 workers, the average number of diggers employed daily being 865. I did not go into this question as carefully on other works visited, but I think that on all, the task done was generally that which involved the fining of the digger only, and certainly full tasks were the exception.

The outturn of the diggers, or work for the carriers, might also be increased by putting on diggers capable of doing a reduced task. The custom is to have a uniform task for diggers, and this involves employing as diggers only able-bodied adults who are capable of doing a full task. It may be accepted that women should not be made to dig on task work, though I have seen many women diggers on piece work. But there are many weakly men employed as carriers who would be quite capable of digging a short task, and who might be so employed, still receiving a D wage. Two of such men might be given the full task between them, and although their joint wage would exceed that of a B digger doing the same work, it would be cheaper to employ them in this way than as carriers in excess of requirements. Similarly the ranks of the carriers might often be relieved of strong boys, between the ages of 12 and 16, who would be quite capable of doing half tasks. There will always be a difficulty in preventing the proportion of carriers to diggers becoming excessive. It is really part of the system that it should be high, so that the carriers' task may not exceed that which may be fairly imposed for a mere subsistence wage. But when a suitable proportion has been determined, the tendency is for it to be exceeded. The principle that "the people must be taken as they come, and the diggers must be distributed in the proportion they happen to bear to the fillers and carriers" may be carried too far. In many cases I found the proportion excessive, owing either to the non-attendance of diggers or to the accession of additional carriers, and no attempt had been made to rectify this even when some improvement was quite possible. This is of course the business of the sub-overseers of the work, who are not always intelligent enough to make the necessary adjustments; but I doubt if their attention has ever been very prominently directed to matters of this kind.

In spite of these criticisms of minor details I consider that this system has been suitable to the conditions obtaining throughout the late famine. Employment was freely offered to all who came, and in order to keep off those who had sufficient resources of their own, reliance was placed rather on a very low wage than on a high task. If the carrying tasks were in many cases lighter than they should be, they could not, on any works that I saw, be regarded as merely nominal, and although the people worked without much energy or spirit, they had enough to do to keep them actively moving throughout the working hours. The question however naturally arises whether it would not be better to restrict the numbers on the works to the more efficient members of the families that flock

to them, to give them fuller tasks, to pay them a higher wage, and to rely on their supporting therewith in their own homes all the less efficient and non-working members.

The old intermediate or special contract system.

13. This question which is one of the most important that can be raised in connection with the policy of relief works, has not escaped the attention of the Government of the North-Western Provinces, which, having led the way in the introduction of the simpler system of task work that has been described, proposed in its letter No. 417-S., dated 14th December, to the Secretary to the Government of India a further deviation from the strict orders of the Famine Code, in the form of a system of piecework, intermediate between the ordinary system of contract in the Public Works Department and the Famine Code system of task work. It was proposed that work should not be given out to regular contractors, or to men of the Chuprassie class or relatives of petty officials, but rather to piece-workers or gangers, such as village *pattidars*, employing not more than 200 persons. The gangers would be required to reside on the works and deal directly with the workers, who under such headmen would be in a position to insist on a fixed proportion of the rate being paid to them. In giving out the works the wages (*i.e.*, the rate) to be paid to the workers was to be specified, and it was considered that ordinarily 20 per cent. of the rate would be a sufficient remuneration to the piece-worker for his own labour, interest on capital, and incidental expenses, such as baskets and perishable stores. No piece-worker was to be allowed to execute work to the value of more than Rs. 1,000 per mensem, while any one who could not do work to the value of Rs. 150 in a month was to be discharged. The rates to be paid were to be the ordinary contract rates, enhanced, in view of the high price of food by 25 to, in particular cases, 50 per cent., *i.e.*, from Rs. 2 per 1,000 cubic feet of earthwork to Rs. 2-8-0 or Rs. 3. The system was not to be introduced into nine specified districts where acute distress existed, and in which the Code rules were to be strictly followed.

This system has been called the *Intermediate* system, but to avoid confusion with a system more lately established I propose to call it the "special contract system." It differed from the ordinary system of petty contract essentially in this, that the piece-worker or contractor was to pay his workers at a definite rate on the quantities of work done, and for which he himself received payment, he retaining for his services, etc., the difference between the amount paid to his workers at this rate, and the amount that he would receive from Government at a rate 20 per cent. higher. These proposals were heartily approved by the Governor General in Council, as intimated in Government of India letter No. 255-F., dated 16th January 1897.

Special contract system in practice.

14. This system does not appear to have had a very extended trial, and at the time of my visit had been altogether abolished in favour of a later modification which will be presently described. I understood that it had been introduced only in the Faizabad, Barabanki and Gorakhpur districts, and in one or two others in which distress had not reached an acute stage. It was found that men of the class of village *pattidars* would not come forward as piece-workers or gangers, and in practice the work was given out to regular contractors, but subject to the essential condition that the workers should be paid at a definite rate per 100 cubic feet of work measured up. The system thus resembles that which has been proposed in the Central Provinces, and referred to in paragraph 11 of my notes on those Provinces. In the Faizabad and Barabanki districts works were thus given out to a well known and capable local contractor, Durga Singh, whom I had an opportunity of meeting when at Lucknow. He told me that he employed 7,000 workers in Faizabad, 4,000 in Barabanki, and more men in other districts. He was paid at the rate of Rs. 3-0-0 per 1,000, and undertook to pay Rs. 2-8-0 per 1,000 or 4 annas per 100 to the workers, the lead being 50 feet and the lift 2 feet. The general proportion of men on the works were 40 per cent., women and children together amounting to 60 per cent. The total profit made by him on these works amounted to Rs. 1,500,

and was paid by him as a donation into the Famine Relief Fund. The rate paid to the workers was not sufficient for subsistence in the case of the weaker workers. He was willing to continue taking such contracts, but Government decided to abolish the system. Test works were for a short time carried out on a similar system in parts of the Gorakhpur district not officially recognized as distressed; but here the rate paid to the workers was $2\frac{1}{2}$ annas per 100 cubic feet only, or Rs. 1-9-0 per 1,000, the contractors receiving Rs. 2-7-0, and being required to carry out the dressing and breaking of clods (estimated at 8 annas per 1,000) out of the margin, and to supply the necessary tools and baskets.

The reasons assigned for the discontinuance of this system was that only the strongest workers could earn a living wage at the rates paid them, and that they were often unwilling to admit weak individuals into the gangs, while the contractor could not be expected to entertain more of them than were required for dressing and other light work. This is the great difficulty that presents itself in all forms of true piece-work; but even if it could have been met in any way by supplementary arrangements, some hesitation was probably felt at the idea of extending a system which threw so much into the hands of middlemen, and depended so much on their integrity and capacity.

Modified intermediate system.

15. This system was soon superseded under the orders contained in a Resolution of the Government of the North-Western Provinces, No. $\frac{753}{S-73}$, dated 16th March 1897, by what has since been called the "modified intermediate system." The following is an extract from the Resolution:—

"Under this modified system no contractor or middleman is employed. The work is laid out, supervised, and measured, and payments are made by Government officials; and tools, where necessary, are supplied by Government. But the work will continue to be treated and paid as piece work, not as task work under the Famine Code. No dependants will be recognized, and the payments will be in accordance with the amount of work actually done."

"The rates and tasks will be so graduated as to enable an ordinary labourer or family of labourers to earn what the average family now earns in the shape of both wages and gratuitous doles (to dependants) combined. The discontinuance of Sunday labour makes it necessary to arrange for labourers earning in week days enough to provide for themselves and dependants on Sundays also."

The system upon which payment is to be made for this piece-work and the rates to be paid are set forth in paragraphs 4 and 5 of the Resolution, and in a table appended thereto. The system about to be described follows so closely these instructions that it is unnecessary to repeat them here. I would observe however that they refer to a task to be given to a party of workers (100 cubic feet in ordinary soil) which is called indifferently a "full" and an "ordinary" task and to a higher task, carrying a higher wage, which is called indifferently a "full" "and a maximum" task. As the former of these tasks must be compared with what has been called the full task in describing the original North-Western Provinces task work system, it will save confusion to refer to it hereafter as the *full* task, and to call the higher task the *maximum* task, so that for the words "ordinary" and "full" in the table appended to the Resolution, the words "full" and "maximum" should be substituted respectively.

Modified intermediate system in practice.

16. I saw no works on the modified intermediate system in the Allahabad Division, but Mr. Palmer told me that it was in force in the northern part of the Allahabad District and in Fattehpur and Cawnpur; that is to say, in parts where the distress was not very acute and where the grain rate is 12 seers to the rupee. He also gave me a table of the wages paid under this system which is identical with that which I found in force in the Lucknow Division. It will be sufficient

therefore to consider this in comparison with the table (II) of wages in the same Division given in paragraph 5 of these notes.

Task in cubic feet.			NORTH-WESTERN PROVINCES TASK WORK.			MODIFIED INTERMEDIATE.		
			Diggers.	CARRIERS.		Diggers.	CARRIERS.	
				Men.	Women.		Men.	Women.
			Pice.	Pice.	Pice.	Pice.	Pice.	Pice.
Maximum	...	125	...	...	...	(a) 7	(c) 5	5
Full ...	...	100	(b) 6	(c) 5	(c) 4	(b) 6	(d) 4	(c) 4
Three quarter task		75	(c) 5	(c) 5	(c) 4	(c) 5	(e) 3	(d) 3
Half task	...	50	(d) 4	(d) 4	(d) 3	(e) 3	(f) 2	(e) 2

(a) Code A wage.
(b) Code B wage.
(c) D or minimum wage.
(d) Dependant's or penal wage.
(e) One pice below penal wage.
(f) Two pice below penal wage.

A pit is given to a working party consisting ordinarily, or for road work with a lead not exceeding 50 feet, of one digger and two carriers, and if the full or 100 cubic feet task is completed, the digger receives 6 and each of the carriers 4 pice, making 14 pice or $3\frac{1}{2}$ annas in all. If either carrier is a male, the wage received by him is one pice less than under the regular North-Western Provinces task work system, or one pice below the minimum or D wage. If only a three-quarter task is done the carriers are fined as well as the digger, and not the digger only as in the original North-Western Provinces system, and it will be seen that a male carrier is fined down to one pice below the dependant's or penal wage, and a woman down to the penal wage of her sex. If less than a three-quarter task is done every worker is again fined a pice, the digger and a woman carrier getting one pice, and a man carrier two pice less than the penal wage, or than would be received under the North-Western Provinces task work system.

So far therefore the workers are much worse off under the new than under the old system, more especially as I understand that in practice less margin is allowed under the former, *i.e.*, a task of 95 cubic feet would be regarded as a three quarter task, whereas under the old system it would generally be taken as a full one. But under the modified system the workers are allowed to earn a higher wage than under the North-Western Provinces system on performance of a fuller or maximum task, (125 cubic feet), when the digger receives what under the Code would be an A, and a woman carrier a C wage. The male carrier, who receives less than a D wage for the full, gets that wage for a maximum task, but this is no more than he gets for a full task on the original system. All but the male carrier can earn a higher wage than under the North-Western Provinces system, but there is no minimum wage, for if there is, it does not exceed the amounts shewn on the last line of the table. It is said that the half task of 50 cubic feet is always done, and there are no orders as to what wage should be fixed when this is not the case.

Both systems contravene sections 92 and 93 of the North-Western Provinces Famine Code, under which in cases of short work the daily payment must not fall short of the D or minimum wage. Under the North-Western Provinces system the limit is generally the dependant's or penal wage, and under the modified system it may be one or even two pice below this. The terms of the Government Resolution referred to hardly cover this abolition or lowering of a minimum limit, as the case of short tasks is not considered, but the scale of wages is proportionate to the work done, and this was the obvious intention of the Resolution, the

basis of the wage table being that work was to be paid for by the piece at the rate, for the soil and lead under consideration, of $3\frac{1}{2}$ annas per 100 cubic feet. As a matter of practical convenience and to avoid pies and complicated calculations the piece is measured in units of 25 cubic feet and the payments are made in aliquot number of pice; but the principle of the wage table is that payments shall be made in strict proportion to the work done, and in this sense the system may be called a system of piece work. It may be added that for longer leads than 50 feet additional carriers are added, who receive the carriers' wage, the extra wages thus paid being tantamount to an increase of the rate per 100 cubic feet; but the payments are still in proportion to the work done.

Modified intermediate is not piece work and is less favourable to the worker than the North Western Provinces system of task work.

17. It is obvious however that the system is not piece work of the kind contemplated in the extracts from the Resolution of the Government of the North-Western Provinces, which have been quoted in paragraph 15 above, under which the working members of a family shall have an opportunity of earning enough to support the non-working members. It will be seen from the table in the preceding paragraph that by great industry a family of three may earn 18 pice a week more under this system than under the North-Western Provinces system; but this is very little more than would be paid to them under the latter as the Sunday wage, and out of the margin of 3 or 4 pice they are expected to maintain for seven days the dependants of the family, both adult and children, who under the North-Western Provinces system receive a subsistence wage. On the other hand, if they fail to complete a maximum task, and still more so if they fail to complete a three quarter task their weekly earnings are very much less than under the North-Western Provinces system.

The idea that workers under the modified system could earn enough to support the non-working children has in fact been given up, and kitchens had been established for the latter on all the works visited by me, and may, I understand, be introduced wherever considered necessary by the Divisional Officers. Nothing is done however for the adult dependants, but on other works these seldom form more than $2\frac{1}{2}$ per cent of the number of workers.

Disposal of superfluous carriers and feeble persons.

18. The intermediate system does not solve the difficulty incidental to all systems of paying by results which is caused by the presence on the works of many who are unable by their own labour to earn a living wage, nor does it render it any easier to find work for carriers when diggers are scarce. In the latest instructions issued by the Superintending Engineer I find the following:—

"Ordinarily it will be found that the proportion of carriers above described will be sufficient to meet the numbers seeking employment on this class of work. When however more women and children come for work than can be employed in the sanctioned proportions, one extra carrier to each digger may be allotted at the usual rate. No one asking for work and willing to earn a day's wage should be refused employment."

Such an order as this is probably necessary, but the introduction of superfluous carriers involves an increase in the amount paid with no corresponding increase in the quantity of work done, and the work then is no longer piece work in any sense.

As regards feebles who are clearly unable to earn a living at piece work task, special gangs have been formed in cases which are either untasked, or are set lighter tasks than the able-bodied, but are paid at the same rates if their tasks are accomplished. This plan had been adopted at Machhi Bhawan.

Modified intermediate system is but an improved form of task work.

19. This modified intermediate system is generally referred to as piece work, but I think that for the reasons given above it may more properly be regarded as a development and improvement of the North-Western Provinces system of task-work which it very closely resembles. It is in effect nothing but task work with a higher maximum and a lower minimum wage than had previously been allowed, though the maximum is not higher than allowed by the code to workers of the

A and C class. It very closely resembles the system contemplated in the Famine Code, only instead of an arbitrary *a priori* classification of workers, before they are set to work, into the four classes A, B, C and D, all men who say they can dig are put into class B, and all others into class D, and they are given an opportunity of earning the wages of class A and class C respectively by performing the maximum task. The essential difference is that there is no minimum wage or a very low one, but even this is permissible under the Codes of some Provinces (*e.g.*, section 79 of the Bombay Code) though not under section 92 and 93 of the North-Western Provinces Code. On the whole it is much less favourable to the workers than the original North-Western Provinces system. It must however be remembered that it has only been introduced into Districts where distress was not acute and the conditions of employment were intentionally made more stringent.

20. I visited three different works conducted under this system, and was struck by the great difference in the *morale* or spirit of the workers as compared with that seen on the works under the North-Western Provinces system. At two of them the maximum task was almost invariably accomplished, while in the third, to which I shall refer at greater length presently, an attempt to work it had been steadily maintained, which was not successful because owing to the hardness of the soil the task was perhaps a little too high. But in all the workers were working with spirit and energy and the contrast was very great with what I had seen on the works under the older system. It was somewhat difficult to account for the difference, for whereas on the latter works the prospects of losing a pice did not appear to stimulate the workers to doing a full task, on the former the prospect of earning an additional pice made them active and energetic. No doubt the difference is partly due to the fact that the distress was generally less acute in one case than the other, and that the people were in better heart. But I think a more potent reason will be found in comparing the wage tables that I have placed side by side in paragraph 16. It has been already found out how the digger only suffered under the North-West Provinces system where but a three-quarters task was done, but under the modified system the whole party suffers, and the influence of the carriers, who are mostly women, is brought to bear on the diggers. The same influence is at work under the stimulus afforded by the prospect of earning the maximum wage, the difference between the wage for a 75 and 125 per cent task being two pice for every member of the party.

Advantages of the modified intermediate system.

21. Having now shown the strong points of the modified system, I will venture to call attention to what appear to me to be its defects. There is a great want of elasticity about it. It is considered essential that the tasks set for each party should be uniform, and the parties have to be adapted to the task instead of the task to the party, which involves the breaking up of family groups. The system of tasking by the pit which is followed is therefore by accident only a system of tasking by the family. The advantage claimed for the pit system is that each party is paid according to its own work, and does not suffer for the idleness of others. This is no doubt an advantage, and the officers in the North-West Provinces have devoted great care and attention to the organization of this system which cannot be too cordially acknowledged, and have proved that tasking by the party (consisting often of only three individuals) and daily payment to each individual direct is at least practicable. But there are disadvantages. A larger establishment of mates and muharrirs or jemadars is required, and the extra cost thereof is the least of the evils involved in increasing this class of establishment. The system may be necessary in some cases, but paternal administration of this kind is inelastic and somewhat demoralizing. I noted that in several cases three or four out of a gang of 10 diggers had of their own accord clubbed their pits, and when the gangs are as small as in the Lucknow Division, consisting only of 10 diggers, tasking by the gang should be possible. Under the party system the occasional absence of one of the party causes difficulties which would be minimised if the gang were dealt with as the unit.

Disadvantages of modified intermediate system.

The task is regulated by the number of diggers in the pit or gang, and all others are obliged to carry. At Unao I observed a gang of 10 diggers and 30 carriers in which the average task per digger over a period of 11 days had been 105 cubic feet per diem. They had evidently been trying their hardest to work up to 125 cubic feet, but the soil was too hard. If however one of the carriers in each pit had been allowed an extra *phaorah*, and to spend part of the day in digging 20 cubic feet, there would probably have been no difficulty in working up to the 125 cubic feet, and this is no doubt what would have been done if the work had been carried out as true piece work, without arbitrary distinctions between digger and carrier. But it would have been easier still if the gang had been tasked as the whole. Ten diggers would have been allowed, but the gang, if free to do so, would have put two of the ablest carriers on to the digging, and so completed the full task of 1,250 cubic feet which would have been carried by the remaining 28 carriers.

22. The Commissioner of Lucknow and Colonel Pulford both expressed an opinion that the modified intermediate system could not safely be introduced in the Districts where distress was most acute. The difference between the original North-Western Provinces and the modified intermediate system is however one of degree more than of kind, and I do not see why the latter could not be adopted in all districts with some slight modifications. Under it the non-working children are now fed, and the full task is the same for the same wage under both systems. The only disadvantage to which the worker is put under the intermediate system is that he loses the Sunday wage, that he has to support his own adult dependants, and that in the case of short tasks he is liable to fines that will reduce his wage below the penal or dependant allowance. In cases in which it was necessary it would however always be possible to grant the Sunday wage and the dole to adult dependants, just as it has been possible to permit kitchens for dependant children as an adjunct of the intermediate system. As regards fines it would always be possible to adopt a wage table in which the wages for short tasks should not fall below any assigned limit, but in which a wage higher than the normal would be allowed for a maximum task, which is the best point in the intermediate system, and all in favour of the worker. I do not however mean to suggest that this minimum limit would be desirable. In my opinion judgment and discretion in the imposition of fines or in reductions of wage are of far greater importance than a minimum wage. The proportioning of the wage to the amount of the completed task which takes place under the intermediate system, contravenes, as said before, paragraphs 92 and 93 of the North-Western Provinces Famine Code, but is permissible under section 79 of the Bombay Code and is recommended by many experienced Famine officers. In districts where distress is very acute and the people very enfeebled it would be better to reduce the task than to fix a minimum wage, but as it is the principle to open relief works before the people become enfeebled, it would seem that what is wanted in districts in which distress is most acute is a greater number or an earlier opening of relief works rather than a relaxation of the conditions under which employment is offered. For these reasons I consider that the modified intermediate system, with some slight improvements perhaps in respect of the point noted in paragraph 21, might very well be adopted in supersession of the original North-Western Provinces system, of which it is but a more highly systematised form.

Applicability of modified intermediate system to tracts in which distress is acute.

I may add here that the two systems run so closely on the same lines that the forms of initial accounts, method of payment and other details of management already described in paragraphs 6 to 10 of these notes are practically common to both, so that it is unnecessary to refer to them further.

23. I have now described three different systems of relief work in force in the North-Western Provinces, *viz.*, the original North-Western Provinces system, the old intermediate or special contract system, and the modified intermediate system. After leaving the Lucknow Division I found a fourth system in force in

Piece work in Gorakhpur.

the Gorakhpur Division which was one of true piece work. This system had been worked out by the Executive Engineer (Mr. Holme) in communication with the Commissioner, (Mr. Alexander) and in general conformity with the instructions contained in the North-Western Provinces Resolution No. $\frac{753}{S.-73}$, dated 16th March 1897, though apparently without reference to those contained in the table appended to that Resolution, with the result that instead of paying individual workers a daily wage according to the task done, payments are made to the digger only at a fixed rate per 100 cubic feet outturned, and the amount is distributed by him between himself and the carriers, who are usually members of the same family. The daily task is limited to 125 cubic feet.

Relief works were opened in the Gorakhpur District about the middle of January, on the original North-Western Provinces system; but in some parts not officially recognized as distressed the special contract system was tried on test works, as already stated in paragraph 14 of these notes. The attendance on the works fell off during the month of March owing to harvest operations, and as the *rabi* had been a good one, it was decided to discontinue working on the original North-Western Provinces system and to introduce the new piece work system throughout the district at the end of March, as labourers were returning from their harvests.

Description of the Gorakhpur system.

24. The system may now be briefly described. The digger brings his own carriers, generally members of his family, and is paid for the work done at the rate of 3 annas per 100 cubic feet, up to a limit of 125 cubic feet. The wages paid in Lucknow Division corresponded to a rate of $3\frac{1}{2}$ annas per hundred, but the soil is softer in Gorakhpur, and it has been found in practice that a man seldom brings more than one carrier with him for a short level of 50 feet, to which this rate applies. For the harder soils a rate of $3\frac{1}{2}$ annas per hundred is allowed, and when the level exceeds 50 or the lift exceeds 5 feet, an extra rate is allowed. On the Amipur Road I found that one anna per 100 cubic feet was being paid for every extra chain of lead. The rates include rough dressing and the breaking of clods, but for finished dressing a rate of Rs. 1-3 is paid per 100 running feet of road, which includes the dressing of the top width of 24 feet and of the two side slopes.

The work set out for each digger is equal to 900 cubic feet or roughly seven maximum daily tasks. When the task is given out to him, he is supplied with a ticket, a counterfoil of which remains with the sub-overseer, on the face of which is written his name, the date he comes on to the work, the number of the chain given to him, and the rate per hundred cubic feet to be paid. Measurements are recorded daily by the sub-overseer in a regular measurement book, and payments are made at noon of the following day, the measurements and amounts paid being noted on the back of the ticket, which lasts till the task is complete. The payments are made to the digger only who pays his own carriers, generally members of his own family. Women very frequently dig, and make up gangs and parties of their own sex. No mates are employed for mustering and one jemadar on Rs. 12 a month with three or four mates is found to be sufficient for the supervision of 500 workers. A nominal muster roll of diggers is kept up, and the number of men, women and children working with each is shewn daily for purposes of the returns, but their names are not entered. The village from which each digger comes is also noted. When the aged or feeble have applied for work, it has been possible to give them light dressing work. There are no kitchens, nor is anything paid to dependants in the Gorakhpur District, but I understand that non-working children are fed in the adjoining Azamgarh District, where the same system is in force.

Work on the Amipur Nallah.

25. The principal work which I saw conducted on this system was a road embankment near the Amipur Nallah, where earth was being carried for a mean lead of 900 feet. There was therefore a scarcity, and not, as usual, a dearth of carriers, but under the piecework system the workers adapted themselves to these abnormal conditions. The number of units employed during a period of five days was as follows:

3,742	men.
4,151	women.
1,287	children.
9,180	

The number of diggers was 1,736, and the work done per digger amounted to only 60 cubic feet, or not half a maximum task. This was because more than this could not be carried away. The diggers spent a good part of their time in carrying, or else weakly persons were put on to dig, and the strong men carried. I saw several women digging on this work. The carriers did a very full task, each carrying 14 cubic feet over a lead of 900 feet, or 126 cubic feet for one chain. In some of the pits 120 to 124 cubic feet were excavated per digger, but carriers were then in proportion of 8 to 1. The carriers were not above the average type of cooly as seen on famine works, and the weight of an average basket full of earth did not exceed 15 seers. At the rates paid the amount earned by each worker would have averaged about one anna five pie, and this was well earned. Some of the workers came from a village 22 miles off, and a great many from villages 12 or 15 miles distant, and generally brought their non-working children with them, although there was no kitchen or dole for them.

Remarks on the Gorakhpur system.

26. The Commissioner gave me the following figures shewing the average wage paid per unit relieved on the Rudrapur-Gola Road:—

Period.	System.	Units relieved.	Wages paid.	Rate per unit.
		Number.	Rs.	A. P.
28th December to 4th February ...	Old Intermediate	14,831	1,567	1 8
28th January to 10th April ...	Old North-Western Provinces task work.	225,016	16,376	1 2
10th April to 15th May	Piece work	61,964	5,175	1 4
	TOTAL ...	301,811	23,118	1 2

The payments under old intermediate appear to have included the contractor's profit. The payments under the North-Western Provinces task work system included the Sunday wage, and allowing for this the rate per working day would have been Rs. 0-1-4, or exactly the same as under the piece work system. The units under the piece work system included however a far higher proportion of men, as will be seen from the following table in which the total number of workers and dependants throughout the Gorakhpur District for the weeks ending 27th February and 12th June are given.

Distribution of workers.	Week ending 27th February. Task work.	Week ending 12th June. Piece work.
Men	80,575	39,164
Women	65,546	27,915
Children	63,811	10,561
Total workers ...	219,932	77,640
Dependants	2,089	...
Children	35,262	...
GRAND TOTAL ...	257,283	77,640

The rate per *male unit* was therefore very much lower under the piece work system than with task work, while there was a greater increase in the quantity of work outturned. In the month of February the average task per worker was 18 cubic feet, in the month of May it had risen to 38 cubic feet.

The table last given is interesting as indicating that one effect of the introduction of piece work has been a notable increase in the proportion of men and a great decrease in the proportion of children. It is the general experience that with task work the men stop at home and send the women and children to get what they can on the works; but it would seem that when payments are made by results the men are willing to come forward, and leave the women and children to do the home work. I should mention that Mr. Holme gave me the result of a census which he had recently taken on all works in the Gorakhpur Provincial Division, from which it appeared that out of 6,895 diggers 1,105 were Luniahs, and it is for the purpose of not making the work too attractive to men of this class that the task has been limited to 125 cubic feet per diem. The average outturn per digger in the month of April was 96 and in May 112 cubic feet.

The Commissioner and the Executive Engineer both considered that the results of introducing piece work were very satisfactory. The advantages of the system are so obvious that it is unnecessary to state them here. It may of course be said that the system would be inapplicable when distress is very acute and almost the whole of the labouring population come on to the works, but both before and after this stage is reached there must be a stage intermediate between it and that at which no relief works of any kind are required, and for this intermediate stage at least piece work of the kind described appears to be eminently suitable.

Collection of road metal.

27. I have now described four different systems of relief work which have been tried in the North-Western Provinces period. The case of ordinary earthwork only has been considered because almost all the relief works in the North-Western Provinces are of this class, but each system can of course be adapted to other classes of work. I have obtained from Mr. Palmer a carefully drawn-up Circular containing detailed instructions for the organization of gangs on the modified intermediate system for the collection and breaking of road metalling, which has been one of the principal forms of relief work in Bombay, Madras, and the Central Provinces, and which will be a very useful form in the North-Western Provinces if relief works have to be continued through the rains. The plan proposed is that the ablest-bodied men are to be employed in getting and sizing the stone from the quarries and to be classed as B, receiving a B wage for full task. All other men and all women will be employed as breakers and classed and paid as D, so as to correspond with the carriers on earth-work. Children will be employed partly on breaking, and partly in carrying spawls to the work. The outturn of the breakers will depend on the hardness of the stone, but the instructions are that the gangs should be so constituted as to turn out ordinarily about 160 cubic feet, the number of breakers being fixed with reference to the hardness of the stone. The wage table is then made up as follows, on the 12 seer basis:—

Task in cubic feet.	Mates.	Getters.	Breakers.		Children.	
			Men.	Women.	12—16.	7—12.
	Pice.	Pice.	Pice.	Pice.	Pice.	Pice.
Maximum; over 180	8	7	6	5	3	2
Full 140 to 180	8	6	5	4	3	2
Short 100 to 140	7	5	4	3	3	2
Very short 60 to 100	6	4	3	2	2	1

If the quantity is under 60 cubic feet the stone is to be kept over for next day's work and no wages given, even when work is stopped by heavy rain. This practically abolishes altogether the minimum wage.

The instructions do not state clearly whether the workers are to be paid according to the outturn of the gang as a whole, or by that of sections, but it would in many cases be difficult to divide the gang into sections, as the getters do not always work independently.

Actual cost of work done.

28. As regards the actual cost of work done I find that during the eight months ending May 1897 over 640 millions of cubic feet of earthwork had been executed in the 7 districts constituting the Allahabad Division at an average rate of Rs. 7·95 per 1,000. This is exclusive of payments to dependants and miscellaneous items, but is the average rate deduced from workers' wages.

The rates varied for different districts, as in margin, and depended very much on the character of the works. In the Bundelkhand districts many of the works consisted of tank embankments, where the soil was very hard and the lead very long, but the works are so numerous and various that it is impossible to give any idea at present of the rates which the cost bears to the actual value of work done.

	Rs.
Allahabad	7·88
Cawnpur	7·48
Fatehpur	4·31
Banda	8·88
Jalaun	6·44
Hamirpur	9·44
Jhansi, excluding Lalitpur ...	11·19
Lalitpur subdivision ...	7·21

The efficiency of the relief work must not however be considered only with reference to the value of the work done, but account should also be taken of the cost of relief per unit attending the works. The following figures relating to the operations in the same seven districts and for the same period of time, *viz.*, eight months ending May 1897 will be interesting:—

Workers employed (one day units).

Men	22,206,433
Women	29,642,983
Children	19,439,749
Total workers ...	71,289,165
Total dependants ...	17,306,796

	Rs.
Amount paid in wages	52,18,685
Gratuitous relief of dependants	3,92,120
Miscellaneous expenses	4,64,030
Total outlay ...	60,74,835

Whence—

	Rs. A. P.
Average wage per worker unit	0 1 2
Average wage per dependant unit	0 0 4½
Average wage per unit of workers and dependants ...	0 1 0

Percentages of total outlay.

Workers' wages	85·9
Gratuitous relief	6·5
Miscellaneous expenses	7·6

The average wage per unit relieved, that is, workers and dependants, was tolerably constant, varying from 12·8 pies in the Allahabad to 11·65 pies in the Banda District, the exact average for all districts being 12·16 pies.

The average rate per dependant unit is low as for the greater part of the period the non-working children received only one pice. Had kitchens been established all the time, the dependant rate would have averaged about 2 pice.

The miscellaneous expenses include all work charged: establishment, expenditure, other relief labour on conservancy and water arrangements, hutting, baskets, etc.

The cost of all earthwork, excluding charges for gratuitous relief and miscellaneous expenses in the Gorakhpur and Azamgarh Districts during the month of February 1897 has been reported as averaging Rs. 3-11-11 and Rs. 3-2-8 per thousand; and with the introduction of the piece work system this rate has probably been since reduced. The wage per working unit as shewn in paragraph 26 agreed closely with that in the Allahabad Division. The earthwork rates in the Lucknow Division are intermediate between those of the Gorakhpur and Allahabad Divisions. The causes of high rates are hard soil, great length of lead, payments under the older North-Western Provinces system with but slight reference to results, acute distress, and a high price of grain. These causes all existed in the Allahabad Division to a greater extent than in the Lucknow Division, and in Lucknow to a greater extent than in Gorakhpur.

Interference with supply of labour for private enterprise.

29. As regards the extent to which famine relief works have interfered with the supply of labour for private enterprise I had an opportunity of discussing the subject at Gorakhpur with Mr. Neville and Mr. Edwards, the Assistant Agent and District Engineer of the Bengal and North-Western Railway Company. Mr Izat, the Agent, was not at Gorakhpur at the time of my visit, but Mr. Neville has stated the difficulties which the Company has experienced in procuring labour since relief works have been in progress in two demi-official letters from which I make the following extracts:—

"As regards railway work in the Gorakhpur District the average rate paid under ordinary conditions for earthwork in banks does not exceed Rs. 1-12-0 per 1,000 cubic feet for banks up to 5 feet in height, and above that an additional rate of one anna per foot is fixed. These rates cover lead, as the side widths are laid out in a fixed relation to the heights.

In sandy soil we have been able to get low banks thrown up at Rs. 1-8-0 per thousand.

Last year the Bhatni-Turtipur branch was done at the above rates, and the works on the Salimpur-Burhaj Branch were started on them, and progressed fairly well till March, when labour deserted. The cause of this desertion has been attributed to certain famine works which were started a few miles to the west. The work was left standing till the end of May, nor has it been possible to resume it with a lower initial rate than two rupees and at that rate labour is scarce. Difficulty has also been experienced as regards labour for the open line in the district.

The contractors are petty contractors or local zemindars.

Mr. Edwards, from whom I have the above information, also tells me that during the *rabi* harvest labour difficulties only last as a rule about ten days.

There has also been difficulty in obtaining skilled labour this year, especially bricklayers.

I understand that in Chupra there is plenty of labour to be obtained this year although there are heavy famine relief works in the district, but the contractors require an initial rate of Rs. 1-14-0 which is slightly higher than usual. Labour has, I understand, been imported on a considerable scale from the Chupra District for the Ganges-Gogra-Doab and Hajipur-Katihar lines.

As regards the former the schedule rates on which earthwork was started were Rs. 1-8-0 per thousand in ordinary soil for banks up to four feet in height, and one anna extra for banks over four feet. These rates had to be increased last March, when it was found that sufficient labour was not attracted by them, and the present rates are Rs. 2 per 1,000 in the Ballia District and Rs. 1-12-0 in the Azamgarh District where local labour is more plentiful. The enhanced rates have as a rule proved sufficient to attract labour, but

for more heavy banking in Turtipur station yard coolies had to be imported from Chupra. These for the most part deserted after a few days, and generally throughout the line there has been considerable difficulty in keeping labour on the works. The difficulties experienced this season are attributed chiefly to the unusually large emigration of professional diggers (Looniahs and Chamars) from the districts, which took place last October and November as soon as the distress began. Large numbers are said to have been recruited by agents for the Assam-Bengal Railway. Emigration to a considerable extent takes place in ordinary seasons after the rains, but owing to the distress this season this was more than usually the case. The nearest relief works north of the Gogra were at Shahgunge in the Jaunpur District, but it is uncertain to what extent they draw labour from Ballia and Azamgarh Districts.

On the Hajipur-Katihar line the schedule rates were not increased, but very great difficulty was experienced in obtaining labour, and practically a working season was lost to the railway on this account. The cause of this difficulty is due to the famine with its high prices, and to the existence of famine relief works which afforded a more attractive field for labour than that offered on the railway. Efforts have been made to import labour from Chupra, Durbhanga, and Mozaffarpur Districts, but with little or no effect. There has been incessant desertion of coolies after receiving advances, and contractors have had a bad time of it in consequence.

Mr. Izat writes me that what appears to him to be required about relief works is that there should be a rule that no able-bodied person, man or woman, should be employed on relief works or receive relief within 20 or 30 miles of their homes. Big works like railways or canals should be provided to give work to the able-bodied, and they should be drafted off to them away from their homes. People who are starving or in distress for food, he adds, will not think twice about going 20 miles to get work and food. This was the rule in the Bombay famine in 1875, and worked well, and it is necessary to prevent the people being pauperised and the public funds wasted."

Remarks on foregoing statement.

30. In considering this statement of the difficulties which the Bengal and North-Western Railway Company has experienced, it is hardly necessary to include among them the necessity for increasing their rates, which has been a consequence of the prevalence of high prices. It is possible that if no relief works had been started the Company's earthwork might have been carried out by labourers of the professional class at ordinary rates, but, as stated in paragraph 12 of my notes on the Central Provinces, the District Engineer on the Saugor-Katni Railway admitted that ordinary labourers of whom there is usually a large proportion on all earthworks, could not get a subsistence on the works at the normal contract rates, though the Looniahs could, "at extra good lift and lead rates." If no relief works had been started at all, the Company would therefore have had to raise the rates, unless it was able to obtain an adequate supply of purely professional labourers. It is admitted however that there was an unusually large emigration of labourers of this class in October and November, long before relief works were started.

The competition which the Railway had to face was therefore not that of the relief works, but of the Assam-Bengal Railway. It is not known whether special inducements or high rates were offered by the Assam-Bengal Railway, but even if they were not, the Looniahs naturally preferred to transfer their services to Districts in which prices of grain ruled lower, so that an increase in the contract rates in the distressed districts was an inevitable consequence of the ordinary laws of supply and demand, wholly uninfluenced by the relief works subsequently started. And for this reason it is unnecessary to consider here the case of the Hajipur-Katihar line where the difficulties experienced were apparently due to the fact that the schedule rates were not increased. Moreover, this line lies outside the North-Western Provinces.

In the case of the Salimpur-Burhaj Branch the complaint is that it was impossible to complete it at the rates given on the Bhatni-Turtipur Branch in the previous year, *viz.*, an initial rate of Rs. 1-12-0, or in the case of sandy soil with a low bank only Rs. 1-8-0. Even at these rates, however, work progressed fairly well until March when the harvest operations were in progress, after which the works were deserted until the end of May, and it was not possible to resume them with an initial rate of less than Rs. 2 and at that rate labour was scarce.

It has, however, been shown that at the end of March piecework was introduced on all relief works in the Gorakhpur District at an initial rate of 3 annas per hundred or Rs. 1-14-0 per thousand cubic feet, and that this was subject to a limit of 125 cubic feet as the daily task for a working party of two or three individuals, who could thus earn no more than Rs. 0-3-9 between them as a maximum, the average earning being considerably below this, and amounting only to Rs. 0-1-4 per worker. It must also be remembered that after the introduction of piece work no dependants received relief in Gorakhpur. It is true that the rate of Rs. 1-14-0 per thousand on the relief works all went to the worker, whereas some portion of the rates offered by the Railway were intercepted by the petty contractors; but under all the circumstances I do not think that the Railway Company could reasonably object to a contract rate of Rs. 2, and at that rate the competition of the relief works would certainly not have been very severe. That the relief works have to some extent affected the supply of labour to the Railway is probably true. It has been mentioned in paragraph 26 of the notes that at the end of May nearly one-sixth of the diggers on the relief works in the Gorakhpur District were of the Looniah class. Probably some of these would have gone to the Railway if the relief works had not been open, but it can hardly be said that they were prevented from doing so by the higher rates offered on the latter. If the Railway contract rate were Rs. 2, the attractions of the Railway and relief works would have been about equal, and a number of professionals would still have gone to the latter, not because they could earn more money on them, but because they happened to be nearer their homes or for some other private reason more convenient. If there were any difference in favour of the relief works, it must have been small, and a difference of some kind is almost inevitable as long as the object of a relief work is to give a living wage to all who resort to it, while that of the Railway Company is to get a given quantity of work done at a minimum cost.

As regards the Ganges-Gogra-Doab Railway it appears that a slight enhancement of the contract rates has sufficed to attract labour. There have been no relief works in the Ballia District, and in Azamgarh local labour is said to be plentiful even with a rate of only Rs. 1-12-0, and in spite of the existence of relief works.

The suggestion made by Mr. Izat as to the policy that should be followed in opening relief works will be more conveniently considered in my final report, and I will only remark here that the great difficulty in most Provinces is to find big works like railways and canals for the employment at long distances from their homes of all able-bodied men and women, and that if they were all drafted to these works, it would either be necessary to pay them at rates sufficient for the support of themselves and those left at home, or to bring the latter on to gratuitous relief, for it would be impossible to get any work out of them when separated from the able-bodied men and women of their families.

Petty village relief works in South Allahabad District.

31. The system of petty village works in the South Allahabad District referred to in paragraph 2 of these notes deserves a more extended notice, for the arrangements under which large bodies of labourers were suddenly broken up, drafted in small portions to the neighbourhood of their own villages, and then found in employment, form an interesting incident in the recent famine administration of these Provinces. Each charge comprises several petty works, mostly deepening of village tanks, within a radius of three or four miles, for which there is one central camp and officer in charge. Four such charges make up a group under a visiting inspector of the Upper Subordinate class, and four of these groups again form a Circuit, under a Sectional officer, who inspects all the charges at short intervals, and prepares an inspection report in duplicate, one copy of which goes to the Sub-divisional Officer, and the other to the Superintending Engineer direct. There are in all four such circuits, comprising together 64 separate charges in the Allahabad District, in which the average number of workers employed daily during the month of May was 180,000.

Relief works under Civil Officers.

32. The Relief works under Civil Officers in the North-Western Provinces are village works of a petty kind, such as the improvement of existing tanks, or the excavation of new ones, construction or repair of field embankments, filling up hollows at village sites, etc. The total number of workers thus employed throughout the North-Western Provinces and Oudh on the 29th May amounted to 12,164 only. For many of these works advances are given to the village proprietors or they are undertaken on the understanding that a suitable proportion of the cost shall be repaid within a given time. In some cases however the work is undertaken by the District Officers solely for the sake of finding employment, and without any prospect of recovery. The cost of the work to be done is estimated beforehand, and the work is made over to the Lambardars who employ the labourers in the village and are required to pay them at fixed rates. No regular register of attendance is kept up, but the works are inspected about once a week by the Circle Inspectors, and the numbers present are noted for purposes of the famine returns. The amount finally paid is limited to that due for the quantity of work executed at the rate prescribed. The cost of a single work seldom if ever exceeds Rs. 500. I saw two or three of these works, but not enough to enable me to form any opinion of their value as supplementary relief works. In the case of real improvements which the landlords are desirous of undertaking, and for which they are willing to refund the cost, they are of course very useful, although I understand that in such cases the tendency is to get the work done as cheaply as possible, by employing the most efficient labour available, rather than to afford relief to those most in need of it. When the original cost is not to be recovered at all, the work is said to be often given not to those who are least able but to those who are the least willing to go further afield, or to attend regular relief works. Apart from the value of the improvements effected, these works can never be very useful as a means of relief, and when the cost is not to be recovered, it is a question whether they should not be kept in reserve, as works that may be undertaken under circumstances similar to those which necessitated the disposal of large gangs of labour, and their employment in petty village works in the Allahabad District.

Establishment.

33. The total number of relief workers employed in the North-West Provinces including those on test work amounted to 1,089,954 during the week ending 27th February 1897 when it was a maximum. In addition to this there were 234,473 dependants who were either paid or fed on the works. With exception of about 15,000 on works under the Civil Officers all these workers were employed on works under the Public Works Department. The strain thrown on the establishment was immense, but the principal change in the normal arrangements was the appointment of Mr. C. G. Palmer as an Additional Superintending Engineer in charge of the relief works in the seven districts comprising the Allahabad Civil Division, the works in the remainder of the Jhind Circle Buildings and Roads Branch comprising the Benares and Gorakhpur Public Works Division remaining under the general supervision of the Superintending Engineer, Mr. Heinig. The average number of workers in the Allahabad Civil Division during the week ending 5th June amounted to 702,025, with 133,560 dependants, and an arrangement of this kind was absolutely necessary. The relief works in the Meerut and Lucknow Civil Divisions, were managed by the existing Public Works staff, under the Superintending Engineers of the 1st and 2nd Circles, Mr. Alexander and Colonel Pulford. The ordinary staff of Divisional and District Engineers and Surveyors, supplemented by eight officers of the Royal Engineers, temporarily transferred from the Military Works Department, has been employed in the general superintendence and management of the works, but was quite insufficient for the effective inspection of all the relief camps or charges. This has been arranged for by the deputation of a number of Staff Corps Officers who have volunteered for famine duty, and receive a deputation allowance of Rs. 300 a month. At the time of my tour there were seventeen of these officers on famine duty in the North-West Provinces. They are called Inspecting or Sectional Officers, and are constantly visiting all the relief works in their respective circles

where they prepare reports in a prescribed form dealing with the arrangements, for future work, for the reception of new comers, and for conservancy, water supply, shelter and food supplies, etc. They report also on all complaints and difficulties that are brought to their notice, and the results of their examination of the gang registers and of the checks made on the musters, measurements and accounts. A copy of each report is forwarded to the District Engineer, and a second to the Superintending Engineer.

I have heard but one opinion among both Civil and Public Works Officers as to the value of the work done by these Staff Corps Officers. They are not long in acquiring the necessary technical knowledge and a keen interest in the work, and their energy and activity have been invaluable. It would be out of place for me to express any opinion on the merits of those whom I had the opportunity of emeeting, or whose names were favourably mentioned to me by others; but I must refer to the high appreciation with which I found their services were generally regarded, because in the case of a recurrence of such a widespread famine as this of 1896-97 it will be to the officers from the Staff Corps that we must look as the next line of reserve, behind the officers that may be spared from the Military Works Department, on which reliance must be placed for supplementing the numerical deficiency of Engineers in the Public Works Establishment. By their aid and that of the officers transferred temporarily from the Military Works Department the slender Public Works Estalishment of the North-West Provinces has been able to successfully undertake the management of this enormous system of relief works.

The Upper subordinates of the Department have been employed as Visiting Inspectors, their principal duty being to go from charge to charge, and see that work is being properly set out and executed, to check the work and measurements of the sub-overseers or work agents, and to make necessary arrangements for tools, etc. The permanent Upper and Lower subordinate establishment was of course quite insufficient for these duties and had to be supplemented by such temporary men as could be found possessed of the necessary qualifications.

Powers of the Public Works Officers in management of relief works.

34. The actual practice in the North-Western Provinces has happily deviated in one other respect from the strict language of the Famine Code, in giving a wide power of control over the details of management of relief works to the officers of the Public Works Department. The duties of these officers are laid down in paragraphs 30 to 40 of the Code, the first seven paragraphs dealing with the duties of the Chief Engineer and the remainder with those of the Engineer or other officers in charge of a relief work.

The officer in charge is, as stated in paragraph 9 of these notes, not an Engineer, and the Code makes no reference to the duties or responsibilities of the Superintending Engineer and Public Works Divisional and Subdivisional Officers. In practice however the whole organization of the relief works system has been entrusted to the Superintending Engineers and the Public Works officers serving under them, subject only to the general control of the Commissioners, who are consulted before any important order is issued, and to that of the Chief Engineer and Secretary to Government in the Public Works Department. I was struck, after reading the Code, with the wide discretion given to the Superintending Engineer in all matters of detail, but at the same time observed that the Public Works Officers in all grades were in close touch with the Civil officers, and that the latter have every opportunity of exercising an effective general control. The division of labour between Civil and Public Works Officers which has been maintained is really imperative when relief works have to be organised on the scale that has been necessary in the North-Western Provinces, and the training and experience which the Public Works Officers in all grades have had during the present famine will render it very desirable that their services should be as fully utilized in future, and that they should be given as free a hand should the necessity again arise.

Concluding remarks.

35. The relief operations in the North-Western Provinces have been more extensive and prolonged than in any other Province, having really commenced in 1896, and the length of these notes is due to the fact that no less than four different systems have been introduced, all of which deviate in some degree from

the strict letter of the Provincial Famine Code. One of them, the special contract system, had been abandoned before I visited the Province, but the other three, the original North-Western Provinces system, the new intermediate and the Gorakhpur piece work system were all in full operation during my tour. The first of these has been adopted almost in its entirety in the Central Provinces and in Bengal, and all Provinces are following the lead given by the Government of the North-Western Provinces in the substitution, when practicable, of some form of piece work for the Code system of task work. In the province itself, however, less progress has been made in the introduction of piece work, than I had expected to find, and the new intermediate system, whatever its merit, is but a highly systematized form of task work, in which there is no minimum wage, or in which fining is permitted in proportion to the deficiency of work done. The Gorakhpur system is true piece work, inasmuch as the payments made depend entirely on the quantity of the work done, and are wholly irrespective of the constitution of the working party, but the limitation of the daily task, however necessary it may have been, has resulted in the average daily wage being no higher under this system than any other, (although more work may have been done for it), and no better opportunity has been given here than elsewhere for the working members of a family to earn enough for the support of themselves and their dependants who are either unable to work at all or can perform but a nominal task.

It has been felt apparently that there are difficulties in the way of the adoption of such a system of piece work as will fully accord with the conditions proposed in the extracts from the Resolution of the 16th March 1897 which have been quoted in paragraph 15 of these notes; but there is no doubt that the new intermediate and piece work systems which have been adopted are a great advance on the Code system and have been carefully adapted to the conditions of the districts in which they have been introduced.

The leading characteristics of the administration of relief works by the North-Western Provinces appear to me to be that while on the one hand the greatest pains have been taken to ensure a subsistence wage for every one who may apply for it and is willing to do some work, on the other matters have been so arranged that the wage shall not ordinarily be in excess of that required for mere subsistence, even if it fall below the minimum prescribed in the Famine Code.

In pursuance of the former side of this policy works have been opened in all directions, the system of daily payments has been universal, the tasks have been so marked out that every individual digger knows what he has to do and what he has to pay for it, and carriers have been freely employed on all works, whatever their proportion to the diggers, On the other hand the daily wage for all but the diggers has been reduced to the Code minimum and fines for short work have been permitted even below this limit, the wage for working children has been less than contemplated in the Code, while for non-working children only one pice is allowed (except where kitchens have been introduced) and in many cases the dole to dependants have been altogether abolished. The general cost of relief has thus been restricted to little more than one anna per unit of workers and dependants and to less than five pice per worker unit. The object of this policy has been not only to reduce the cost of relief to the minimum absolutely necessary for the subsistence of those applying for it, but also to make the works as unattractive as possible to those not in real need of relief, or who might obtain employment elsewhere. When the scarcity of able-bodied diggers prevents a full task being given to all, the latter object can only be attained by offering a minimum wage; but under more favourable conditions a fuller task may be set on the excellent plan lately adopted under which a higher wage can be earned by the performance of a higher task, a possibility which removes the most serious objection to the original North-Western Provinces system. The introduction of that system was a new departure which can only be judged by the result, but as far as I can ascertain there is no evidence that the average wage earned by the families that have flocked to the relief works in these provinces have been insufficient to maintain them in good bodily health throughout this long period of distress.

SIMLA;
The 18th August 1897.

T. HIGHAM.

APPENDIX I.

Instructions by Colonel R. R. Pulford, R.E., Superintending Engineer, II circle P. W., regarding payment and distribution of wages on Famine Relief Works.

As a rule wages should be paid daily at 12 o'clock noon according to muster rolls taken between 2 o'clock and 4 o'clock on the previous day.

There is no necessity for the officer in charge to carry out with his own hands each and every one of the operations connected with the distribution of money into the bags belonging to the several gangs. Some officers whom I have seen have sat up till a late hour counting the money and placing it in the bags. This is waste of power. The ordinary practice is for money to be sent out from the Civil Treasury either in boxes containing pice done up in bundles containing 32 pice each or in bags containing 50 rupees worth of silver and copper. In any case, if this is not so, the first thing for the officer in charge to do, is to have the money, on arrival in his camp, counted out before him and made up into bags of Rs. 50 each. The next step is for him to call up the Jamadar Moonshis of his charge and the two work agents, each of whom is responsible for and has charge of 5 Jamadar parties containing 10 gangs each. This should be done at 9 o'clock of the day on which the wages are to be distributed. Each Jamadar should have his *Goshwara* or abstract of the money due to each of his gangs calculated from the muster roll of the day before. Ordinarily the wages due to a gang will not be more than Rs. 5 and the total wages due to a Jamadar's party of 10 gangs will not be more than Rs. 50. One bag therefore of Rs. 50, already prepared as above, will ordinarily suffice for one Jamadar. Each Jamadar should therefore be given one of these bags of Rs. 50 and he should be told to distribute it into his gang bags according to the amounts set forth in the *Goshwara* or abstract of the day. When he has done this, each Jamadar should have in his hands a balance equal to the difference between the Rs. 50 and the total of his 10 gangs. If this is so, all the officer in charge has to do is to check the balance and take the receipt of the Jamadar which should be entered at the foot of the abstract itself. The 10 small gang bags should now be put into the large Jamadar bag which should be tied up. If the distribution is to be made next day, the bag should be sealed and placed in the charge of the Treasury Guard. As a rule, however, the distribution of the money into the bags should be done on the morning of the day on which the wages are to be paid out. This is the second step. The third step is the distribution of the money in the bags to the mates. The Jamadar should take his big bag containing the 10 small ones to some central point of his party and should there assemble his 10 mates. To each of them he will then give his corresponding bag of money. From the *Goshwara* he can see how much each mate ought to have in his bag and he should therefore, when giving each bag to each mate, tell him what ought to be in the bag, then make him open the bag, count the contents, and if correct, make him sign for the amount, opposite the number of his gang in the *Goshwara* abstract. The money is now ready for distribution, the Jamadar has acknowledged and signed for the wages of his party, and the mates have counted, acknowledged and signed for the wages of their gangs. This being done, the mates should be sent to their respective gangs where their flags are; and on arrival there, should collect their gangs, make them sit down and at once distribute the wages in accordance with the muster roll of the day before. On works in which there is an interval for rest from 12 to 2 it should be a standing order that the gangs assemble on their respective flags at 12 o'clock, and there await the arrival of their mates. In any case the time fixed for the distribution of the wages amongst them should be 12 o'clock. The hours for beginning and stopping work should be intimated by some form of drum, gong, or bugle. The money having been distributed, the mate should remain at his flag until the Jamadar in charge of the party comes

round. At each gang, he will check the distribution which has just been carried out, should ask if there are any complaints of non-payment or short payment to any of the coolies present. He should then check the balance, if any, which remains over after the distribution. The reasons for a balance should be enquired into and noted. If the balance is due to absence of any coolie, his name should be taken down with the amount due to him and should be entered on the back of the *Goshwara*. All such balances should be collected at once by the Jamadar, and after he has visited and verified the distribution of wages amongst his 10 gangs, he should proceed to the head-quarters of the officer in charge whose coming he should await. The officer in charge will, on arrival from the work where he has been supervising the distribution of the wages, take each Jamadar's account, place any balances in his treasure chest and enter in a book kept for the purpose the details of the coolies who have not been paid. The money thus put aside should be kept as a separate account from which he will pay any of the absentees who may come to claim their wages. Under ordinary circumstances it will be easily possible, if the above system is carried out, to pay wages to all the coolies of a charge every day before 2 o'clock. Finally the wages having been distributed, the mate should take the muster of the people present, and should then communicate the abstract to his Jamadar for entry in the daily *Goshwara* form. These abstracts are then made up by the Jamadar by the end of the day and everything is ready for the work of distributing the wages into the bags, as above explained, next morning. The Muster Rolls should always remain in the custody of the mates. In cases where a mate is unable to read and write, he must be assisted in the work of registering, and distribution by his Jamadar.

R. R. PULFORD, COL., R.E.,

Superintending Engineer,

2nd circle, P. W.

LUCKNOW;

The 24th December 1896.

APPENDIX II.

Statement showing the number of charges and other particulars on the Public Works Department Famine Relief Works, North Western Provinces and Oudh, during the week ending the 27th February 1897.

Division.	District.	Number of charges. Roads.	Tanks.	Mixed, etc.	Total.	Total No. on works in District (daily average).	Approximate area of affected Taluks of Districts in square miles.	Average number of Workers in charge.	Average number of square miles covered by a charge.	Remarks.
Agra.	Muttra	3	...	...	3	25,018	422	8,339	140	Test works.
	Agra	6	...	3	9	25,797	744	2,866	82	
	Etah	3	...	...	3	845	239	281	79	Test works.
	Farukhabad	3	...	...	3	375	688	125	229	Ditto.
	Mainpuri	1	...	...	1	136	211	136	211	Ditto.
	Etawah	3	...	...	3	17,647	285	5,882	95	
	Total for Agra Division ...	19	...	3	22	69,818	2,589	3,173	117	
Rohilkhand.	Bareilly	5	...	...	5	4,682	214	936	42	Test works.
	Bijnor	2	...	...	2	3,616	1,867	1,808	933	Ditto.
	Budaun	1	...	...	1	898	200	898	200	Ditto.
	Moradabad	3	...	...	3	4,993	2,282	1,666	760	Ditto.
	Pilibhit	5	...	...	5	7,159	420	1,431	84	Ditto.
	Shahjahanpur	6	...	...	6	2,983	1,188	497	198	Ditto.
	Total for Rohilkhand Division.	22	...	...	22	24,336	6,171	1,106	280	
Fyzabad.	Fyzabad	6	...	...	6	1,839	1,727	306	287	Test works.
	Gonda	5	...	...	5	1,691	1,231	338	246	Ditto.
	Sultanpur	5	...	1	6	6,955	1,708	1,159	284	Ditto.
	Partabgarh	4	...	...	4	13,723	1,443	3,430	360	Ditto.
	Bara Banki	7	...	...	7	14,959	1,740	2,137	248	
	Total for Fyzabad Division	27	...	1	28	39,167	7,849	1,398	280	
Lucknow.	Lucknow	11	1	2	14	85,354	967	6,096	69	
	Unao	9	...	1	10	49,062	1,736	4,906	173	
	Rai Bareli	9	2	...	11	77,382	1,752	3,034	159	
	Sitapur	10	...	...	10	48,921	1,520	4,892	152	
	Hardoi	19	...	...	19	121,523	2,325	6,396	122	
	Kheri	2	...	...	2	283	1,586	141	793	Test works.
	Total for Lucknow Division	60	3	3	66	382,525	9,886	5,795	149	
Benares.	Mirzapur	9	...	...	9	38,354	4,100	4,261	455	
	Jaunpur	6	4	...	10	59,120	271	5,912	27	
	Total for Benares Division	15	4	...	19	97,474	4,371	5,130	230	
Gorakhpur.	Gorakhpur	11	1	...	12	36,663	2,630	3,055	219	
	Azamgarh	4	1	...	5	7,084	1,130	1,416	226	
	Total for Gorakhpur Division.	15	2	...	17	43,747	3,760	2,573	221	
1st Allahabad.	Cawnpore	10	3	...	13	95,000	1,219	7,307	93	
	Fatehpur	3	...	2	5	13,108	582	2,621	116	
	Allahabad	5	22	5	32	182,598	2,428	5,706	75	
	Total for 1st Allahabad Division.	18	25	7	50	290,706	4,229	5,814	84	
2nd Allahabad.	Jalaun	11	...	2	13	90,457	1,477	6,958	113	
	Jhansi	7	...	...	7	45,740	3,587	6,534	398	
	Lalitpur	2	...	...	2	12,894		6,447		
	Hamirpur	7	4	...	11	43,239	2,289	3,930	208	
	Banda	11	14	1	26	170,146	3,061	6,544	117	
	Total for 2nd Allahabad Division.	38	18	3	59	362,476	10,414	6,143	176	
	GRAND TOTAL ...	214	52	17	283	1,310,249	49,269	4,929	174	

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Notes of an inspection of Famine Relief Works in Bengal, by Mr. T. Higham, C.I.E., on Special Duty, Famine Relief Operations.

Itinerary.

1. My tour in Behar commenced at Bankipur, where I arrived on the morning of Sunday, the 20th June, and remained until the evening of the 22nd as the guest of Mr. Bourdillon, the Commissioner of Patna, who kindly arranged a programme for my tour, and gave me much interesting information regarding the relief works. I arrived at Muzaffarpur before daybreak on the morning of the 23rd, and was met there by Mr. Maude, the Collector, and Mr. Disney, the Executive Engineer. I saw the poor-house here and a few small civil works (tanks), but owing to the holiday and rain there was very little labour on them. My train left before noon, and arrived at Motihari about 3 P.M., where I was met by Mr. Macpherson, the Collector of Champaran, who took me the same afternoon to the Belra tank, a relief work about 9 miles distant, which was being carried out by the Civil Officers. Lieutenant Kaye, the Inspecting Civil Officer, also accompanied us. Heavy rain fell while we were inspecting this work which continued without interruption for nearly 48 hours. On the afternoon of 24th I went on with Mr. Macpherson by rail to Bettiah, and on the following evening we drove to the Pursa Factory, where the night was passed. On the morning of the 26th we went together to Ramnagar, 17 miles further on, inspecting on the way the Malaya Tola Tank, which is a relief work under Civil Officers. At Ramnagar we met Mr. Toogood, the Superintendent of Works, Mr. Still, the Civil Officer, Mr. Sealy, Executive Engineer, and Mr. Jolly, the Assistant Engineer. After breakfast we inspected the relief works on the Trebeni Canal, which are being conducted on the piece-work system by the Public Works Department. We left Ramnagar on the following morning (Sunday), returning to Bettiah, and taking train to Motihari, where we arrived late in the evening. On the morning of the 28th Mr. Macpherson drove me to Dhaka, about 17 miles out, where we inspected the Dhaka Canal Relief Works which is being carried out by the Public Works Department on the task work system, under Lieutenant Biddulph, R.E., the Sub-divisional Officer, Mr. Toogood and Mr. Stawell, the Executive Engineer, accompanying us from Motihari. We returned the same evening, and I left by the night train for Laheria Serai (next Darbhanga), where I arrived on the following morning, and proceeded at once, accompanied by Mr. Mills, Superintendent of Works, and Mr. Long, the Executive Engineer, to inspect the Chakla tank about 4 miles distant, a relief work which is being carried out by the Public Works Department. Later on the same day I had an interview with His Honour the Lieutenant-Governor, whom I accompanied on the following morning (29th) on an inspection of the Sakri-Jainagar Railway which is being carried out as a relief work by the Public Works Department on the piece-work system, Lieutenant Close, R.E., being the Sub-divisional Officer. On the 1st July, Mr. Mills took me by rail to Kamtoul, where we met Mr. King and his brother, Managers of the Darbhanga Raj, who showed us a small relief work, (tank) that was being executed by the Raj. We afterwards inspected the great Hira Patti tank, which is a relief work on the task-work system, under Mr. Banerji. Executive Engineer, Madhubani Division, who met us on the work. We returned to Darbhanga in the afternoon, and I halted there the following day, leaving during the night for Mokameh, where I arrived on morning of the 3rd July and left Bengal by the night mail for Bellary in Madras Presidency.

Character of the relief works.

2. The relief works in Bengal consisted at first almost entirely of village tanks and road work. More recently canal and railway works have been opened by the Public Works Department. The principal canal is the Trebeni on which there are three sections, about 20 miles to the north of Bettiah. I did not see the plans or estimates for this work, which have been prepared by Mr. Buckley, Superintending Engineer, Sone Circle, but was informed that the total of the estimate amounted to over Rs. 30,00,000, of which not more than Rs. 4,00,000 would be spent on earthwork suitable for famine labour. If there is an assured supply and a good command this should form a very valuable protection work, as it traverses the north or worst part of the Champaran District,

nominal task to perform, whereas in the former it has generally been found possible to adapt the number of carriers to the outturn of work by the diggers, and to give every carrier as well as every digger a full task. In this respect the Bengal practice resembles that in force in the Bombay Presidency, where no great difficulty has been experienced in finding a full task for all carriers.

It will also be noted that in Bengal the unit of tasking is the pit gang or a sub-division or section of a full mate's gang, and is thus intermediate between the unit adopted in the Central Provinces and Bombay, which is the full gang, and that in some parts of the North-West Provinces, which is the individual digger.

Classification of labourers.

6. There is also a slight difference on some works between the methods of classifying the workers in Bengal and the North-West Provinces. In the latter all adult carriers, whether men or women, receive normally the D wage, diggers only receiving the B wage. In Bengal all women and the men who are weakly are paid the D wage, but in some cases strong adult males receive the B wage whether actually employed on digging or not. The B class therefore often includes diggers and able-bodied carriers. The reason for this is that under the strict system of proportioning the carriers to the diggers that is followed in Bengal, it is often necessary to take off a digger and turn him into a carrier, and *vice versâ*, so that an able-bodied male may be employed at one time as a digger and at another as a carrier. Thus the B class in Bengal includes actual and potential diggers, whereas in the North-West Provinces it consists of actual diggers only.

I have said that all women, being but carriers only, receive the D wage, but they are not all returned as in the D class. In paragraph 4 of my notes on the Central Provinces it has been shewn that the classification of workers adopted for the daily and monthly returns is not that upon which wages depend; the same practice obtains in Bengal and is due in both Provinces to the distinction that has been drawn in paragraph 35 of the North-West Provinces Circular No. 18-P. W. D., dated 1st December 1896, between a classification by capacity and a classification by wages. The famine returns of the North-West Provinces do not shew the classification of workers, but in the Bengal returns three classes have been regularly shewn—Class B, Class D, and Special. The last class includes those who receive a daily wage irrespective of task, because the work on which they may be employed cannot be conveniently tasked. From the appended abstract of Famine Statement D for the five districts in the Patna Division in which relief works are in progress during the week ending 15th May, it appears that the average wage per male unit in the special gang amounted to 1·566 annas against 1·534 annas, the average wage per male unit of the tasked gangs, and, these rates agree so closely that the gangs are probably similarly constituted as regards the proportions in each in receipt of the B and the D wage.

It will be seen from the same statement that children have also been classed in B and D, though such a classification of children is unnecessary where there is no gradation of wages. The classification shewn in the famine returns for the week referred to for these five districts is compared in the table below with what is approximately a true classification in accordance with the wages normally payable:—

Sex, etc.	Classification in famine returns.			Wage classification.	
	Class B.	Class D.	Special.	Class B.	Class D.
Men	546,008	59,564	257,689	803,697	59,564
Women	533,426	105,371	171,150	...	809,947
Total adults ...	1,079,434	164,935	428,839	803,697	869,511
Children	211,281	52,035	61,691	Unclassed 325,007	
Grand Total ...	1,290,715	216,970	490,530	1,998,215	

According to the wage classification it appears that out of 1,673,208 adults, not less than 869,511, or 52 per cent. were in the D class—a fact which is not brought out by the famine returns. The percentage was probably higher than this, for in the table it has been assumed that all men in the special gangs were in the B class, whereas it is probable from what has been said above that no inconsiderable number of them were paid the D wage.

Proportion of men to women and interchange of diggers and carriers.

7. From the table in the foregoing paragraph it will also be seen that the proportion of men to the total number of adults is about 52 per cent., so that they out-number the women, and it is this favourable condition that renders it possible to give every carrier a full task. On tank work too it is possible to adjust the task pit gang to the constitution of the gang, as different pits require different proportions of carriers to diggers. Thus in a typical tank of 300 by 200 feet, and 12 feet deep, divided into pits, 20 by 20 feet, if it be assumed that 4 diggers are required in each pit, the number of carriers required according to Mr. Glass's instructions and diagrams will vary from 12 to 28 according to the position of the pit, *i.e.*, the number of carriers required for each digger will vary from 3 to 7. When it is necessary to put a gang containing say 4 diggers and 12 carriers into a pit for which a larger proportion of carriers are required, say, 7 to 1, this is accomplished by taking off 2 diggers and making them carry, and it is for this reason that all able-bodied males who can dig, whether actually employed on digging or not, receive the B wage. It is thus partly in consequence of the higher proportion of males, and partly on account of the number of tank works, that such full tasks can be set in Bengal, and that a far more elastic system of tasking, which will adapt itself to the constitution of the family gangs, is possible than elsewhere.

Earthwork tasks.

8. The full task set for diggers in Bengal is as follows:—

Soft soil	...	...	...	200 cubic feet.
Medium soil	...	...	...	125 „ „
Hard „	...	...	...	83 „ „

The average task for a carrier is 75 cubic feet over a lead of 100 feet. The soil in Bengal is very soft, and it may perhaps be considered that a task of 200 cubic feet is not higher here than one of 100 cubic feet in the North-West Provinces, but however this may be there is no doubt that the carriers are much more heavily tasked here than elsewhere, and that they have to work as hard as the diggers, though it may be right that they should not be paid as well, as all can carry but only a few can dig. It will be noted, therefore, that although Bengal has followed the North-West Provinces in paying a D wage only to the carriers (excluding the stronger men who can dig on occasion) a much fuller task is exacted from them, and it cannot be said in favour of the low wage that the carriers being taken as they come, do only a nominal task.

Reasons for short tasks.

9. Of course these full tasks have not always been realized. There are three ways by which they are reduced. Sometimes the full task is not exacted from motives of leniency, sometimes the work is overmeasured, and sometimes carriers are distributed in excess of requirements. In works conducted under civil agency it might be expected that at first all these causes would come into play, the works being so numerous and the staff at the disposal of the Civil Officers so untrained and inexperienced. There is no doubt that this was the case, and that the work was often overmeasured or the men undertasked, but the results attained have been so closely scrutinized by the Collectors and the Commissioner that defects were remedied and a rapid improvement effected. In the case of works under the Public Works Department, after initial difficulties had been surmounted, very nearly full tasks have been realized. In illustration of these remarks I will now refer to a few works on the task work system that I inspected.

10. The first of these was the Belra tank, in Champaran District, which I visited on the 23rd June and on which work was being carried out by the Civil Department. Owing to the rain and Jubilee holidays the attendance on the work was small, but on the 19th there had been 1,843 workers. The full task for diggers was 200 feet, but on this and I believe other civil works full rates are paid if the deficiency is not more than 12½ per cent., that is, full rates are paid for a task of not less than 175 cubic feet and in the case of new comers 150 cubic feet are accepted as a full task for the first week.

Belra tank.

The wage scale was as follows :—

Task in cubic feet.	Diggers and strong carriers.	Weak male carriers.	Women.	Children.	
				12-16.	10-12.
		Pice.	Pice.	Pice.	Pice.
175 or over	7	6	5	4	2
Less than 175, but not less than 125 ...	5	5	4	3	2
Less than 125	3	3	3	3	2

The grain rate was not noted, but these wages correspond to a rate of 10½ seers to the rupee.

Males who are not strong carriers and cannot dig received 6 pice for a full task.

Mates receive 10 pice a day, and there is one for every four gangs, and they are fined when the gangs do short work.

Lieutenant Kaye told me that on road work, where it was necessary to encourage diggers, 8 pice were paid for a full task to all actual diggers, the male carriers receiving 6 pice, but on tank work 7 pice were paid to all diggers and strong carriers.

Dependants were paid as follows :—

	Pice.
Adult males	5
„ women	4
Children under 10	1

but adults were only allowed to remain on the work pending their transfer to the gratuitous list, except in the case of women required to look after children,

The Sunday wages are—

	Pice.
Adult males	6
„ women	5
Big child	4
Small child	2

It will be seen that the wage for a full task for all but diggers and able-bodied carriers is the same as the Sunday wage, and that all adult workers receive less than the dependants' wage when they do a very short task.

As far as I could ascertain the diggers had done their full task of 200 cubic feet during the day, but the carriers were greatly in excess, being nearly 12 to 1 instead of 7 to 1 as required by the tables.

The officer in charge was a native non-commissioned officer who was quite new to the work, and not very intelligent. Lieutenant Kaye has, however, supplied me with particulars of this work from the commencement, from which it appeared that while the reported outturn per digger had been 183 cubic feet, the true outturn according to final measurements had been only 147 cubic feet. This difference is no greater than might be expected when the aggregates of small measurements were not properly checked, but a real task of 147 cubic feet cannot be considered a very light one, and as full wages were paid for 175 cubic feet the tasks were not very short. As to carriers I found that the average proportion throughout the work had been 9·6 to 1, whereas under Mr. Glass's table 6 should have sufficed. The 200-foot task should therefore have been carried out by 1 digger and 6 carriers, giving an average of 28·6 cubic feet per worker, whereas the actual average had been 18·2. The mean lead was 180 and mean lift 10 feet. The actual cost per 1,000 cubic feet worked out to Rs. 5-2-7, and the average wage per male unit to 1 anna 7 pie. If full tasks had been executed throughout from both diggers and carriers the cost would have been about Rs. 3-4-6 per 1,000.

In this work therefore something less than two-thirds of a full task had been attained, but the actual task was still a very fair one, as the people were not a very sturdy lot, and there appeared to be no professional earth-workers among them.

I inspected another tank work under civil agency at Malaya Tola on the 26th. Here the full digger's task had been reduced from 200 to 150 cubic feet on account of the soil being hard, but at time of my visit sand had been cut into and the soil appeared no harder than at Belra Tank. The diggers were paid 8 pice, and *all* male carriers 6 pice, other wages being as before, but it was a small work employing only about 400 workers. The wages for 19th at full rates would have amounted to Rs. 327-3, but the payments amounted only to Rs. 26-5-6, so there had been a good deal of short work, even with the task reduced as above. There were five carriers (four women and a boy) to each digger, which was right according to the tables, but with the digging task reduced to 150 cubic feet the proportion should have been reduced to four to one to ensure a full carrying task.

11. The Dhaka Canal is being carried out by task work under the Public Works Department, Lieutenant Biddulph, R. E., being the Sub-divisional Officer in charge. This work is interesting, because in the section inspected by me the lead was under a 100 feet, with a lift of about 5 feet, for which two carriers per digger would have fully sufficed, but it had here been necessary to put on three owing to an excess of carriers, and not to insist on a full carrier's task as on the tank work. The wage scale was as below on a 9½ *seer* basis :—

Dhaka Canal.

Task per digger in cubic feet.	Digger.	Men carriers.	Women carriers.	Children.	
				12-16.	10-12.
190 cubic feet or over	8	6	5	4	2
Less than 190	5	5	4	3	2
Less than 170	3	3	3	2	2

The full task is 200 feet, but a margin of 5 per cent. only is allowed. Here the digger gets the B wage and the male carrier the D wage, all women getting D wage as usual. The fine on the digger for a short task is very heavy. It will also be seen that the big children are fined down to 2 pice, and that as at Belra all are fined below the penal wage for a very short task, but at Belra a very short task was less than 125 cubic feet, whereas at Dhaka it was anything below 170 cubic feet. The tasks appear therefore to be much more stringently enforced than on the civil works, or at least less margin is given, and there is of course less chance of overmeasurement.

The Collector told me that the Sub-divisional Officer had objected to putting a number of famine labourers that had been sent to him on to this work, as to do so would cause an increase in his earthwork rates, but that he had found work for them on a tank close by. The question was discussed during my visit. Lieutenant Biddulph was evidently very unwilling to still further increase the proportion of carriers to diggers, or to take on those who could not do an average task, but he promised to make special gangs, and get what work he could out of them. It was evident, however, that the carrier difficulty is sometimes felt, even in Bengal, and except that the very short task was fixed at a higher percentage of the full task the system in force on the Dhaka Canal differed in no respects from the North-West Provinces system of task work.

The Blackwood system of task work.

12. I visited two more Public Works Department works which were nominally on the task work system, *viz.*, the Chakla and Hira Patti tanks. In both of them, however, a variation of pure task work has been introduced which has the effect of converting it into piece work, or payment in direct proportion to the outturn. A task is given to each gang according to the number of diggers, at the rate of 200 cubic feet per digger, and if completed during the day is measured up and paid for the following morning. If not completed it is not measured up until the following day. Any work done on the second day in excess of the original task is not measured unless sufficient to complete the second day's task, in which case the two days' full tasks are paid for, and there is no fine, the deficiency in the first day's task being made good by the extra work done on the second. If, however, a gang took five days to complete three daily tasks the members would only receive payment at the wage fixed for each for three days, though it might be employed for five days, and an automatic system of fining according to the deficiency of the outturn is thus established. I was told that this system was in force throughout the Darbhanga district, both in the works under Public Works Department and those under civil agency, and that it was in fact first introduced on the former by Mr. Blackwood, the system being called by his name. At Chakla tank a gang included about six pits. I found that here the payments were made to the gang through the mate, and not to each pit gang separately, though the pit measurements are separately recorded, but the officer in charge does not go beyond the gang in distributing payments. Fines are therefore made on the gang and not on the pit, but this was almost immaterial, as it was said that in practice the daily tasks were always completed and every one paid in full, and that if the work in any pit was not completed the whole of the gang combined in clearing it off. As far as I could judge from an examination of the accounts on the work this was the case, and the total of the daily payments corresponded very closely to the full wages of the number of men employed. The workers on this tank were distributed in close accordance with Mr. Glass's tables, and the tasks done by the carriers were very high. In one average pit taken at random I found 22 carriers to 3 diggers, and 600 cubic feet was carried by them for a horizontal lead of about 200 feet and a lift of 20 feet.

In working under the system described a difficulty may occur when the strength of the gang varies on two consecutive days and payment is only made for one day. No one could tell me on which day's muster payment would be made in such a case, but the tasks are so generally completed that the difficulty does not appear to have arisen in practice.

Hira Patti tank.

13. The occasional variations in the strength of a pit gang sometimes disturbs the adjustment of the task, though when payment is made on the full gang, and not on the pit, this difficulty is not very serious. On the Hira Patti tank I found, however, that it was the custom to vary the task daily according to the actual number of people in the pit, as a table had been made out by the Executive Engineer, Mr. Banerji, showing the outturn due from each worker on the assumption that the prescribed proportions of carriers to diggers was observed. This, if one man out of a gang of 25 were absent, the task for the pit was reduced by 4 per cent., and it was left to the diggers and carriers to arrange details between themselves. As there were generally two or three male carriers in the pit, who were able to dig on occasion, this arrangement worked very satisfactorily. The task was fixed daily in terms of the depth to be excavated, the area of a horizontal section through the pit being constant, and a length of bamboo was given to the headman in the morning showing the depth to be excavated.

At this tank I found the attendance on 29th May to be as follows :—

100	diggers.
165	male carriers.
493	women.
17	big children.
6	small children.
721	

Counting the children as half adults there were thus 670 carriers to 100 diggers, or 6·7 carriers per digger which was no higher than allowed by the tables. The carrying tasks here were very full. At one pit I found seven women who had to carry 200 cubit feet for a horizontal lead of 140 feet with a lift of 20 feet, and here as at Chakla tank it was the regular thing for the full task to be accomplished.

Task work accounts in Darbhanga.

13. Before leaving the subject of tank task work in Darbhanga reference may be made to the abstract of Famine Relief Statement D which is appended, in which the figures for the week ending 15th May relating to tank work only have been given. From these figures it would appear that 11,912,000 cubit feet of earth-work were completed by 357,035 male units, giving an average task of 33·36 cubic feet per male unit per diem, at an average rate of Rs. 3·05 per 1,000. This is the way that rates are generally reckoned in Bengal, where the work done by all the tasked workers is rigorously scrutinized; but it will be seen from the statement that no less than 114,759 male units were employed on daily wage irrespective of task. These include all the recipients of the Sunday wage which will probably account for over 60 per cent. of the whole. Of the balance some were employed in water carrying, others in dressing and other miscellaneous work that could not be tasked, but it is obvious that these gangs should be included in considering the actual cost of work done. Including them the total number of male units becomes 471,494, and the outturn of work per male unit 25·25 cubic feet, which is still a very high outturn for tank work. The rate becomes Rs. 3·89 per thousand, and the average payment to each male unit 1·57 annas, or little more than the wage of a male of class D.

These figures include works under both Civil and Public Works agency. For the week in question the outturn per male unit was considerably higher on the former than the latter, but this is probably due to the Public Works tanks being generally larger than the others. Unless all particulars of lift and lead are given it is impossible to compare the outturn per male unit, but the figures that I have analysed indicate that as full tasks are exacted on the Civil as on the Public Works tanks in Darbhanga.

Close attention paid to the outturn of work per male unit.

14. It will thus be seen that full tasks are very rigorously exacted in Bengal, and that wherever possible, as on tank work, the greatest care is taken to

fully task the carriers, and to restrict the proportion of carriers to diggers to a minimum, so as to make the average outturn per male unit as high as possible. Extraordinary attention is paid to this question of outturn per male unit. The Superintendent of Works, Darbhanga, prepares daily a table of all the works in progress in his circle, shewing for each all the information given in the appended abstract of Famine Relief Statement, and something more. The outturn per tasked male unit and the cost per 1,000 cubic feet is shown for each work, and if the former is low or the latter high explanations are called for. This is prepared in duplicate daily, and one copy is forwarded to the Chief Engineer and a second to the Commissioner, and I understand that the figures are closely scrutinized by both officers, and explanations called for when necessary. I have one copy of this statement which includes 124 works and occupies six large sheets of paper. I presume that similar statements are sent by the Superintendent of Works, Champaran, but am not sure whether this is the case. In works under civil agency the same close scrutiny is exercised, and I was told by the Collector of a civil work in Darbhanga where bogus entries in the muster rolls were detected owing to the strict scrutiny exercised on the outturn rates per male unit, with the result that the official concerned was dismissed. I doubt whether fraud of this kind could have been detected by this scrutiny in any other Province that I have visited, and in all others I have found the greatest difficulty in readily obtaining such figures as I have given in the appended statement. The half monthly famine returns in the Calcutta Gazettes give this and much other information, and the narrative reports afford evidence of the close attention paid by all officers to the tasking and outturn of work. I believe it may safely be said that in no other Province are the full tasks for a minimum wage as heavy or as fully worked up to as they have been in Behar. This is partly due to the high proportion of men to other workers and to the character of the works, which, as a rule, permit the employment of a high proportion of carriers, but a great deal is undoubtedly due to the vigilant attention paid to the daily outturn from each male unit.

15. Nor can it be said that the task workers receive a higher wage than elsewhere. The appended statement shows that the total wages paid during the week ending 15th May to the tasked and special gangs amounted to Rs. 1,54,358, or 1·54 annas per male unit, the rate for each individual worker being 1·24 annas. In paragraph 28 of my notes on the North-West Provinces it was shown that the average wage paid to 71,289,165 workers had amounted to 1·17 annas, and if we assume that the average daily wages of men, women and children were in the proportions of 6, 4 and 2½, respectively, the corresponding number of male units will have been 49,734,984, and the average rate *per male unit* 1·68 annas. The actual rates of course depend partly on rates in force for the conversion of grain equivalents, and this must be borne in mind in all comparisons, but I do not think it will greatly affect that now made, and it may be said that in both Provinces the average pay of the male unit has been between six and seven pice with the conversion rate varying from 9 to 12 seers to the rupee.

Average wage per male unit.

16. The high tasks and low wage in Bengal have probably kept away from the relief works all who were able to support themselves by other means, but it may be thought that they have also tended to exclude those who were physically too weak to carry out the task demanded, though not helpless enough to be made recipients of gratuitous relief. There is no doubt that such persons are unwelcome on the Bengal relief works. Almost all the officers that I met, both Civil and Public Works, expressed very freely the opinion that they should not be allowed on the works, and that it would be far less demoralizing to place them on the gratuitous relief list than to lower the task standard down to their incapacity. This was an abstract opinion only for which there is a good deal to be said, but which it is unnecessary to discuss at present, for I was told that in practice no one was refused admission to the works, and that endeavours were made to provide light employment for weakly individuals, who were drafted into the

Effect of high tasks in restricting the numbers on the works.

special gangs in which there is no tasking. I think it probable, however, that the indirect effect of high and rigorous tasking is to prevent people of this class coming to the works. It may be that, when it is found that the weaker members of a family are unable to earn full wages on the works, the abler-bodied attend the works, and leave their weaker relatives to do the home work in the villages, and this would be a very desirable arrangement; but, on the other hand, it may be thought that these weak persons finding no place for themselves on the works are gradually forced on to the gratuitous relief list of the villages to which they belong, especially as the numbers of those on these lists have been in a much higher proportion to the numbers of workers than in other Provinces. During my tour, therefore, I endeavoured to see as many as possible of the people on village relief, who were called in from the neighbouring villages for my inspection. I saw about 600 of these people at Bettiah, Dhaka and Motihari, and when at Darbhanga accompanied His Honour the Lieutenant-Governor in an inspection of other gangs in that district. I should have seen more, had not arrangements been altered owing to bad weather. I can, however, very confidently assert that among all those inspected by me there was not an individual who was fit to be sent to the works, or to be given only the most nominal task. There were indeed at each place visited a great number of applicants for gratuitous relief, equal to or exceeding the number of actual recipients, and among these I noticed several, principally women, who were quite capable of performing a moderate task on the works. But of these applicants only a very few, including only the worst cases, were accepted, and it must be supposed that the others eventually found their way to the works, or were supported by their relatives. I do not think that any person had been brought on to the gratuitous relief lists, who were able to work for some time previous to my visit, and believe that any who might have been so brought on at an earlier stage before relief works had been opened in the neighbourhood (as had been the case at Dakha) had all been discharged and sent to works as soon as these were available. On the other hand, I certainly formed an impression that there was a smaller proportion of weakly and feeble workers in the Bengal gangs than I had seen elsewhere, where the carriers were less rigorously tasked, and where the payments were not directly proportioned to the work done. This was perhaps to be expected, and it must always be difficult to fix the exact degree of incapacity which may be admitted to or ought to be excluded from the works. The great number of separate relief works in Bengal and their nearness to the villages from which the workers come constitute, I think, a strong and special reason for insisting on a high task with a low wage, as the valuable distance test is practically inoperative on all these small works. If the works had been further away from the homes of those attending them, it would perhaps have been advisable to lower the task entitling to the low wages actually paid, and to have provided a higher wage for the full tasks actually demanded on the principle followed in the North-West Provinces modified intermediate system and other forms of piece-work.

17. I have hitherto been considering the task work system in force in Bengal, but piece-work had been introduced shortly before my visit on a more extensive and unrestricted scale than in other Provinces, and is in force on the works mentioned in paragraph 2 of these notes. The introduction of the system was authorized in Bengal Government Resolution No. 181-$\frac{\text{T. R.}}{\text{Famine}}$, dated 6th May 1897, in which the advantages and disadvantages of piece work and the precautions to be adopted in connection with it have been very clearly stated. It was proposed to pay a certain rate per 100 cubic feet of earthwork, irrespective of the constitution of the working party, which is the system in force in Gorakhpur, which has been described in paragraph 24 of my notes on the North-West Provinces. The only essential variation from that system is that no maximum task or limit to the daily earnings has been fixed. The object in view was to enable the working members of an ordinary family to earn as much between them as would suffice for the support of themselves and the non-working members, so that the latter might be kept away from the works, and it was thought better to fix low rates

Piece work in Bengal.

In giving the figures for the selected week I have assumed that the work was all paid for at the rate of 4 annas per hundred, but it is probable that some was paid for at the 4½ or 5 annas rate in which case the earnings per male unit will be somewhat higher than shewn. But in the figures for the whole canal up to 12th June the actual payments have been taken, and it will be seen that the average earning per male unit has been 2·3 annas which is the Code rate for a male in class B when the grain rate is 8 seers to the rupee, and as no dependants were on the works, it is presumed that the workers have been able to maintain them on this wage.

Looniah headmen.

20. Returning again to the detailed statement it will be seen that the work has been given out to small parties, containing on an average from 3 to 4 workers, similar to those working under the intermediate system in the Lucknow Division, North-West Provinces. Out of these 504 parties, 172 or more than one-third had Looniah gangsmen or diggers. It does not follow that over one-third of the workers were Looniahs, but as it is only usual to take the names of the headmen of the pit the proportion is not given in the detailed statement. In going over the work I was struck by the number of Looniahs who were digging for carriers of other castes, and it appears that while Looniahs came forward in large numbers as headmen of the pits they associate with themselves women and children as carriers who belong to the ordinary cultivating classes. In one pit I saw two old women of the dhobi caste working alone, one of whom was digging and the other carrying. On enquiry it appeared that the headman of the pit was a Looniah who had not come to work that day, but these two women were earning what little they could in his absence. I saw many other cases in which the only Looniahs in the gang were the headmen.

Some of the working parties performed phenomenal tasks, but as a general rule they only worked for two or three days, and then went away. It is said that such parties used to work by moonlight. The most noteworthy tasks are the following which I have extracted from the detailed statement :—

Caste	Party.			Total work done.	Days at work during week.	Task per diem.
	Men.	Women.	Children.			
				Cubic ft.		
Looniah	1	2	...	900	2	450
Do.	1	3	...	900	2	450
Rajput	1	1	1	1,400	4	350
Not stated	1	2	...	1,300	3	433
Looniah	2	...	...	1,800	6	300

These tasks are very high, but only in one case did the party work for six days in the week, and it is probably true that when a family has earned enough to keep itself for two or three days it keeps away from the works. I find, moreover, that out of the 504 parties of which a detailed record has been maintained, there were only 22 in which the average daily earnings exceeded three annas per worker, and out of these only 11 were Looniahs. In the preceding paragraph it has also been shewn that the outturn per male unit of all the 172 gangs which had Looniah headmen amounted to 47 cubic feet, the general average for the week being 36 cubic feet, while the general average for all workers up to 12th June has been 53 cubic feet. It was stated that the percentage of Looniahs was unusually high at the time of my visit, as many

of the ordinary cultivators had returned to their fields on account of the rain, which, on the other hand, had been so heavy as to prevent the Looniahs from digging for saltpetre, upon which industry many of them had up till then been engaged. Allowing, however, for a few exceptional cases, I do not think that professional earthworkers have taken undue advantage or received an excessive wage on these works, though there is probably a higher proportion of them on ordinary task work.

Special arrangements for feeble workers.

21. Up to the time of my visit it had not been found necessary to make special arrangements for women and children and weakly men who could not find a place in the piece-work gangs, but the possibility of finding employment for any that could be struck off the gratuitous relief lists was discussed. At my suggestion the Executive Engineer, Mr. Sealy, agreed to try the experiment of putting them on to a separate section of the work, upon which diggers would be employed at suitable piece-work rates for digging only, as many carriers being told off to each digger as might be considered sufficient for the carrying to be done, due regard being paid to the capacity and condition of those thus awaiting employment. These carriers would receive the ordinary carrier's or D wage, and be subject to fine if they did not do all the work required of them. All the incentives of piece-work will thus be held out to the diggers, but they will have nothing to do with the carriers who will be paid independently. It remains to be seen whether such an arrangement will work satisfactorily in practice. I observe from the famine report of the Collector of Saran for the fortnight ending 26th June, that a similar system had been introduced in that district by Mr. Twidell, on the Masrakh-Nagara road. The diggers were paid at the rate of Re. 1 per thousand cubic feet, the number of carriers was not limited, and each received fixed daily wage, a man getting one anna, a woman three pice, and a child two pice. These are considerably below the Code minimum rates or D wage, but the Collector (Mr. Chapman) remarked that he was insisting on the famine wage being paid and on the number of carriers being restricted to three for each digger. As regards the latter point it is not, however, very clear how the number of carriers can be limited, if a sufficient complement of diggers be not forthcoming, though the plan is perhaps the best that can be suggested for attracting a sufficient proportion of adult males, and may perhaps induce some of the women to dig, as they do very frequently on piece work.

Piece work on the Sakri-Jainagar Railway.

22. I visited another example of piece-work on the 1st section of the Sakri-Jainagar Railway. This differed from the work on the Trebeni canal inasmuch as the work was not given out to single diggers, or parties of three or four individuals, but to gangs, containing from 60 to 200 workers. The work was set out in lengths of ten chains, a length on each side of the centre line being given out to one gang. Payments are not made on the pits or to section of a gang, but on the measurements for a whole length, and to the headman who is chosen by the gang. The officer in charge has thus no concern with the payments made to individual workers. It is said that this system works satisfactorily, and that the workers are all content and make no complaints, the distribution of the total payment being arranged among themselves. This may be true, but if so, the fact indicates a power of combination which is not generally found among famine-relief workers, and it may be inferred that the work is largely in the hands of professional diggers. This was undoubtedly the case in the 1st section when I found that between the 11th May and 15th June the number of men employed for one day was 27,760, with only 13,440 women and 2,478 children, so that there were more than twice as many men as women and children, which is a pretty sure indication of a high proportion of professional labourers. The average earnings were 2·6 annas per male unit, whereas the average on task work does not exceed 1·6 annas, but the outturn of work was 70 cubic feet per male unit.

In the 3rd section I ascertained that the proportion of men was less, being only 56·3 per cent. on the whole number of workers, the figures for the same

period being 14,274 men, 10,242 women and 847 children; the average earnings per male unit amounted to 1·75 annas, and the outturn of work about 58 cubic feet. In the 2nd section the proportion of men to other workers and the average earnings and outturn per male unit were intermediate between those given for the 1st and 3rd sections. In the 4th section the women and children out-numbered the men, the figures being 31,136 men, 28,334 women and 5,919 children, so that the men formed only 47·6 per cent. of the whole. Unfortunately the earnings per male unit in this section cannot be stated accurately, as there was a serious mistake in the figures supplied to me, in consequence of which the average earnings worked out to 0·96 annas only. I asked that further enquiry should be made, the result of which has been since communicated to me, and I find that the average earning per male unit was about 1·3 annas, and the daily outturn 43 cubic feet. As the corrected figures have not been supplied in full detail, the true rates may be a little more or less than these, but the error will be small.

Further remarks on the Sakri-Jainagar Railway piece work.

23. The inference from these figures is that the professional element was strong in the first section, but less and less in the succeeding sections, in two last of which the workers were probably all of the ordinary famine type. In the 1st section the workers earned a high wage, but full work was done for it, there were no dependants' or Sunday wage, and the proportion of working children was small. The papers given me do not shew whether the men who performed the highest task worked continuously or only for a few days at a time, a point which must always be considered in connection with piece-work earnings. It is probable, moreover, that these workers had the usual proportion of women and children dependent on them, who did not come to the works as they might have done under the task-work system, and that the real cost per unit relieved was, like the cost per unit of work done, not excessive. The advocates of piece-work must have the courage of their convictions and be prepared to pay a higher rate of wage *per unit on the works* than under the task-work system, and it may be considered that the average rate earned in the 1st section was not very excessive, it being remembered that there was no maximum limit to the task. It should be added that the rate per hundred cubic feet was $3\frac{1}{2}$ annas in this section, and only 3 annas in the others, and it is possible that this extra rate was not very closely adjusted to the conditions of the work, so that the 1st section was unduly favoured in this respect.

Another conclusion that may be drawn from the figures given is that the higher the proportion of men on the work the higher is the daily earning per male unit. The number of male units is calculated as explained in paragraph 3 with reference to the wages normally paid to men, women and children, which in this case were taken as 7, 5 and 3 pice, respectively. Thus a man counts as one unit, a woman as $\frac{5}{7}$ths and a child as $\frac{3}{7}$ths of a unit, and within certain limits these proportions are probably in approximate accordance with the working capacity of each class, so that within these limits the work done per male unit should be the same, whatever the proportions of men, women and children. The higher outturn shewn per male unit when the proportion of men is high is probably not due so much to this limit being exceeded, as to the fact that the higher the proportion of men the stronger is the infusion of a professional element, that is to say, the workers of a more expert class. Be this as it may it will be seen that in the 3rd section the average wage was 1·75 annas and the male percentage 56·3, whereas in the 4th it was only 1·3 annas with a male percentage of 47·6. In this section the workers did not earn the average wage 1·6 annas per male unit, which has been paid on task-work in the Darbhanga District (where the average male percentage is about 46·4), and if this is not due to the rate per 100 cubic feet being too low, with reference to local conditions, it may be inferred that under the rates given for piece-work on this railway the earnings per male unit are less than under the task-work system whenever the males form much less than 50 per cent. of the number of workers.

Piece work in the Darbhanga Raj.

24. Piece work has also been introduced in the Darbhanga Raj, all the relief works in which are conducted on this system. The people are allowed to form their own gangs, the numbers in which range from about 15 to 40. The initial rate paid is $2\frac{1}{2}$ annas per 100 cubic feet, and it is found that the daily earnings vary from 1 anna 4 pie to 1 anna 9 pie per head, and that the numbers of men and women are about equal. I visited one small tank at Kamtoul which was just being completed, a few labourers only being employed in dressing on a daily wage, the men receiving $2\frac{1}{2}$ and the women $1\frac{1}{2}$ annas each. Mr. King, the Manager, told me that even at these rates people preferred piece work to a daily wage.

General remarks on piece work in Bengal.

25. Bengal is the only Province in which I have seen true piece-work, in which no maximum limit has been fixed for the daily task. Although it has been adopted at many works, it has not been long enough in force to enable a certain conclusion to be formed as to the extent to which it may be resorted to for famine relief works, or as to whether it is really necessary to impose a maximum limit to the task. The objection to a maximum limit is that in practice it is very difficult to impose one without maintaining as complete and full a record of the attendance as is necessary in task work, and if it be assumed that the working members of a family are to be allowed to earn enough for the support of those that do not come to the works, their earnings should be limited only by the amount of work they can turn out, and experience appears to indicate that however great this may be for a particular day or two, it will not in the long run pass a certain limit. On the other hand, it may be said that if the rates are so adjusted as to allow an ordinary relief worker to earn as much as or a little more than can be earned on task work, professional workers will be able to earn more than they can on railways or other works which are not being carried out by Government. When such works exist within a reasonable distance this point certainly requires consideration, but if a limit is ever imposed it should not be on the daily task but on that for a week, or other suitable period. Thus, if a seven days' task is given out, the workers should be free to complete it in five and go away for two days, but new work would not be given out to them until after the seventh day.

Even in Bengal piece work has not been introduced under the circumstances most favourable to its success, for it has followed, instead of preceding, task work. If piece work is to be fairly tried it should be in the earlier and not in the later stages of distress, and it will always be far easier to change from piece-work to task-work than *vice versâ*. In spite of this difficulty I think there are indications that in Bengal piece-work has proved as attractive as task-work, though with the full tasks executed on the latter the difference has been more in name than anything else.

It must, I think, also be admitted that, although piece-work may give all the relief wanted, it will frequently be found that it is itself insufficient as distress deepens, and an excessive proportion of women, children and feeble men come to the work. In such cases piece-work must be converted into task-work or must be supplemented by task-work for the feeble gangs, some such arrangement being made as that referred to in paragraph 21, *ante*.

Other details of management of relief works.

26. I have now described the task-work and piece-work systems which I saw in Bengal. In other matters the procedure on relief works follows very closely that laid down in North-West Provinces Circular No. 18-P. W., dated 1st December 1896. In particular the system of daily payments and pice wages obtains, and all officers in Bengal are as much impressed with the importance of daily payments as are those in the North-West Provinces. I understood that on the Sakri-Jainagar railway bi-weekly payments were made, and it is possible that this is the case on some other piece-works, where daily payments are less necessary (though they are made on the Trebeni Canal), but on task-work daily payments are universal.

The form of gang register originally in use was that prescribed in North-Western Provinces Circular No. 18-P. W., dated 1st December 1896, to which reference has been made on my notes on relief-works in those Provinces. It was soon found out however that a daily muster roll was necessary, and this has been added, resembling that in use in the Lucknow Division. But the register is still kept in duplicate, one copy being used on each alternate day, so that the record is not continuous which is I think an unnecessary and very inconvenient arrangement.

Fines are not brought to account as such, effect being given them by reducing the wage, or in the case of task work on the Blackwood system bv with-holding payments until tasks are completed. I found, however, on analysing the accounts for 10 days ending 10th June in the two Darbhanga and Muzaffarpur Divisions that the full payment to workers at normal rates amounted to Rs. 43,487, while the amount paid was Rs. 40,851, so that the actual amount of fines or deductions was Rs. 2,636, or a little over 6 per cent. only, which indicates how fully tasks are worked up to.

Dependants receive cash wages in almost all cases, the rates being 5 pice for men, 4 pice for women, 2 pice for children under 10 years of age, and 1 pice for children in arms. It may be noted children are not classed as workers unless over 10 years of age, the limit in all other Provinces that I have visited being 7 years. As observed in paragraph 6 of my notes on the relief works in the Bombay Presidency this limit is there considered too low, and it has been suggested either that the Bengal limit should be adopted, or that it should be left to the discretion of the officer in charge to decide what children should be admitted as workers between the ages of 7 and 12.

In spite of this high limit of age the number of children-dependants on the Bengal relief works is very small, compared with other Provinces, though the works are generally so close to the villages that they could be brought to and fro without difficulty. From the appended statement it will be seen that the number of dependants on the works for the districts and week therein noted was 173,193 only, of whom 160,163 were children, the number of workers being 1,998,215, so that the proportion of dependants was little over 8 per cent. of the workers. The average payment to each child was 3·7 pie and to each adult 10 pie.

27. One of the great difficulties in Bengal has been that of finding suitable men for the charge of works. In other Provinces, except Madras, the officers in charge are usually men of the Naib-Tahsildar and Kanungo class, nominated by the Civil Officers, but in Behar, where there is a permanent settlement, there were not many men of this class forthcoming. The difficulty is increased by the great number of the charges, though many of them are so small that they can be very easily supervised. The services of a number of European non-commissioned officers have been placed at the disposal of the Government of Bengal, and they have been employed as officers in charge. Many of these have done well, but it would be preferable to have men better acquainted with the language and people. In some cases native non-commissioned officers have been employed, but great difficulty has been found in getting suitable men for the supervision of so many separate works.

Officers in charge.

28. I heard no complaints when in Bengal of the interference of the relief works with the supply of labour to private employers. The planters are not in a position in a year like this to employ much outside labour. Complaints were, I believe, made when the relief works were first opened that they drew off men from the railways, such as the Hajipur-Katihar and the Mogulserai-Gya lines. The former I have referred to in paragraph 30 of my notes on the relief works in the North-West Provinces, and I understand that in the latter all difficulty ceased with a slight enhancement of the railway rates, and a lowering of those

Interference with supply of labour to private employers.

paid on the relief works. The Sakri-Jainagar branch and Bettiah-Bagaha extensions are being carried out by the Public Works Department as relief works, so that all difficulty in respect of them has been avoided. I venture to think that whatever may have been the case when relief operations were first started, they cannot have seriously affected the supply of labour to the railways since full tasks have been so rigorously enforced. The daily wages are, moreover, so low that if labourers have been attracted from the railways it can only have been because the rates paid on the latter were too low for a season of famine prices.

29. It has already been stated in paragraph 3 that the majority of the relief works have been carried out by Civil Officers, and that the Public Works Department came later into the field, and had to be to a considerable extent reorganized for the purpose. Mr. Bourdillon has explained in the appended note how the organization of relief works fell in the first instance almost entirely on the Civil Officers, and how difficult it was even at a later stage to transfer much of the burden to the officers of the Public Works Department, and it has been inevitable that even in the case of the works so transferred, the Civil Officers have concerned themselves more with the control and scrutiny of details than has been necessary in other Provinces in which the management of relief works has from the first been left mainly in the hands of the Public Works Officers. The Civil Officers started under great disadvantages, but they were assisted in laying down the lines of relief operations by Mr. Glass, the Chief Engineer, who devoted considerable time to drawing task tables and detailed instructions for giving out task work which have been very useful.

Relation of Civil and Public Works Officers in respect of relief works.

Many mistakes were no doubt made at first, but as stated in paragraph 9 of these notes, unsparing efforts were made to detect and rectify them, and as far as I have been able to form an opinion, the works latterly carried out under Civil Officers will compare not unfavourably with those which have been entrusted to professional agency. The officers in both departments have been working almost side by side, and although this has involved some overlapping of duties they have been able to compare notes and to secure a tolerably uniform standard of tasking, while in the management of the works under them they have been engaged in a friendly rivalry. Under the special circumstances of the case no better arrangement was possible, but if relief operations of such magnitude should ever again be necessary, I cannot but think that here as elsewhere it would be better that the Civil Officers should be as far as possible relieved of all responsibility for the details of the management of relief works, if the Public Works Department should then be in a position to assume it. It might then be found possible to do at the beginning what has now been done near the final stage of operations, and start a few large and useful public works at a few centres to which distressed labourers could be drafted, and on which piece work could probably at first be successfully introduced, leaving village tanks and other petty works in the neighbourhood of the labourer's homes to be undertaken, if necessary, later on. This would relieve the Civil Officers of a mass of petty details in connection with the management of the relief works, which would be relegated entirely to professional officers, and would leave the former more time for the other important duties which are so pressing in time of famine, especially that of village inspections, the results of which will probably always furnish a more reliable indication of the extent to which the relief works are fulfilling their main object than can be gained by the superintendence of the works themselves. All this, however, depends upon the Public Works Department being in a position to assume their duties at the outset, and this will involve a reorganization of the Department as at present constituted in Bengal which it may be undesirable on other grounds to carry out. The present arrangements were deliberately introduced a few years ago as the most suitable for Bengal, and it is not my intention to criticise them, or to say more than that even if well adapted for ordinary times they have placed the Province at a certain disadvantage where extensive famine relief operations were required, however successful may have been the efforts made to minimise it.

Establishment.

30. As regards establishment I have already explained in paragraph 3 of these notes how two temporary Public Works Circles were formed for the superintendence and charge of relief operations, and how officers were drafted from the Irrigation Branch and District Engineers temporarily transferred to the Public Works Department for employment in the new circles. In addition to this seven Royal Engineer officers were temporarily transferred from the Military Works Department for employment in the relief works, as in other Provinces the want of a strong staff of Upper Subordinates was much felt. The services of sixteen Military Officers were placed at the disposal of the Government of Bengal, and they were employed under the Civil Officers in the supervision of the civil relief works and in other relief operations. As far as I could ascertain these officers have been found as useful in Bengal as they have been in the North-West Provinces, and their services have been as fully appreciated. I have already mentioned that non-commissioned European officers have been largely employed as officers in charge of relief works, but I have not been able to ascertain the number.

Famine Returns.

31. I was struck more in Bengal than in any other Province with the number of different famine returns which were required from both Public Works and Civil Officers. They are undoubtedly very useful and I found them more informing than most of those that I was able to obtain elsewhere, but their preparation must have been a very serious tax on the establishment and on the time of the superior officers. Many of them overlap the district returns which are published in the Calcutta Gazette being all weekly, whereas the Public Works accounts are made out for 10 days' intervals. I cannot but think that it would be possible to give all essential information in fewer returns, not only here, but in other Provinces.

Concluding remarks.

32. The relief works in Behar present several points of interest. Owing to the inadequate strength of the Public Works Department the relief works directly under Civil Officers were more numerous and in the aggregate much more extensive than in other Provinces, especially in the earlier stages of operations, and it was necessary for this and other reasons stated in paragraph 2 to rely principally on small village works, generally tanks. These are admirably suited for task workers in one way, as the great variations in the lift and lead render it possible in adopting the pit or family gang system to adapt the task for each working party to the proportions of the diggers and carriers constituting it. These small works have, however, great disadvantages of their own, as more establishment is required, supervision of numerous and scattered works is more difficult, discipline is less easy to enforce, and the works are so close to the villages that the useful distance test is practically inoperative. Moreover, the real value and utility of these works is very small, if considered with reference to the great expenditure incurred on them.

The task-work system in Bengal is based upon that which has been introduced in the North-West Provinces, under which all carriers receive the minimum or D wage, but local conditions have led to a few modifications, so that on some works able-bodied men who, though capable of digging, are employed as carriers, receive the digger's wage, and on most an effort is made to give the carriers as full a task as the diggers, as it is found unnecessary to take the former as they come without reference to the conditions of lift and lead. Another important variation is that the unit of task is the pit gang or section of a full gang, consisting generally of 4 diggers with the proper complement of carriers, and is thus intermediate between the whole gang unit in the Central Provinces and in some parts of the North-West Provinces, and the single digger parties, consisting of three or four workers only, which is the unit in the Lucknow Division. The Blackwood system of task work in force in the Darbhanga District is a further modification which I have seen nowhere but in Bengal, though something of the same kind has been proposed for road metalling works in the North-West

Provinces to which allusion has been made in paragraph 27 of my Notes on the relief works in those Provinces. This system is practically equivalent to piece-work with a maximum limit to the amount that can be earned daily, (which is no greater than that due to the "full task" under ordinary task work,) and involves the abolition of a minimum wage.

The tasks executed in Bengal are generally heavier than elsewhere, though the wages paid to the workers are, under similar scales of grain prices, no higher than in the North-West Provinces. As regards the diggers the heavier tasks are in a great measure due to the greater softness of the soil, which renders comparison difficult, but as regards the carriers there is in my opinion no doubt that on most works heavier tasks are taken from them than in other Provinces. This is partly due to the fact that the proportion of adult males on the relief works is higher than in other Provinces, and to the greater facilities for employing a high proportion of carriers afforded by the large tank works, but also to the extraordinary attention which is paid by all officers to the tasking and to the daily outturn of work per male unit.

A distinguishing feature of the relief operations in Bengal has been the high proportion of persons on gratuitous relief to the numbers on the works, and it has been supposed that this is in a measure due to the severity of the tasks exacted on the works. The subject has been discussed in paragraph 16 of these notes, but it may be added that as shown in paragraph 26 the number of dependants receiving relief on the works has been very small, the proportion being lower than in any other Province, except Madras.

Another interesting point in the relief works of Bengal is the experiment that has been made in unlimited piece work. Although the system of payment by results has been introduced on a more extensive and unrestricted scale in Bengal than elsewhere, it has not been in force long enough to enable a definite conclusion to be drawn as to its value, especially as it has been tried under the disadvantage of succeeding the task work system to which the people had been accustomed in this and the previous famine. In this and in other matters the Bengal Government has not hesitated to deviate from the strict letter of the Code and from the practice adopted in other Provinces with the object of adapting the relief operations more closely to the exigencies of local conditions, and the variations thus introduced will be found of great interest in the consideration of future policy for famine relief works.

SIMLA:
Dated 4th September 1897.

T. HIGHAM.

APPENDIX I.

Notes on the Evolution of Relief Works in the Patna Division, 1896-97.

Test works were first undertaken in the Bhabhua Sub-division of the Shahabad District on the 22nd October 1896, and in Darbhanga during the last week of that month. Others were opened in Patna in the first week of November. In Champaran and Muzaffarpur they commenced in the second and in Saran in the last week of November.

2. At first no tables were available for fixing tasks or calculating the grain equivalent, and district officers used those given in Appendices IV to VII of the Bengal Famine Code.

3. At the Sonepur Conference on the 20th November, presided over by the Lieutenant-Governor, Mr. Mills, then Inspector of Works, Behar Circle, was requested to draw up tables of tasks and wages, but the tables he produced were not sufficiently simple and were soon withdrawn.

4. On the 5th and 6th December another Conference of the local officers was held at Muzaffarpur, which was attended by Messrs. Finucane and Glass, and the latter was requested to draw up a scale of tasks. It was also decided that large works should be placed under the Public Works Department, smaller works being left to the district officers. Ten large schemes were noted as likely to be taken up by Public Works Department officers. Just at this time local officers were supplied with copies of North-West Provinces Government Resolution of the 20th October 1896 on the Bundelkhand famine.

5. Mr. Glass' tables were published by Revenue Department Circular No. 74 on the 31st December 1896, which also circulated the North-West Provinces Resolution No. 18-P.W. of the 1st December 1896. Mr. Glass and I made a tour together through Champaran ending at Muzaffarpur, where on the 15th January I had summoned the Collectors of North Behar to meet us. The North-West Provinces Resolution just quoted, which advocates exacting the task from diggers only, was fully discussed and adopted by all. Mr. Glass on returning to Calcutta prepared and published Government Resolution No. 420-M.P.I. of the 25th January which, with slight modifications, was a reproduction of the North-West Provinces Resolution of the 1st December and advocated a task from diggers only. We considered that we had at last found ground, and effect was given to this system everywhere.

6. At this time, however, the Lieutenant-Governor was away on tour in Orissa, and on his return the resolution was partly revised and the "diggers only" system was abandoned in favour of large gangs. This was done on the 5th February, the same number and date of the Resolution being maintained. This change was condemned by all local officers and by the Lieutenant-Governor himself after he had made a tour in North Behar (March 1st to 6th), and at the Darbhanga Conference it was decided to take a middle course and adopt the system of small gangs called the "pit gang system." These orders were promulgated by Mr. Glass' letter No. 1661-M. P. I. of the 16th March, and they have been in force ever since.

7. On the 22nd February Government circulated the correspondence between India and the North-West Provinces Government about the "petty piece-work" or "intermediate" system, and after the opinions of local officers had been taken a Resolution was issued in the Revenue Department, No. 181 of the 6th May, sanctioning a modified version of this system in certain cases. I had, however, obtained sanction before this, and piece work started in this Division about the 1st May.

8. There are now therefore 3 systems of relief works under Government now going on, *viz.*—

(1) *Civil Agency Works* under the Collector and his Charge Superintendents. There being an officer in charge at each work with agents and some sorts of sub-overseers under him. These are all on the *task work* system with "pit gangs."

(2) *Public Works Department* agency works also on the pit gang system. These are regularly supplied with complete Public Works Department establishment, and are all meant to be major works under the Code.

(3) *Public Works Department* agency works—*Piece-Work*—

Besides all these, the Darbhanga Raj has relief works of its own on a system of piece-work very like that which we have now adopted.

9. The piece-work projects are as follows as far as my information goes:—

Champaran.—Trebeni Canal, 3 sections; Dhaka Canal; Bettiah-Bagaha railway.

Muzaffarpur.—Bhagmati Lakhandai Canal; Baya Nullah Cut.

Darbhanga.—Sakri-Jainagar railway, 3 sections.

10. The number of civil agency works in the week ending 12th June which is the latest date for which I have complete information, the civil agency works were 328 to 113 under the Public Works Department, and the average number of male units employed daily was 197,907 to 77,621.

11. For this disproportion there are several reasons—

(*a*) The Public Works Department were not brought into the scheme of relief so early as the district officers with their civil agency works.

(*b*) The Public Works Department cadre in this province is starved, and subordinates are *not to be had*, so that it was quite impossible for the Department to take up the works they would otherwise have undertaken, except after great delay.

(*c*) Meanwhile civil agency works had grown up everywhere, and many had advanced very far, so that there were real difficulties in the way of taking over and giving over charge—one of which is the difference in the accounts and forms.

(*d*) It was found very difficult to find suitable works for the operations of the Public Works Department. Many of the works now open under them are really small enough to be under the Collector, and it was also found that several comparatively small works near their villages were more suitable than large works which necessitated people abandoning their houses and going some distance for labour.

J. A. BOURDILLON,
Commissioner.

BANKIPUR;
22nd June 1897.

APPENDIX II.

Famine Relief Statement D for Patna Division, week ending 15th May 1897.

District.	Number of works open.		AGGREGATE NUMBER OF PERSONS ON TASK WORK.										DEPENDANTS.			
			CLASS B.				CLASS D.									
	Tanks.	Other works.	Men.	Women.	Children.	Male units.	Men.	Women.	Children.	Total number of male units.	Total work done in thousand cubic feet.	Total amount paid in rupees.	Men.	Women.	Children.	Adults.	Non-working children.	Amount paid in rupees.
Shahabad ...	2	7	11,870	16,354	9,551	59,564	...	...	...	28,828	1,222	2,717	4,366	2,292	1,096	12	10,425	159
Saran ...	40	40	(a) 21,779	(a) 47,682	41,599	211,281	466	1,562	208	(a) 75,317	2,094	6,184	12,735	7,270	15,989	7	10,242	160
			193	164	...		...	...	...	316	...	...	...	...	...	...	...	...
Champaran (b) ...	39	39	117,865	100,333	53,099		48,586	86,788	41,526	347,122	11,973	35,073	46,990	34,300	14,898	4,685	48,266	1,107
			15,637	15,391	6,035		...	...	...	29,699	1,712	4,105	1,319	317	224	Nil.	Nil.	...
Muzaffarpur (c) ...	117		105,928	78,315	35,618		3,151	4,453	1,507	187,410	10,068	15,895	59,126	24,250	9,645	2,205	24,705	826
			5,478	2,240	228		149	8	...	7,420	...	...	966	...	...	...	...	...
Darbhanga (d) ...	110	65	288,566	290,742	71,414		7,361	12,268	8,794	555,210	21,154	54,613	134,472	103,038	20,063	6,121	66,525	1,443
	110		185,771	190,619	51,681		4,187	3,187	4,554	357,935	11,912	36,323	69,723	54,822	9,823	5,856	48,788	1,156
TOTAL ...	319		546,008	533,426	211,281		59,564	105,371	52,035	1,194,387	46,511	114,482	257,689	171,150	61,691	3,930	160,163	3,693

(a) Includes a few class A workers as shown by figures in italics below.
(b) The figures given *include* labourers, etc., on piece work, as shown by figures in italics below.
(c) The figures given *exclude* labourers, etc., on piece work, shown separately by figures in italics below.
(d) The figures in italics below relate entirely to tank work, and are included in the main figures.

G. C. Press, Simla.—No. 1066 R. & A. D.—20-9-97.—1,200.

REPORT ON THE MANAGEMENT OF FAMINE RELIEF WORKS, BY MR. T. HIGHAM, C.I.E., LATELY ON SPECIAL DUTY IN CONNECTION WITH FAMINE RELIEF OPERATIONS.

1. On my arrival at Bombay on the morning of 15th May, on return from privilege leave, I received a telegram from the Government of India, informing me that I had been placed on special duty for the purpose of visiting relief-works in progress under different Local Governments, and directing me to await further orders in Bombay. On the 17th I received a copy of the Resolution of the Government of India, Department of Revenue and Agriculture (Famine), No. 20-F.—157-I., dated 12th May 1897, and other subsidiary instructions, in accordance with which I visited a number of typical relief-works in the Bombay Presidency, and afterwards in the Central Provinces, in the North-Western Provinces and Oudh, in Bengal, and in the Madras Presidency. Particulars of my tour in each province have been given in the inspection notes which have already been submitted to the Government of India, advance copies having also been forwarded to the Local Governments concerned. Burma and the Punjab were not visited, the former being too far away, while relief-works in the latter were practically at an end by the time that I left the Madras Presidency. I arrived at Simla on the 21st July and remained on deputation until the 1st of August, when I resumed my ordinary duties in the Public Works Department.

Provinces visited.

2. In the notes already submitted on the relief-works in each province information has been given regarding the various matters mentioned in the second paragraph of the Resolution already quoted. In the present report I propose to collate many of the particulars that have been given in the inspection notes, and to offer such suggestions for the future management of relief-works as have occurred to me in the course of my enquiries.

Provincial notes.

3. The first question to be considered is that of the classification of famine labourers, and the rates of wages that should be paid to them. The directions in all the Famine Codes are that adult labourers are to be divided into four classes as follows:—

Classification of daily labourers as prescribed in the Famine Codes.

A.—Able-bodied persons accustomed to labour of the kind required on ordinary works, *i.e.*, professional labourers.

B.—Able-bodied persons accustomed to labour, but not to labour of the kind required on ordinary works, *i.e.*, labourers, but not professional.

C.—Able-bodied persons not accustomed to labour, *i.e.*, able-bodied, but not labourers.

D.—Persons not able-bodied, but fit for light employment on relief-works, *i.e.*, weakly.

Each class is divided into two sub-classes—for men and women, and there are thus eight distinct classes according to which both tasks and wages are regulated.

In addition there are two classes of children, for each of which a different wage and task is prescribed. In many cases I found that the children were also sub-divided into classes A, B and C, and the task-tables of some of the Codes are framed on the assumption that the children are so sub-divided.

The task-tables in the Madras Code have been drawn up on the supposition that each gang shall consist of workers of the same class, *i.e.*, that there shall be A, B and C gangs, the task for which will depend on the number of child units in the gang, the task for a child unit being given in the table. I understand that the gangs were originally formed in this way, but at the time of my visit all the gangs were treated as belonging to class B, and great simplicity was thus gained, though with a loss of efficiency, economy and discipline, as the system involves paying all workers on a uniform wage scale irrespective of their capacities. In Bombay,

where the Code system has been adhered to more closely than elsewhere, the gangs were made up by families or villages, and included labourers of all classes, the task for the gang being the total of the tasks for the individual diggers included in it, as given in the standard task-table, while the number of carriers was so proportioned that the total of the tasks of the individual carriers as obtained from the same table might be approximately equal to the total of the digger's task.

Want of uniformity in classification of labourers.

4. The classification prescribed by the Code is of use only for the purpose of determining the task and wage. In some of the monthly Famine Returns (*e.g.*, those of Bengal, Central Provinces, Bombay and the Punjab, the numbers in each class are recorded, but even if the initial classification is correctly made, the exhibition of the numbers of men, women and children in each class involves an amount of labour and a complication of the returns which is hardly justified by the value of the information given for statistical purposes. As a matter of fact, however, the figures that have been submitted are wholly unreliable and are worthless for all purposes of comparison. It has been pointed out in paragraph 4 of my notes on the Central Provinces and paragraph 6 of those on Bengal, that the classification shown in the monthly Famine Returns of those provinces bears no relation to the actual classification upon which wages have been regulated, and in the case of the Central Provinces the returns are also affected by the fact that children are not shown separately, but are all included in class D. In Bengal the returns are complicated by the introduction of a new or special class, which includes all workers who are not regularly tasked. In the North-Western Provinces the Famine Returns do not show any classification of labourers at all. Apart from all this the classification is by no means uniform in different provinces. In Madras children from the 12 and 16 years of age are all included in the returns of adults, as men or women, according to sex, whereas in other provinces they are returned as *children*. In Bengal children below the age of 10 years are not admitted as workers, whereas in other provinces the minimum limit of age for working children is 7 years. Such statistics of the number of men, women and children in the different classes are therefore quite useless for purposes of comparison, for not only does the system of classification vary in each province, but the returns when submitted are not always in accordance with the actual classification in force, according to which wages have been regulated.

Code system of classification requires modification.

5. The elaborate system of classification contemplated in the Codes is very unsuitable for relief-works, and may be said to have broken down everywhere. It has been followed as faithfully as possible in Bombay and the Punjab, but even in these provinces the tendency has been to classify according to the actual outturn of work, or in other words to determine the class by the task achieved, instead of adjusting the task to the class. In some cases this is done by putting all at first in a low or the lowest class, and transferring those who do more than the task prescribed for this class into a higher one, or in some way or other paying them a higher wage; in others the workers are put into a high class, and if their tasks are short are either transferred to a lower class or are fined, so that the wage is brought down to that of the class below. In short the system of an *à priori* classification of workers before they are put to work, according to their apparent condition or antecedents, has given way to one in which the determination of the class and wage practically depends on the qualification of the worker as proved in practice. There is little advantage in the Codal distinction between a worker of class B and one of class C if the lower wage given to the latter is nearly proportional to the lower task assigned to him, and it is simpler in every way to say at once that if a man can perform the B task he will receive the B wage, and that if he is unable to do more than the C task he will receive the C wage.

Provincial variations from the Code system of classification.

6. In other provinces the Code system of classification has been given up altogether. The Government of Madras proposed to put all persons capable of doing any task at all into either class A or class B, and to reserve class C for those who fall under the Code definition of class D and are unable to do more than a purely nominal class, thus abolishing one

class altogether. The actual practice on the relief-works visited by me went further than these proposals, and in fact all the workers, including those who could not be tasked at all, were placed in class B, so that there was but one class.

A departure in an opposite direction from the strict letter of the Code was introduced by the Government of the North-Western Provinces with the object of simplifying the classification, and was promptly adopted with unimportant variations in the Central Provinces and in Bengal. Class A was nominally retained for a few workers of special qualifications, but the rest of the workers were divided into two classes, the wages of which were the Code wages of classes B and D. All men who were diggers were paid as class B, and all other adults, that is, the whole body of carriers, received the wage of class D, which is the minimum wage contemplated in the Code. The reasons which have been put forward in justification of this system are stated in paragraph 4 of my notes on the relief-works in the North-Western Provinces, and it is unnecessary to repeat them here; but it may be remarked that while the task given to the carrier on the D wage in the North-Western Provinces is in most cases very light, it is, as a rule, by no means light in Bengal, where an almost identical system of classification has been adopted.

Madras and North-Western Provinces systems of classification.

7. The proposals of the Government of Madras were not accepted by the Government of India, on the ground that they involved paying a higher wage to individuals belonging to the non-labouring and weakly classes (*i.e.*, classes C and D) than was contemplated in the Famine Codes, or than had been found necessary in other parts of India. My provincial notes show indeed that the practice in most provinces has gone further in the opposite direction than was perhaps realized by the Government of India when these orders were passed, and that in the North-Western Provinces, in the Central Provinces, in Bengal and to some extent also in Bombay, class C has been eliminated by absorption into class D rather than into class B, while the numbers of workers actually in receipt of the D wage have been much greater than indicated in the Famine Returns.

The system of classification initiated by the Government of the North-Western Provinces has never been formally sanctioned by the Government of India in supersession of that prescribed in the Famine Codes. The North-Western Provinces Circular No. 18-P.W., dated 1st December 1896, in which this system was first formulated, was indeed forwarded to the Government of India as a collection of rules, based on the experience gained in the Bundelkhand famine of 1896, which had been drawn up in the Public Works Department, for the guidance of officers employed on relief-works, and as such it was circulated to other provinces for information. It may thus be said that the rules as a whole were tacitly and provisionally approved at a time when famine relief operations were in full progress all over the country, and when much was necessarily left to the discretion of the Local Governments. The value of the rules has since been amply demonstrated by the excellent results attained under them, and the readiness with which they have been adopted almost without modification in two other provinces. But the fact that under these rules all who were unable to dig, that is, the great majority of relief-workers, would be entitled to no more than the D or minimum wage, and would in case of short tasks be liable to fines which would still further reduce the wage, was not very prominently brought forward in the new rules, and it cannot be said that this method of classification has been formally and finally approved by the Government of India in supersession of that prescribed in the Famine Codes.

Question to be decided in regard to future classification.

8. I do not propose to discuss here the sufficiency of the wage of class D as a pure subsistence wage, which has been disputed by the Government of Madras, but assuming it to be sufficient, the question to be considered is whether the fourfold classification of the Famine Code should be given up, and whether we should put into this class, which will be entitled to what may be considered an adequate subsistence wage, all relief-workers who are capable only of carrying, or of any other task that may be easily acquired after a little practice by all who come to the works, such as metal-breaking; and

whether we should offer a higher wage only to those more expert and able-bodied labourers who are able to handle a pick or *phaorah*, or to undertake other tasks which are beyond the capacity of the majority of the workers, but upon the performances of which the effective employment of this majority depends. This simpler system of classification differs entirely from that prescribed in the Famine Codes, which apart from its greater complication is open to the objection that it pre-supposes on the part of the official who makes the initial classification a knowledge of the antecedents of each individual, or a power of judging his physical condition, which the officers in charge of works cannot often be expected to possess.

Recommendation of the principle of the North-Western Provinces system of classification.

9. The arguments in favour of this simpler system of classification have been stated with sufficient fullness in paragraphs 4 and 35 of my notes on the famine relief-works in the North-Western Provinces, and so long as the average task for the carriers, or speaking more generally, for all workers who are put into class D, is not in excess of what may be legitimately expected from those who may be put into this class, these arguments may I think be accepted. But in the absence of a simple and definite standard for the task of a worker in class D there is a danger that under favouring conditions the task may be excessive, and either that the workers may be insufficiently paid at the D wage when regard is paid to the work taken out of them, or that they may be unable to perform the task, and will therefore either receive less than even the D wage, or will be indirectly prevented from coming to the works. On the other hand, there is also a danger, in the absence of such a standard, that the task for workers of class D may tend to become lighter than by proper arrangement is really necessary, so that the cost of the work done will be greatly increased, while the workers will be demoralized by the lightness of the task assigned to them.

If a satisfactory standard task can be proposed, I consider that the North-Western Provinces system may safely be accepted as the basis for the future classification of relief-workers, but I would also recommend that *wherever circumstances will permit* the workers in this class D shall be afforded an opportunity, similar to that which is now given them under the "modified intermediate system" in those provinces, of earning a somewhat higher wage on the performance of a task in considerable excess (say 25 per cent.) of the standard. I will explain presently how this can be arranged in practice. I think that for reasons given in paragraph 20 of my notes on the relief-works in North-Western Provinces the *morale* of the workers will be greatly improved whenever the stimulus of this extra wage can be given, and that if we place the great body of the workers on what we consider to be only a bare subsistence wage, the minimum wage of the present Famine Codes, we should, whenever we can, give them the opportunity of earning a small extra pittance by doing a proportionate amount of extra work. This opportunity of earning an extra wage is not however an essential, though it may be a desirable, addition to the original North-Western Provinces system, and its adoption as part of the task-work system of the portion may be left to the discretion of the local authorities.

Want of a standard for the task of an average carrier unit.

10. The adoption of the North-Western Provinces system of classification therefore depends upon the determination of a standard task for the worker in class D, or, in the case of earthwork, for the average carrier unit. Fortunately this is not as difficult a matter as may at first sight appear. The task for a digger varies within a very wide range on different works and often indeed on the same work, according to the character of the soil and the expertness of the workers, and in its determination a wide discretion must be given to the local officers. But in India almost all the labouring classes, and especially the women and children who form the majority of the carriers on relief-works, are so well accustomed to carry loads on their heads that one is almost as expert in this work as another, while the character of the soil does not greatly affect the determination of the task. It is affected only by two considerations, the variations in the length of lead and height of lift, and the general physical condition of the people. The former of these can be eliminated by the adoption of a rational formula for the determination of the "*reduced lead*," which is a matter for

experts, and there remains then only the second. If the physical condition of the people were the same everywhere, we might fix a standard task for the carrier unit in terms of the "*reduced lead*," which might be adopted all over India. This is hardly possible, but the correction required on account of physical condition should not vary greatly, if at all, within the same district, or even within the same province, and there will probably be little difficulty in fixing for each province a standard task for the carrier unit which should be lowered or raised only under the direct orders of some high authority, such as the Superintending Engineer or the Commissioner.

I have appended to this report a note on the task for a carrier unit which is submitted as a contribution to the future discussion of this subject, and will at least serve to explain more fully what has been said above in regard to it. On this subject of tasking I have only to add that the Bengal and Punjab practice of fixing the task for the sub-gang, comprising generally about four diggers with the necessary complement of carriers, appears to me preferable to the system of setting the task either for a whole gang or for the individual digger and his party.

Standard tasks for road-metalling.

11. In the case of road-metalling works the determination of a standard task for the worker in class D is not so easy, as it will depend on the quality of the stone. It must therefore be left to the local engineers to determine the number of breakers required for a given quantity of roadmetal, somewhat in the manner proposed in the instructions referred to in paragraph 27 of my notes on relief-works in the North-Western Provinces.

Proposed future classification of daily labourers.

12. If the principles stated in three preceding paragraphs are accepted, we may now proceed to consider the question of the future classification and wages of relief-workers. I would propose to divide all adult workers into three classes, which for the present may be called X, Y and Z, so that they may not be confused with the classes under the existing notation. For the sake of brevity these classes may be called respectively Special, Digger and Carrier, though in the case of the two last these terms will not quite accurately connote the work that they will be required to perform.

Class X, or the Special class, will include all workers of special qualifications of whom a certain number will be required on the work that cannot be attracted by the wage paid to members of class Y or class Z. It will include generally only mates in charge of the gangs, *kahars* for supplying water to the workers, and specially expert quarrymen. No more men should be entertained in this class than are absolutely necessary for the proper prosecution of the work, and as a general rule they should not exceed a certain percentage on the number or workers, which will vary according to the character of the work, and should be prescribed by high authority. Ordinarily the wages paid to this class should not exceed that prescribed under existing Codes for a male in class A, *i.e.*, the cash equivalent for 21 *chataks* of grain, which will be the normal wage of the class. It may, however, be left to the discretion of the Commissioner or Superintending Engineer to sanction a higher wage, on sufficient reason being shown, for particular classes of workers or on particular works.

Class Y, or the Digger class, will ordinarily comprise all able-bodied male workers who are capable of performing a full digger's task, but more generally all able-bodied men who are required to perform tasks, whether in quantity or kind, which are beyond the capacity of those who will be relegated to class Z. Thus on road-metalling operations class Y will include men employed in ordinary quarrying operations, or on sledging or breaking up the larger blocks of stone from which spawls, are supplied to the breakers, and also all those employed on consolidation, when the rammers used are not of very light weight. Men in class Y may occasionally be employed on work usually given to those in class Z, *i.e.*, on carrying or on breaking road-metalling when circumstances render this necessary, as for instance in the case of earthwork with a very l[illegible]ead in which the diggers can excavate more than the carriers can remove, or in [illegible]ase of road-works when the stones to

be broken lie close at hand, and require no quarrying or slicing, so that practically all the workers are breakers or carriers. In all such cases, however, a worker in class Y should be required to perform a task 50 per cent. in excess of that set for a unit in class Z, or he will otherwise be ineligible for the Y wage. The Y wage and task should, however, only be allowed in such cases when the worker has been originally admitted into class Y, and is put on work ordinarily given to class Z temporarily, or as a matter of convenience. When the work is of such a character that proper employment on work ordinarily given to men of class Y cannot be regularly found for all of this class that come to the work, the number actually required for this work would be selected for this class, the remainder, which should include the weakest workers, being relegated to class Z and given the Z task and wage.

The wage for class Y will be that of a male in class B under present Codes, *i.e.*, the cash equivalent for 19 *chataks* of grain.

Class Z, or the Carrier class, will include the majority of the workers, the weaker men and those unable to dig, and almost all the women and big children. On earthwork they will be employed as carriers and sometimes on dressing and tidying up. On road-work they will act either as carriers or breakers. Members of this class may sometimes be employed on digging as suggested in paragraph 12 of my notes on relief-works in the North-Western Provinces, but in that case they shoule be given a half task, *i.e.*, two of them should be counted as a digger unit, and they should receive only the Z wage.

The wage of class Z might be that of a woman in Class D under present Codes, that is, the cash equivalent of 13 *chataks* of grain.

13. It seems to me unnecessary to make distinctions within these classes between men and women as regards either wages or tasks. There will probably never be any women in class X or class Y, but if a woman is required in either of these classes, and can do the work and task required from the male, she should be allowed the wage of the class. Nursing mothers might also be enrolled in class X until the child has two teeth in either jaw, but they would be employed and tasked as carriers, although receiving the X wage, no allowance being made for the child. As to class Z the Code wages for present class D are the cash equivalent of 14 *chataks* for a man and 13 *chataks* for a woman, but in practice under the system of paying to the nearest pice the wages of a man and woman in this class are often identical. Thus, as shown in paragraph 5 of my notes on North-Western Provinces, the wages are identical for a grain rate of 10 seers to the rupee, but a man gets one pice more than a woman when the grain rate is 12 seers to the rupee. Even at the latter rate the wage of the man has been reduced to that of the woman where the intermediate system is in force, as shown in paragraph 16 of the same notes, the intention being to pay a uniform rate to the carriers per 100 cubic feet, irrespective of sex. Considering that the majority of adults in class Z will generally be women, and that the men will, as a rule, be old and feeble and unable to perform a higher task than a woman, I would recommend that all be paid at the money value of 13 *chataks* of grain. In further justification of this rate I would also propose to include in this class all children between the ages of 12 and 16, which is the present practice in Madras and is permissible also under section 73 of the Bombay Code. Children of this age require as much nourishment as adults, and should, as a rule, be able to do as full tasks as the average of this class. In Madras the task for a woman is fixed at that of 2 small child units, and it is assumed that girls between 12 and 16 can perform the same task, and that boys of the same age are equal to 2 or 3 child units according to age and physique. If the standard task for a carrier unit is moderate, as it should be, I think it may be assumed that it will not be beyond the capacity of children of this age, and we shall eliminate the present difficulty of deciding what individuals are below and above the age of 16. By bringing their big children into the adult class we render it the less necessary to pay the males in this class more than the women, for if the males have big children belonging to them, the aggregate wages of the family will often be slightly higher than under the present North-Western Provinces scale.

Unnecessary to sub-divide the classes according to sex.

14. There will then be only one class for children, viz., children under 12 years of age. The minimum limit of age for working children is 7 years, except in Bengal, where it is 10 years. In paragraph 16 of my notes on relief-works in Bombay, it has been stated that the Bombay officers consider the limit of 7 years too low. I would recommend that no children should be employed on works below the age of 7 years, but that it be left to the discretion of the officer in charge to employ children between the ages of 12 and 7 on the works. If willing and able to work, they should be counted as half-carrier units, and receive a child's wage, which might be fixed at the money value of 8 *chataks* of grain. The present Codes do not all fix the grain equivalent for children. In the Codes for Bombay and North-Western Provinces 15 *chataks* is prescribed as the maximum and 10 as the minimum, but in the latter provinces the actual wage is on the basis of 10 and 6 *chataks*, and the Code rates appear to be unnecessarily high, considering that only 14 *chataks* are allowed for an adult male of class D. It is now proposed to give the big children, between 12 and 16 years of age, 13 *chataks*, and for the smaller workers 8 *chataks* might be allowed.

Children.

If children below the age of 12 will not work and only get in the way, the officer in charge should send them to the kitchen, or give them the wage of non-working children on all works in which relief is given to such as dependants. Similarly, children over the age of 12 should be moved from class Z into the children's class if they are unwilling to work.

15. Under these proposals there will, therefore, be only four classes employed on relief-works, viz. :—

Summary of proposed classification.

Class X, Special.
Class Y, Diggers.
Class Z, Carriers.
Children, Children under 12.

There will also be only four rates of wage, except when special wages are allowed for some of the members of class X. With this simpler classification it will always be possible to compare the wages actually paid to the workers during any period of time with the amounts normally due to them under the Famine Codes, which can now be done with great difficulty and only by the use of very complicated forms of account. This is a point of great importance, and in a separate note (Appendix II) I have explained how, with the classification proposed, it will be possible to adopt a simpler and more uniform system of relief-work accounts which will permit a fair and ready comparison of the results attained, not only in the same district at different times, but also in different districts or even in different provinces. This is a question that it is desirable to keep in view in all proposals for modifying the provisions of the existing Famine Codes.

16. In paragraph 9, *supra*, I have recommended that *whenever circumstances permit* the workers should be given an opportunity of earning something higher than the minimum wage. When the proportion of carriers to diggers is so high that it is impossible by any distribution of the workers to give the carriers anything approaching to the standard task, even if the diggers succeed in doing 25 per cent. more than their full task, an increase in the wage of the carriers would not be justified. This question is discussed in Appendix I to this report; and in accordance with what is there said, I would recommend that when the number of carriers on a work does not exceed the number required for the diggers employed by more than 10 per cent., an extra wage should be allowed for both diggers and carriers when the diggers perform a task 25 per cent. in excess of the full task, but when the carriers exceed the number required by more than 10 per cent. the diggers only should be entitled to the extra wage. If, however, the Sunday wage is abolished on any work, diggers and carriers should all be allowed to earn an extra wage irrespective of the proportion that the latter may bear to the former. On such works it will amount to this, that the Sunday wage or its practical equivalent will be given only to those who earn it by doing between them during the week more than the full digger's task. I think that on

Option of earning an extra wage, and abolition of Sunday wage.

most works the Sunday wage might be done away with on this condition, which is practically the North-Western Provinces intermediate system. The extra wage for week days will seldom cost more than the Sunday wage, but the *morale* on the work will be improved. The only case in which it would then be undesirable to permit the extra wage would be when work of any kind was so difficult to procure that a restriction of progress was on this ground very desirable. In such a case it might be better to allow no extra wage, but to make up for it by granting the Sunday wage, and to accept the lower *morale* that might result from such a course.

Method of payments.

17. The question of payments has next to be considered. Broadly speaking, there are two systems only—that of weekly or bi-weekly payments, as in force in the Bombay and Madras Presidencies, and that of daily payments, as in force in the North-Western Provinces and in Bengal. In the former the daily wage is worked out according to the ready reckoners appended to the Codes to the nearest *pie*, the amount payable to the worker being the total for three, four or seven days, as the case may be, less the fine, if any, imposed for the whole period, which can also be fixed at discretion to the nearest *pie*. The net totals thus payable can be disbursed to the nearest *pice*, the payments on one or even more works being made by a single cashier or paymaster, who can pay a few gangs every day till he has gone round them all, when he will begin again. This cashier is quite independent of the mates and muharrirs who write up the muster rolls, and in theory at least none of the wages pass through their fingers. On the other hand, when payments are made daily as in Bengal and the North-Western Provinces, the daily wage must be calculated to the nearest *pice*, and the difference between this and the true wage, which is sometimes in favour of the worker and sometimes in favour of Government, must be cumulative throughout the week. So also in the matter of fines; under a system of daily payments the fine must be according to the day's work and must be expressed in terms of a full *pice*. If the work is short every day in the week to the extent that involves a fine of one *pice*, the worker is fined six full *pice*; but under the weekly payment system when the fine is imposed with reference to the short work of the week, the amount would often be much less than this owing to the calculations being made in *pie*, even if the fines in both cases were as nearly as possible proportional to the deficiency in task. Again, when payments are made daily, it is absolutely necessary that they be made by means of the muharrirs and mates, who are the very persons employed in writing up the muster rolls and pay sheets, and who thus have every encouragement to enter fictitious names and to pay the wages drawn for them to themselves.

So far the advantages appear to be all on the side of the system of weekly or bi-weekly payments. But there is a great deal to be said on the other side. In the first place it is an undoubted benefit to the workers to be able to receive their wages daily. It may be, as I was told, that the *baniahs* on the works are always willing to give credit until pay-day, but credit no doubt is not given for nothing, and unless paid daily the workers are not free to go elsewhere for their supplies. Moreover, payments that are not made daily are apt to be made very irregularly, as suits the convenience of the paymaster, and I found that in practice this was often the case, payments being sometimes made two or three days after the pay-sheet had been closed. But the great advantage of daily payments is that they are so easily understood by the workers. When a party has a piece of work marked out for it and is told that if it is accomplished in the day, each digger will receive 7 and each carrier 5 *pice*, but that if the work is short, they will get respectively 5 and 4 *pice* fine, the advantages of a daily reckoning are apparent. Under the weekly system the wage for each day is worked out in *pies*, which many do not understand, the rate per diem often varying within the week, as the grain rates go up or down, while there is an unintelligible deduction made at the end on account of fines which cannot be challenged several days after the measurements. I think it very doubtful whether any worker under the weekly system knows what he ought to receive, whereas under the daily system there is no doubt on the point. Another great objection to non-daily payments is that labourers are less free to leave the work, as they must stay till pay-day comes round, and that there will usually be a greater number of absentees when payments are made.

In the Central Provinces wages are paid bi-weekly, but the payments are made by *muharrirs*, and the daily wage is worked out in *pice*. This intermediate system appears to me to combine all the disadvantages of both systems. If wages are not paid daily, they should be worked out daily to the nearest *pie*, the total at the end of each period only being reduced to nearest *pice*, and they should be made through an independent cashier. If the daily wage is worked out to the nearest pice only, and payments are made by the muharrirs, daily payments should be regarded as obligatory.

Further remarks on the method of payments.

18. One difficulty in the system of daily payments is the large number of pice required daily on each work, but when these have been supplied in the first instance they circulate back to the work through the *baniah*. In paragraph 10 of my notes on the North-Western Provinces it is explained how the pice are counted and the payments made daily. I saw payments being made in Madras on the alternative system. An itinerating paymaster sat under a tree with a muster roll in his hand and two or three gangs seated round him. The names were called out three at a time, the aggregate wages of three workers slightly exceeding a rupee. As the men came forward a rupee with the additional small change required was thrown out to the payees who were left to divide the amount between them in the proper proportions. As there were practically no fines this was probably a less difficult matter than it would have been otherwise, but these multiple payments, except to a recognized head of a party, must be very inconvenient to the workers, and it appears to me better to face the difficulty of small change. The advantage of payment by cashiers may, I think, be overrated. In all systems of task-work or daily wages, *bogus* entries, etc., have to be guarded against, and when payments are not made by the time-keepers there is great danger of collusion between them and the cashier, unless the latter is of a higher position than it is generally possible to obtain on relief-works, and there is only another set of fingers between the worker and his pay. But under the system of daily payments it is much more difficult to defraud the workers, the systematic daily payment *coram publico* of a definite number of pice to each, and with the officer in charge and his assistants on the ground, being the most effective safeguard against fraud of that kind. If the muharrirs make anything by entering fictitious names, etc., it is not at any rate at the expense of the worker, and whether there be a cashier or not offences of this kind can only be detected by the frequent checks which it is the duty of the officer in charge and all inspecting officers to exercise.

Each of these two alternative systems has its advantages and disadvantages, and there may well be a difference of opinion as to which should be preferred. Personally I incline to the system of daily payments on a pice wage, though, as suggested in paragraph 9 of the notes on the Central Provinces, I would recommend that whenever the true wage exceeds an aliquot number of pice by $1\frac{1}{2}$ *pie* or more the next higher number of pice should be given, and that ready-reckoners for pice wages should be worked out on this principle. But I think that it is unnecessary to prescribe either system to the exclusion of the other, as it would be better that such matter should be left to the option of the Local Governments.

Accounting for fines.

19. The next point to be considered is the manner in which fines should be exhibited, and this also depends in some measure on the system of payment adopted. As already pointed out when payments are made weekly or bi-weekly the payments show the gross amounts due, and the fines, if any, are shown in a separate single column against each name, the net or actual payment being shown in a third column. This is not, however, possible when payments are made daily. The actual amount to be paid after deducting the fine must be shown in the column for the day, as otherwise three columns would be required for each day. Thus the pay sheets or muster rolls on the daily payment system show only the actual amount due after deducting fines, whereas those on the weekly payment system show, or can be made to show, the actual amount of the fines. The point is not, however, one of great importance, because it is only by referring to these initial records, which are usually in the vernacular, that an officer can find out the actual amount of fines, even on the weekly system, and in the daily system he can find it out with very

little extra trouble by referring to the same records. Under neither system, however, is the account of fines carried further or into the derived accounts, in which actual payments only are shown, without any exhibition of fines. It would be impossible to do this in any serviceable manner without greatly complicating the accounts, especially under the present system of classification. In Appendix II I have, however, shown how under the new system of classification proposed it will be possible at all times to compare the wages actually paid with the amounts normally due for full tasks, and to ascertain the works on which fining has been excessive, working down from the work to the particular gangs which have been in default.

Relief of dependants.

20. As regards dependants on workers it must, I think, be accepted that relief should in some form be given to them on almost all task-works upon which the workers receive little, if any, more than a bare subsistence wage. The tendency in all provinces, except Bengal, where the number of dependants on a single work is very small, has been to substitute grain or cooked rations in place of a cash dole, cooked food being given almost everywhere in the case of children. There are difficulties in connection with the management of kitchens, and abuses and complaints are no doubt frequent, while it is certain that they are very unpopular with the people, and are not willingly resorted to, except by those of the lower castes. This is not, however, altogether a disadvantage, and it has been shown in the notes on relief-works in Bombay and the Punjab how great abuses are likely to occur when there is a liberal cash dole. The Government of the North-Western Provinces has declared that when a cash dole was given the children were not properly fed, and has animadverted on the effect of the distress in weakening the natural solicitude of parents for their offspring. It must, however, be remembered that while many parents in the North-Western Provinces seldom receive more than the minimum wage, the non-working children have never received more than one pice per diem, which will not cover the cost of the cooked ration when grain sells for less than 12 seers to the rupee. The opinion of Famine Officers is, however, I think generally in favour of kitchens in lieu of a cash dole for non-working children on all but very small works, but it is a matter that my be left to the discretion of the Local Governments.

As regards adult dependants, grain rations were sometimes given in Madras, but the general practice is to give a money dole. The percentage of adult dependants is almost everywhere so small that it is not a question of great importance. The allowance in cash for dependants, whether adult or children, is not very clearly stated in terms of a grain equivalent in the Provincial Famine Codes, but it may perhaps be taken at 12 *chataks* for a man, 10 for a woman or child over 12 years of age, and 5 for a small child. I doubt whether it is necessary, however, to make a distinction in this class more than in any other, between men and women, which cannot always be maintained when payments are in full pice, and would prefer to take 11 *chataks* in future for an adult dependant, whether male or female, or 2 *chataks* below the proposed Z wage.

Piece-work.

21. The foregoing proposals relate to the future organization of relief-works on the task-work system, which is that contemplated in the Famine Codes, and which no doubt is in many cases the only system which can be safely adopted. The possibility of a more extensive introduction of piece-work in future remains, however, to be considered. The question has been discussed in paragraphs 132 and 133 of Part I of the Report of the Indian Famine Commission, which are quoted in full below :—

132. The contract system in its ordinary form, under which the labourers become the servants of the contractor, on whom all responsibilities for their payment rest, should be prohibited on relief-works, as it is incompatible with that direct supervision and control on the part of the supervising officer, and that free communication between him and the labourers, which are essential to secure the effectiveness of the relief. The method of payment by the piece may, however, be introduced with advantage, provided that it is optional with the labourers to choose between it and the daily wage. One or more piece-work gangs might therefore be attached to each large relief-work, in which all who are both able-bodied and skilful labourers should be classed, and to which those who are improving in strength and

skill may, if they wish it, be transferred. The rates should be so fixed (with reference to the price of food-grain) as to give a little more than the ordinary daily wage in return for the quantity of work likely to be performed. Such increased earnings may tend to encourage a spirit of industry among the labourers which will be beneficial to all; but it should be remembered that it is not expedient to add to the outlay on relief, or to the consumption of food beyond what is essential, and that no object is to be gained by the early completion of any work put in hand. Again, at the end of a famine, if any able-bodied labourers are disinclined to go back to their ordinary work, a system of piece-work may be used, with lowered rates, to induce them to go.

133. We have arrived at these conclusions after careful consideration of the arguments of those who advocate systems differing in some one or other respect from that which we recommend. Of these suggestions, one of the most important is that all relief-works should be on the piece-work system; that work should not be employed as a test of necessity, and as a condition of relief, but that it should be offered to all persons whose labour is "remunerative," that is, labourers capable of earning a living on works carried out on the usual system of the Public Works Department, at rates adjusted to the price of food. We are of opinion that experience has proved that the portion of the population not accustomed to work for wages on public works will not spontaneously seek such employment until forced to do so by want, and that it must be anticipated that many will be reduced in strength, and at first at all events incapable of earning a livelihood on the public works, assuming that the work to be done to earn a livelihood by everyone must be that of an able-bodied labourer. An unusual proportion will certainly be women, and a large fraction will consist of children unfit for labour, the aged and infirm, and those who are unaccustomed to the sort of work and otherwise unable to work up to the standard performed in the case of skilled labourers in ordinary times. Any attempt, therefore, to make these classes earn their living by ordinary piece-work could not fail to result in great suffering and mortality. If to avoid this the rate be adjusted to meet the powers of the least capable, it will make the works enormously costly, or if it were adjusted to the different degrees of strength of the labourers, the result would be to introduce a variety of rates suited to varying capacities, and so end in something not really differing from task-work. If, again, only those who can be employed profitably on works are so employed, a great mass of people will be thrown on the Government demanding gratuitous relief, but absolved from all necessity for showing that they are really in want. On these grounds we think that the only safe course for providing for proper management and economy on the one hand, and the interests of humanity on the other, is to give all those who can do a reasonable amount of work a task carefully adjusted to their powers, and pay them a wage on which life and health can be maintained; piece-work being employed only under the conditions mentioned in the preceding paragraph, and gratuitous aid, as described in the succeeding section, being confined to those who are incapable of working.

It will be seen that the Commissioners recommended the adoption of piece-work, but under the condition that it would be optional with the labourers to choose between it and the daily wage. This condition would be so inconvenient in practice that it is really prohibitive, and piece-work has in consequence not been provided for in any of the Provincial Famine Codes. During the late famine, therefore, all works were at first conducted on what have been called Code principles, that is, under some system of task-work more or less approaching to that contemplated in the Codes; but as stated in paragraph 13 of the notes on the North-Western Provinces the Government of those provinces took the initiative in proposing the adoption of piece-work under certain conditions. These proposals were approved by the Government of India and were circulated in due course to other provinces, with the result that all, with the possible exception of Burma, have since arranged to give piece-work a trial. Unfortunately at the time of my tour this trial was in progress only in Behar and in the Gorakhpur Division of the North-Western Provinces, for the "modified intermediate system" in those provinces, which forms indeed the basis of the foregoing proposals regarding task-work, cannot rightly be considered as piece-work, inasmuch as payments are made under it with reference to the constitution of the working party, and not solely and absolutely with reference to the quantity of work done. Even when true piece-work had been adopted, it had been in force for too short a time for a fair opinion to be formed in its merits, and it laboured under the great disadvantage of having been introduced in succession to task-work, or among people who had been previously working on the task-work system.

The main objection to task-work or daily labour.

22. The objections to piece-work have been fully stated in the extracts from the Report of the Famine Commission which have been quoted above, but those which may be made to a system of task-work or daily labour have not been as

fully set forth. Of these by far the most important is that the tendency of a system in which the wage of every worker is in theory strictly restricted to his own individual requirements, the State undertaking the duty of separately relieving all dependants on him who are unable to work, is to weaken that sense of an obligation to maintain their own dependants which is so universal throughout India. So long as we pay neither more nor less than a bare subsistence wage to all who come to our works, we do not offer those who can work either the inducement or the means for supporting those who cannot, which is both a natural instinct and an established custom. The men who can work do not come to the works as long as they can earn in any way as much at home as they could get on the works, but they send all their women and children and infirm to take the Government dole. The alternative system of allowing those who can work to earn as much as they can, and throwing on them the responsibility of supporting those who cannot, has never fairly been tried. When the average wage per unit paid to relief-workers exceeds the subsistence limit, there is a natural apprehension that the cost of relief is excessive, and little consideration is paid to the proportion of effective and uneffective labourers on the works concerned, or to the number of "units" that are kept off the works by the higher wages earned by their friends. It is at least conceivable that if the number of labourers on any work were reduced by one-half, and then received a double wage, the amount paid as wages being the same as before, the half remaining at home would not be any worse off. The Famine Commission in paragraph 127 of its Report remarks that it will "be necessary to see that the cost to which the community as a whole is put by the employment of persons in want is no more than the case strictly requires." Accepting this as a fundamental principle of famine-relief policy, it by no means follows that the system of paying a subsistence wage only to all who are in want is either more economical or more efficacious than that of paying a liberal wage to all who are willing to work for it; but it is undoubtedly far more demoralizing, if it be true, that what is not required by the workers for their own subsistence will be applied to the support of their non-working dependants.

23. The next great objection to task-work is the fact that the amounts to be paid depend on the maintenance of an accurate register of the attendance, that must be taken at least twice a day, and also of a detailed record of the tasks performed daily. For the maintenance of these records in all necessary detail and for the preparation of the derived periodical statistics, a whole army of underlings, such as mates, muharrirs, paymasters, work agents, etc., have to be employed, the majority of whom are only too anxious to make illicit gains, either by actually intercepting the wages due to the workers or by exaggerating the amounts to be paid to them, and pocketing the excess. All Famine Officers complain that this is the case, and that it is only by incessant exertion on the part of a strong and highly paid supervising staff that frauds can be kept within bounds, while it is impossible to absolutely prevent them. In piece-work, however, there is nothing to be considered in making payments but the quantity of work done by each gang or party, without reference to the daily attendance. In the matter of measurements there is of course ample room for fraud, but with proper and systematic arrangements, such as are now well understood by Famine Relief Officers, it is possible to prevent much overmeasurement, and when work is paid for by the piece and has been properly marked out, there is no doubt that in most places the people fully understand what amounts are due to them. In addition to the large sum of money that may be saved either to Government or the workers by thus reducing to a minimum the number of these subordinate agents and the opportunities for cheating and peculation, there is the actual cash saving due to the reduction in these establishments which piece-work renders possible, and all this has to be considered as part of the cost to which the community as a whole is put by the system of daily labour.

Second objection to task-work.

24. Another objection to task-work is its inelasticity, and the vexatious and unnecessary restrictions which it imposes on the people. They must come daily to the work, often at a considerable distance from their homes, to do what may be no

Third objection to task-work.

more than a nominal task which may not, however, be exceeded; whereas if left to themselves, as in piece-work, they would often do a double task in one day, working perhaps long overtime, and stay away the next. In paragraphs 12 and 21 of the notes on relief-works in North-Western Provinces it has been shown how the efficiency of a working party may be affected by other restrictions that have been imposed under the task-work system, and although these are perhaps not all necessary or an essential part of that system, there must always be a tendency to hamper the workers when payments have to be made with reference to the attendance and classification of individuals as well as to the outturn of the gang and not to the latter consideration only.

25. The last objection to task-work or daily labour is the great cost of the work done in proportion to its normal cost. I put this last because I regard it least. It is generally assumed that the cost to the community as a whole per unit relieved will be less under the daily labour than the piece-work system. This has not, and perhaps cannot be, proved, and is at least open to question if we include among the units relieved all those whom the piece-workers support in their own homes. But assuming for the moment that it is true, the only economical advantage that could be claimed for piece-work would be that for a given expenditure a greater quantity of work would be done under it than under the daily labour system period. This advantage would, however, be of little real value in the case of the many relief-works of small or doubtful utility which have been started solely for the purpose of providing employment, and on which expenditure would be stopped at once directly the need for employment has passed. On such works great progress is rather an embarrassment than an advantage, as it tends more rapidly to exhaust the reserve of works held available for relief purposes. There are, however, other works in which it is a real advantage to get as much work done for a given outlay as may be possible, and in which the real cost of the relief given may be regarded as the difference between the normal value of the work done and the amount actually expended, and on such works the objection now under notice has a direct connection with the cost to which the community as a whole is put to by the employment of persons in want.

Last objection to task-work.

26. If the experience gained during the recent famine, up to the time of my tour and subsequently, has furnished no positive indication that the objections which have been entertained to piece-work are exaggerated, it has at least shown how great are the disadvantages of the alternative or Code system. The deviations from the strict letter of the Codes in the direction of payment by results which have been approved by several Local Governments and the readiness with which all have accepted the suggested introduction of a piece-work as an alternative, are proofs of the dissatisfaction that is felt with the original Code system. Circumstances during the recent famine probably differed considerably from those which the Famine Commissioners had in mind when framing their proposals for the organization of relief-works. The great extensions of the railway system have tended to equalise prices all over India, and while the local intensity of distress has thus been mitigated the area has been greatly widened. Moreover, the effect of the Famine Codes has been that more complete arrangements were made on all sides for the timely anticipation of distress, and as recommended in paragraph 127 of the Commissioner's Report the relief afforded by relief-works has in most cases been "tendered promptly and before the people have begun to lose strength from want of food." All officers whom I have met who have had experience in previous severe famines, especially in Bombay and Madras, have told me that the condition of the people on the works was then infinitely worse than it has been in 1896–97, and indeed the cases of emaciation or even physical weakness which I saw on the works, although numerous enough to indicate the reality of distress and the necessity for remedial measures, were nevertheless few enough to indicate the efficacy of the measures that had been taken. There must, however, be some intermediate stage between that at which it is necessary to invite all that are in want to the works, and to give to each a wage that is but a thinly disguised form of gratuitous relief, and that at which

Desirability of substituting piece-work for task-work when practicable.

those who can work can earn enough by their ordinary occupations for the support of themselves and of those who are dependent on them. The question is whether it would not suffice at this intermediate stage to provide full employment for those who can work at rates which will enable them to support their dependants, and whether the actual cost to the community would be any greater than under the Code system. This can only be answered by giving the proposal a fairer and more extended trial, under favouring conditions, than has hitherto been deemed advisable. It is no doubt true that the piece-work system cannot be adopted at all times and places. In many cases, and perhaps in the majority of cases, the daily labour system, with all its faults, will be the only one possible, and it is on this account that the question of classification of daily labourers has been considered at such length. But unless it be held that it should be adopted universally, to the entire exclusion of piece-work, the problem which will await the famine administrators of the future, and which must be kept in mind in considering the questions that remain to be discussed in this report, is the determination of the circumstances or conditions under which piece-work may safely, advantageously, and economically, be substituted for task-work. On this point some suggestions will be offered later on.

27. The next point to be considered is the class of work most suitable for relief-works. Practically the only works which all but a very small minority of relief labourers are capable of performing are earthwork and stone-breaking, and all relief labour must be mainly employed on one or other of these. Subject to the condition that employment of this kind is provided, relief-works may be divided into four classes as follows:—

Works suitable for relief-works.

Class I.—Productive public works already in progress.
Class II.—New works or extensions of existing public works which are likely to be productive or financially remunerative.
Class III.—Public works which will be of great utility to the general public, but which will not be financially and directly remunerative.
Class IV.—Works which will not be useful to the general public, and which will benefit only a small section of the population.

Works of Class I are unfortunately rare, the Fattepur extension of the Ganges Canal being perhaps the only instance in the late famine. When such works are available, however, they are to be preferred to works of any other class, because the ultimate cost to the community of the relief afforded by them will be actually less than the difference between the expenditure incurred and the normal value of the work done, as the acceleration of progress will enable the works to earn revenue sooner than would otherwise be the case.

Works of Class II differ only from those in Class I in so far that Government is not committed to any expenditure on them. But when relief-works are necessary they are those which can be most advantageously undertaken after those in Class I, and the ultimate cost of the relief afforded by them should not greatly exceed the difference between the actual expenditure and the normal value of the work done. The Ghaggar and Jhelum Canals in the Punjab and the Barsi-Pandharpur Light railway in Bombay are examples of such works.

Class III includes all road-works, and also irrigation and drainage works. which, though not likely to be remunerative, will be useful as protective works or on sanitary grounds. The expenditure on works of this class is regulated mainly by the extent to which it is necessary to provide relief-works, but in most of them it is desirable that they should be pushed forward to completion before relief-works are closed, as until completed they are almost valueless. These works are only open to objection when they are likely to result in future liabilities for the net cost of upkeep out of all proportion to the benefits to be derived from them.

Class IV comprise village tanks and other petty works which would never be undertaken, except for the sake of providing employment for distressed labour, and which will benefit only a few individuals, or at most the inhabitants of a single village. These works can be discontinued at any time, and there is no advantage whatever in stimulating progress, if this involves any increase in expenditure beyond that absolutely required for the relief of distress.

28. The Famine Codes provide that programmes for relief-works shall be prepared by the Civil and Public Works officers in communication in anticipation of famine. Such programmes doubtless existed in all provinces long before relief-works were undertaken, and employment appears to have been found everywhere for all who applied for it, in spite of the long duration of distress. The number of remunerative works, Class II, which were available when relief-works were started appears, however, to have been very small in all provinces, except in the Punjab, aud perhaps in Burma. And of works falling under Class III the utility of many was very small, while in respect of others the future liabilities for maintenance will possibly result in their being ultimately abandoned. In Bombay and Bengal large and useful projects were started at a later stage of the relief operations, but the preparation of these was only put in hand after distress had declared itself, and was necessarily hurried. In view of this fact, and of the frequent postponement on account of want of funds of public improvements or of large works which are likely to prove remunerative, the question naturally suggests itself whether the original provincial programmes might not have included a greater number of desirable works of this kind.

Programmes of relief-works.

It is difficult to answer this question directly and for each province, but there are many reasons for the non-inclusion of many large works in the programmes of relief-works. There is perhaps a tendency to place too much reliance on the sufficiency of petty works, such as are described in paragraph 13 of the North-Western Provinces Code, and indeed in two Codes it is directed that in the early days of scarcity these should be used to the utmost in the early days of scarcity in preference to large works, "which will be the backbone of the system of relief in the later stages of a famine."* This may be advisable when such works can be executed by private agency assisted by takavi advances, as contemplated in paragraph 13 of the North-Western Provinces Code, but if there is the slightest prospect of scarcity deepening into distress and of relief-works proper being required, the sooner petty works of this kind are closed the better. They may be invaluable at a later stage, when the prevalence of epidemic disease may render it desirable to disperse large gangs of labour, as in the South Allahabad District, referred to in paragraph 31 of the notes in North-Western Provinces relief-works, or when for any other reasons it is necessary to bring the people into the neighbourhood of their homes, but the utility of such works is as a rule so small that they should be reserved for such occasions. After village works reliance has next been placed on road-work. This may often be useful, though, owing to the general shortness of the lead, it does not admit of full tasks being given to the carriers, and the cost of road earthwork is generally excessive. In many cases, however, roads are made when they are not required, or they are embanked where embankment is unnecessary, or they are metalled when it is certain that they cannot afterwards be maintained as metalled roads.

* See paragraph 48 of Central Provinces Code and paragraph 71 of Burma Code.

29. The preference given to works of this kind is no doubt mainly due to the fact that they provide employment close to the homes of the labourers, and it is in some provinces almost an article of faith that if this is not done, the people will not go to the works, but will prefer to lie down and die in their own villages. I doubt, however, if experience in the recent famine really justifies this view, which if accepted will render a programme of useful relief-works almost impossible. In Bengal the large number of persons on gratuitous relief, and in Madras the small proportion of men on the works, have been explained as in a measure due to the fact that on the approach of scarcity many of the men migrated into Assam or Mysore in search of employment, and if this is the case, it is difficult to understand why they will not attend relief-works in their own province. In Bombay, where this belief at one time obtained, no difficulty appears to have been found in inducing the people to attend large relief-works at a distance of 30 or 40 miles from their homes, and it has been found practicable to enforce a rule rendering residence within the relief camp obligatory on all workers. I understand that when labourers are drafted to a distant work they either receive advances for the journey,

Distance of relief-works from the affected villages.

or that arrangements are made for giving them a daily allowance at certain stations on the road. In the Punjab relief-workers do not object to travelling 50 miles to the works, and in the North-Western and Central Provinces a considerable number of labourers sojourn at or near the works. The objection that if the works are too far from the homes of the workers, the latter will not readily return to field labour as soon as opportunity offers has some weight; but a distance of 40 miles can be easily covered by any native in two days, and will not prevent his return when occasion presents itself. No doubt as long as employment can be found in the vicinity of the villages, the inhabitants will profess a great disinclination to go further afield, but I have found no evidence that they cannot be induced to attend large works at a distance from their homes when others are not provided close at hand, and when proper arrangements are made for their maintenance during transit and for their accommodation on the works.

In connection with this subject it may be noted that the extension of the railway system has given great facilities for deporting labourers to large works at great distances from their homes. It is now a common practice for contractors on large public works to import labour by rail, and in Burma it was recently proposed to deport relief-workers in this way from the Meiktila to the Shwebo District, or over a distance of about 125 miles. It was, however, eventually decided to employ them on the Mandalay Canal, which is a little nearer; but in this case they will also be carried nearly 100 miles by rail, and the result of the experiment will be interesting.

Possibility of including large public works in programmes of relief-works.

30. In future famines we may therefore contemplate the employment of relief-workers at greater distances from their homes than has hitherto been the general practice, but there are nevertheless other difficulties in the way of entering large public works in the relief programmes. In the first place it will sometimes be found impossible to propose any works within any practicable distance of an affected tract. In the next the completion of such works may often involve heavy expenditure which will be useless for purposes of famine relief, especially in the case of railways, as already pointed out in the Famine Codes. Again for the preperation of projects in the necessary detail the assistance of a considerable professional establishment is required, which is often not available.

These difficulties are great, but something might be done. At present many projects are shelved after a preliminary investigation which indicates that they will not be financially remunerative, or on the ground that there is little prospect of funds being available for them. But it should be remembered that in reserving works of this kind for purposes of famine relief, it is not necessary that they should be remunerative in the sense of yielding an adequate return on the outlay incurred. Such works may be recommended if they will not impose a permanent charge on the community out of all proportion to the benefits derivable from them, including their protective value in case of future famines, and if they will be less useless than other works that may be proposed. Again as regards funds the position is that in time of famine funds have to be found for the relief of distress, and it is only a question of the works on which they may be most advantageously applied. As regards railways and other works involving heavy charges which will be useless for purposes of famine relief, it is no doubt of great importance that such works should never be started unless and until their construction has been decided on upon other grounds than that of affording employment for relief labourers. But as regards railways there are now programmes of lines to be constructed all over India, in which the position of each in order of urgency has been laid down, and the prosecution of which depends mainly on the extent to which funds can be provided. When the construction of a line has been decided on, relief-workers cannot be better employed than on the earthwork, especially in an undulating country, and perhaps on the collection of ballast. Even if the permanent-way be not laid down until 10 years after such labour is not thrown away. In Bombay and Bengal railway relief-works have been carried out during the recent famine which afforded a most excellent means of employment. The same remarks apply to the case of large irrigation works, the construction of which has been definitely

decided on as soon as funds are available, as in the case of the Jhelum Canal and some other minor canal works upon which relief-workers have been recently employed. As regards establishment, if after due consideration the construction of any public works in a district subject to famine appears *primâ facie* to be a desirable means of employing relief labour, there should be plenty of time in the long intervals between famines to permit their being properly investigated, even though the Public Works Department may not be prepared to recommend their construction under any other circumstances.

Small works cannot be relied on in future famines.

31. Before leaving this subject it may be pointed out that in the next great famine there will probably be less room for a programme of small works than hitherto. During the recent famine roads have been made in all directions, supplies of metalling have been collected which will probably in many cases never be used, village tanks have been excavated or cleared wherever suitable sites could be found, and generally the reserve of works of this class has been nearly exhausted. No doubt in course of time other works of the same kind may be proposed as suitable, but as already pointed out they should be held in reserve. In future famines the backbone of the relief system, not only in the later, but in the earlier, stages should therefore be large works of public utility; and I venture to think that a fuller programme of such works will be possible in future if it be recognized that the labourers may be drafted to much greater distances from their homes than has hitherto been customary, and that large public works may be contemplated, even when not likely to prove financially remunerative, whenever it can be shown that they will entail a smaller ultimate cost to the community than other works that may be proposed, or will be more suitable for purposes of famine relief, special preference being given to works which will afford protection in future famines, such as minor irrigation works or protective railways.

Interference of relief-works with the supply of labour to private employers.

32. The next question to be considered is the complaint that relief-works interfere with the supply of labour to private employers, to which reference has already been made in the provincial notes as in margin. It is no doubt true that an ordinary family of relief-workers can, with their dependants, earn between them much more on relief-works than on a railway or other work constructed by contractors or private employers on ordinary contract principles, and this is especially the case when, as in Bombay, Madras and the Punjab, the carriers receive more than the D wage. But such workers are not required on contract works of the kind referred to, and the real complaint is that professional labourers are attracted to the works by the advantages offered. It is not so easy to say whether the workers of a professional family can earn more between them on contract works than they and their dependants can draw between them on famine relief-works, as this really depends on the relation of the contract rates to the price of grain. When the contract rate is invariable the relief-works naturally become more attractive as the price of grain rises, and it appears that railway engineers and contractors are very reluctant to raise their rates even in the face of a great rise in the price of grain. One of the minor advantages of a more extensive introduction of piece-work would be that the payments made to relief-workers and to those employed on contract works could be brought into fairer comparison, and if the relief-works were found unduly attractive, the piece-work rate could be reduced into closer agreement with those paid on the contract works. But before making such reductions Government should first satisfy itself that the rates offered on contract works are fair rates with reference to the price of grain. If the rates offered are so low that no one but a Titan could be expected to earn a living wage on such works, the complaint that the relief-works interfere with the supply of labour to private employers will not deserve attention.

Interference of relief-works with the supply of labour to private employers.	Paras.
Bombay	24
Madras	23
Central Provinces	12
North-Western Provinces	29–30
Bengal	28

I do not think that the rates on piece-work should often materially exceed those offered by a Railway Company to its contractors. The piece-workers will

then receive higher rates than the railway-workers by the difference between the rates offered to the contractors and the rates paid by them to their labourers, and this difference is no more than is required on account of the lower efficiency of the relief-workers. If it be apprehended that, with this almost unavoidable difference, professional labourers will leave the contract works some effort must be made to limit the daily task. In the case of railway-works it will perhaps often be preferable to take the work over as a relief-work, to be conducted on the task-work or piece-work system as may be more convenient, and on the understanding that the railway should be charged only the actual value of the work done at normal rates, *i.e.*, at ordinary rates enhanced to the extent considered appropriate on account of the high price of grain; the normal rate thus being not the ordinary rate, but the rate that would certainly have to be paid to attract the labour required in a season of high prices, such as renders incumbent the opening of Government relief-works. This is the plan that has been adopted in the case of the railway relief-works that have been undertaken in Bombay and Bengal, and although it throws more work on the Public Works officers, it has the advantage of eliminating altogether the difficulty in regard to professional labourers, who are as much entitled to employment as any other class of labourer.

Responsibilities of Civil and Public Works officers in relation to relief-works.

33. We have next to consider the respective duties and responsibilities of Civil and Public Works officers in relation to relief-works. As has been pointed out in some of the provincial notes the existing Famine Codes do not very clearly define the position of the officers in the different classes of the Public Works Department in connection with these works. In some, the existence of such an officer as a Superintending Engineer is recognised only to the extent of declaring him responsible that requisite arrangements are made for supplying tools and plant to the relief-works, while the duties of a Chief Engineer are confined to seeing that due budget provision is made for the expenditure to be incurred. The theory is that the Collector is the responsible officer for the management of relief-works, however numerous or important, and that the officers of the Public Works Department are merely required to assist him with professional advice on technical matters. The matter is referred to in paragraphs 129 and 130 of the Report of the Indian Famine Commission which are quoted below:—

> 129. The immediate direction of these works should be entrusted to the officers of the Public Works Department, whose special training best qualifies them for such a duty and who would be responsible for enforcing discipline and directing the labour. It is to be clearly understood by these officers that their duty is not, as in ordinary times, to get the greatest quantity of work done at the cheapest rate, but to give effectual relief to the labouring population, inasmuch as the work is undertaken, not for its own sake, but for the sake of the people employed on it. Labourers of all kinds and of all degrees of working capacity and working power should be received on these works if they apply for admission, and civil officers should be appointed to co-operate with the Public Works officers in classifying the labourers and seeing that they are properly paid and tasked according to their strength. The other duties of the civil district officers will be so numerous and important that it is not expedient that the ordinary relief works should be carried on by them unless in the case of the Public Works Department being unable to supply officers for that purpose. Work might, however, be carried on under the civil officers for the purpose of giving employment to persons who have been in the receipt of gratuitous relief, and who, though beginning to recover from debility, are not yet strong enough to be sent off finally to the regular relief works.
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> 130. The Collector of the district should exercise general supervision over all works as over all other arrangements for giving relief within his district, and should be responsible to Government for their efficiency. Pending reference to the Government or other superior authority, his decision should be accepted by the Public Works officers in all matters relating to the task and wage of the people employed, as well as in opening or closing works, and generally in everything except arrangements of a merely technical nature.

In practice the Public Works officers have, during the recent famine, been granted a wider discretion in most provinces than allowed by the strict letter of the Codes; and, except in the Madras Presidency, the Superintending Engineers, working in close communication with the Commissioners and under the orders of the Local Government in their own department, have been mainly responsible for the conduct and organization of relief-works.

Public Works officers should be solely responsible for the proper management of the relief-works entrusted to them.

34. I venture to think that this is as it should be, and that in any future revision of the Famine Codes, the Public Works Department should be declared responsible for the proper organization and management of all relief-works that may be entrusted to its control. The Collectors cannot possibly exercise the supervision of these works which is contemplated in the Codes, except through the medium of their subordinate officers who should have no authority to interfere with the arrangements on works which are controlled by an Executive Engineer, who is an officer of another department. The division of duties and responsibilities in this matter can be made very clear. The whole work of famine administration outside the relief-works should lie with the Civil Department, the Public Works Department being responsible for the management inside the works. It will thus be the duty of the civil officers to send to the works all who are in need of out-door employment, and of the Public Works officer to find suitable employment for all who come, in accordance with the rules that may be prescribed for his guidance by the Local Government in his own department, and subject to the control of his own departmental superior, the Superintending Engineer.

The responsibilities of the civil officers in time of famine are very onerous, even if relieved entirely of the duty of controlling the management of relief-works. In addition to the ordinary administration work of the district, extra duties fall on them in connection with the system of village relief, agricultural advances, distribution of charitable funds, and a great many other matters; and it is a waste of power if, with such an organization as the Public Works Department at hand, they should have also to concern themselves with the management of relief-works. It may be urged too that, whatever system may be adopted inside the relief-works, the effect can be best appreciated by outside enquiry. Take, for instance, the case of unlimited piece-work, where high wages may be paid to a comparatively small body of competent workers. If we want to estimate the efficacy of a relief-work of this kind, we must not consider the question of the average task or daily wage, but must ascertain by village inspections the extent to which the works meet or fail to meet the demand for employment. Famine relief is too much associated with the idea of relief-works, but one conclusion that may perhaps be drawn from experience in the recent famine is that village relief requires as much attention and supervision as the relief-works, whether regard be paid to the numbers relieved, or the demoralization and excessive expenditure that may result from lax supervision. Constant village inspections and scrutinies of the village relief lists will probably afford the best means of testing the efficacy of all branches of relief administration, including that of relief-works, and such inspections would be more frequent and thorough if civil officers were relieved of all responsibility in connection with the relief-works. Of course they should have access to them at all times, and have every opportunity of ascertaining the condition of the workers, the proportions of the sexes and of different classes and castes, the villages from which drawn, and other particulars. The authority of the Collector or Deputy Commissioner as head of the district must also always be recognized, but this would not be in any way affected by transferring the responsibility for all details of management from him to the Public Works Department, nor will it be less incumbent on Public Works officers to pay prompt attention to all his representations. The practice which has been described in paragraph 14 of the inspection notes on relief-works in the Central Provinces is one which may be recommended for future guidance in this respect.

There are a few relief-works that must always remain under the charge of the civil officers, such as petty agricultural works for which tacavi advances have been made, works in outlying parts of the district where no Public Works officers may be available, works of moderate size in the immediate neighbourhood of tahsils, &c., and, when considered advisable, small works employing not more than, say, 500 labourers in other parts of the district. No hard-and-fast rule is required, but whenever it becomes evident that relief works on a large scale will be required, the whole business of organizing and managing them should be entrusted, as far as possible, to the Public Works Department.

35. The next question that calls for consideration is that of the officers in charge of relief-works. The Famine Codes lay down no precise rules on this subject, and the practice varies somewhat in different provinces. In the Punjab, where distress was confined to a comparatively small area, the resources of the Public Works Department were not very severely taxed and the officers in charge were usually either Assistant Engineers or experienced Upper Subordinates. In Bengal, where the relief-works were very numerous, but generally of very small size, men of all classes have been placed in charge, including European, and even native, non-commissioned officers. In Madras, where the relief-works are more directly under the control of the District Officer than elsewhere, it has been the practice to employ Upper Subordinates of the Public Works Department as officers in charge, but the supply has been wholly inadequate to the demand, and it has been necessary to engage a number of temporary subordinates who were in many cases very imperfectly qualified for the work. In Bombay, the Central Provinces and the North-Western Provinces, the officers in charge have, as a rule, been Revenue Subordinates who have been nominated in the Civil Department, generally and at first men in the position of Naib-Tahsildars or Kanungoes, though as the number of works increased it has been necessary to go wider afield than this, and to appoint others of lower status and qualification. The officers in charge are usally of this class in all these three provinces, but whereas in the two last they are nominated by the Civil Department, but placed entirely under the orders of the Public Works officers, they are in Bombay nominally under the direct orders of the Collector. In this Presidency they are called Special Civil Officers, and their duties are laid down in paragraphs 90 to 93 and 96 of the Bombay Famine Code. In paragraph 90 it is directed that the Special Civil Officer should be a Magistrate with summary powers, but as observed in paragraph 24 of the Bombay Inspection Notes this has not been found necessary or even desirable, and as far as I am aware such powers have never been granted in Bombay or elsewhere to officers in charge as such, though they may in some cases have been invested with them before appointment to the charge of relief-works. In Bombay the Special Civil Officer is not, I believe, often in full charge of the work, as there is on all the larger works an Engineer or Upper Subordinate in charge, who is responsible for payments. In the Central and North-Western Provinces the officer in charge is also cashier and responsible for all payments.

Officers in charge of relief-works.

The practice of employing these nominees of the Civil Department in full or subordinate charge of relief-works appears to be a good one as long as men of the requisite character and qualifications are forthcoming. Their special duties are to receive all applicants for relief, to draft them to the work, to arrange for and supervise the bazaar, to look after the sanitary arrangements and health of the people with the aid of the medical subordinate, to check the musters and move about among the gangs so as to receive complaints, to be present as frequently as possible at the distribution of wages, to prepare and despatch the daily or periodical reports and returns, and when there is no sub-divisional officer resident on the works to have the care of the cash chest, and to be responsible for all payments. All these duties can be best performed by intelligent and respectable natives, who understand the language and the people, and have had some experience in office and accounts work. The practice of nomination by the officers of the Civil Department is convenient, but after appointment they should, as in the Central and North-Western Provinces, be placed entirely under the orders of the Public Works Department. In the case of large works which require constant and close professional supervision, the officer in charge should however be a resident sub-divisional officer of the Public Works Department, that is, an Assistant Engineer or senior Upper Subordinate, whenever these are available, and the Special Civil Officer should act under his orders as assistant officer in charge. In this case the sub-divisional officer will keep the cash book and be responsible for payments, and his assistant may generally be a man of somewhat lower qualifications than those required when there is no resident sub-divisional officer. In general, however, the Special Civil Officer must be entrusted with full charge of the works under the orders of a non-resident sub-divisional officer, who will have several charges under him, visiting each as frequently as may be possible.

When relief-works are numerous it will be better to utilize the services of Upper Subordinates as visiting inspectors, as is done in North-Western Provinces, than to place them in charge of relief-works. Their special duties will be to visit each work in these circles in turn, and instruct and overlook the Lower Subordinates who set out the work and record the measurements, and also to make suitable arrangements for supply of tools, etc. When works are being first started or when gangs are being re-organised they should remain two or three days, or longer if necessary, to put things into a proper groove. The services of experienced Upper Subordinates are specially required for work of this kind, and their time should not be taken up with the other matters which can be entrusted to the special Civil Officers.

36. As regards the Engineer Establishment, it must inevitably be short-handed when relief-works are simultaneously required in almost all provinces, as during the recent famine. The time of the ordinary divisional and sub-divisional officers is very much occupied in the preparation of reports and estimates for the works to be started, and in the arrangements for setting them out and organising the various relief camps, and they have little left to devote to the constant inspection of relief-works which is so essential. The establishment can be strengthened only by stopping leave, and by the temporary transfer of Royal Engineer officers and Upper Subordinates from the Military Works Department. When this is insufficient the employment of officers from the Staff Corps must be contemplated. Many of these officers are required in the Civil Department for work of village inspections, but when necessary some of them should be placed at the disposal of the Public Works Department, as in the North-Western Provinces, for exclusive employment as circle officers, whose duty it is to supplement the efforts of the regular engineering staff in inspecting works by surprise visits, for the special purpose of checking the muster rolls, pay sheets and measurements, reporting on the condition of workers, sanitary arrangements, and all other questions on which the orders or advice of the divisional or sub-divisional officer is required. These latter officers will of course also inspect the works as frequently as possible, and should at first visit them with the circle officers so as to be able to instruct them in the points requiring attention, and the general *modus operandi* in inspections. I have already in paragraph 33 of the notes on the North-Western Provinces referred to the value of these circle officers, and in such a famine as that through which we have just passed, the number that can be very profitably employed is limited only by the extent to which they can be spared from their military duties. The value of their services is not to be measured only by the assistance rendered in preventing peculation and extortion, in dealing with epidemics, and in facilitating the successful and economical prosecution of the works, for much of the experience gained while thus brought into close touch with the people cannot but tend to increase the efficiency of these officers in their own profession. The great want on relief-works is constant supervision by active, sympathetic and reliable European officers, and for these principal reliance must be placed on the Indian Staff Corps.

Public Works establishment.

37. We may now return to the consideration of the question of piece-work, and the circumstances under which it may be advantageously employed. The problem is not how to get a maximum outturn of work for a given outlay or even for every unit receiving relief, but how to supply adequate relief, to all who apply for employment at a minimum ultimate cost to the community as a whole. Piece-work may involve much higher payments to each worker unit than the daily labour system, but its ultimate cost to the community may be less for one or other or all of the following reasons:—

Conditions favourable for the introduction of piece-work.

(*a*) The number of persons requiring relief may be less, as part of the higher wages earned by the workers will go towards the support of many who would otherwise come to the works.

(*b*) There will be a saving in the cost of special establishment required for the supervision of task-work.

(*c*) The difference between the total expenditure and the real present value to the community of the work done, which is the true ultimate cost of famine relief, will be less.

difficult to insist on satisfactory assurances in this respect before sanctioning additional grants, and when such assurances can be given a considerable waste of public money may be prevented.

Relief-works accounts.

40. In paragraphs 14 and 31 of the notes on relief-works in Bengal, attention has been drawn to the number of elaborate famine returns in use in that province. In other provinces the periodical returns published in the Gazettes give a certain amount of information and they may be supplemented by unpublished returns in the divisional or circle offices, but all these statements are open to the same objection. They are not based on a uniform plan or framed in such a way as to permit comparisons with the returns, or other provinces, and they exhibit only the figures for the particular week, month, or other period to which they relate, and not up to date figures. In a separate note I have made suggestions as to the initial forms of account to be maintained on the works and the periodical returns which will be derived from them, which will meet these objections, and if adopted, the periodical returns will give reliable, if not absolutely correct, information on all the most important points connected with the efficiency of relief-works. Apart from these statements or returns there is the question of the audit of famine accounts, or rather of the accounts of relief-works carried out by the Public Works Department. In Bengal special instructions have been issued by the Examiner, Public Works Accounts, in regard to the accounts of relief-works, and a Deputy Examiner has been appointed who inspects the offices. The muster rolls and other vouchers are sent direct by the sub-divisional officer to the Deputy Examiner, and not to the divisional officer, who is thus relieved of a great deal of accounts work. I do not know how this system has been found to work in practice, or what modifications, if any, of the ordinary public works system have been made in other provinces. I believe, however, that in none were audited accounts obtainable showing up to date expenditure in comparison with the value of work done, and certainly not in an aggregate form. It was said that accounts could not be kept up to date, and that information of this kind could only be given months hence, when the great pressure of relief-works was removed. There can be no doubt of the supreme importance of making relief-work accounts as simple as they can be made, and of leaving all officers as free as possible for inspection of the works, but it is at the same time very desirable that accounts of the cost of relief-works should be punctual and up to date, and it is far easier to compile them with the necessary degree of completeness as the work is in progress than at a much later date. This is not a question to which I was specially directed to pay attention, and I did not make many enquiries in the subject, but I have been struck with the want of uniformity in provincial returns which render comparisons of results attained almost impossible, and with the difficulty of obtaining reliable information relating to the actual expenditure over a considerable area and period, with reference either to the number of units relieved or the normal value of the work done. The suggestions which have been made in the appended note are intended to remove this difficulty, but I am of opinion that the whole question of the manner of rendering and auditing relief-work accounts should be considered by a committee of experts, with the view, on the one hand, of simplifying and assimilating them as far as may be possible, and on the other of keeping them close up to date. It is desirable to utilize the experience gained in the recent famine for the improvement, not only of the system of organisation, but also of the system of accounts.

41. The concessions or relaxations that may be made as distress deepens may be very gradual. Before giving up piece-work it may be supplemented by task-work, or by relief for dependants, or the effect of raising rates may be tried. When task-work has been adopted the tasks may be successively lowered as the *nadir* of distress is reached and may be again raised as prospects improve, until as the distress draws to a close it is possible to return again to piece-work on low rates, as contemplated in paragraph 132 of the Report of the Famine Commission. There are other devices by which the works may be adapted to variations in conditions. For instance, when piece-work became impossible on a line of road owing to great

In fact the initial standard must be lowered, their representations to that effect should receive immediate attention.

(*o*) The Collector or Deputy Commissioner should be furnished with a daily report of the number of men, women and children on the works and in receipt of relief as dependants, and other information that may be required for the weekly returns of relief operations, but the periodical returns showing expenditure incurred, value of work done and other working statistics should be rendered by the Executive to the Superintending Engineer, by whom copies or abstracts would be forwarded to the Commissioner for inclusion in the periodical returns required by the Local Government or the Government of India. Suggestions as to the form of these returns have been made in Appendix II to this Report.

(*p*) A committee of experts should be appointed to consider the more general question of forms of account for relief-works, and the manner of rendering and auditing them, with a view to greater simplicity and uniformity, and an earlier return of properly audited figures relating to all expenditure on famine relief-works incurred in the Public Works Department.

Modifications of the existing Famine Codes.

42. Some of these proposals will involve a few modifications in the existing Famine Codes, but they will not be very great, nor will they be inconsistent with the recommendations of the Famine Commissioners. If, at the end of this enquiry, I am unable to recommend more radical alterations, the fact may be regarded as one indication of the value of the Codes, which cannot be overrated. Whatever deviations may have been found necessary in some provinces from the strict letter of these Codes, or whatever difficulties or friction may have been occasionally caused by some of their provisions, it is impossible to deny their great usefulness during the recent famine as a guide to all officers engaged in relief operations, and as a means of ensuring a fair uniformity of system and standards in the management of relief-works. They have been severely tested, and have stood the strain so well, that although many amendments are doubtless necessary, some diffidence must be felt in proposing them, especially by one who can claim no personal experience in the executive control of famine relief operations.

Conclusion.

43. In conclusion I must express my obligations to all the Civil and Public Works officers that I met during my tour for the hospitality and assistance offered to me. On the part of all the greatest readiness was manifested to anticipate my desires for information and to give me every opportunity of visiting as many works as possible, though the arrangements for my journeys must have often caused a great deal of trouble and inconvenience. In addition to this personal acknowledgment, I desire also to allude to the splendid work that has been done in this famine campaign, not only by these officers, but by others whom I had not an opportunity of meeting. It is not within my duty, nor is it indeed within my power, to appraise the individuals, but as one who has had the privilege of witnessing relief though the civil officers should be relieved of all responsibility for the management of the former, they should pay increased attention to the supervision of the latter, not only on account of the great numbers for whom this form of relief is alone suitable, but also because the scrutiny of the village lists afford the most reliable means of testing the efficiency of the relief-works as a means of relief.

In connection with this subject it is most desirable that there should be some fairly uniform standard by which the capacity of an applicant for relief to perform a moderate task may be judged. It should be recognized that, while it is very demoralizing to give gratuitous relief to persons who are capable of working, it is not less so to lower the task standard on relief-works by the admission of large numbers who can only be given an absolutely nominal task.

(*g*) When it is found necessary to substitute a system of daily labour for piece-work upon any work, the classification, wages and tasks of the daily labourers should be regulated in accordance with the suggestions that have been made in paragraphs 8 to 16 of this Report, or any modifications of them that may be finally approved by Government.

(*h*) Whenever the more active prosecution of public works already in progress or sanctioned is shown to the satisfaction of the Government of India to be desirable, as a means of obviating the necessity for opening relief-works on the systems approved in the revised Famine Codes, the requisite funds should be

APPENDIX I TO REPORT ON MANAGEMENT OF RELIEF-WORKS.

Note on the standard task for an average famine carrier.

1. In paragraph 10 of the Report to which this note is an Appendix, it is shown that one of the most important problems in the organization of relief-works is the determination of the average carrying task that may be legitimately expected from an ordinary famine carrier who receives only the D minimum worker's wage. It is unnecessary to consider here the digger's task, which varies according to the nature of the soil, from 200 cubic feet in Bengal to 40 cubic feet or less in the Deccan. The problem is to determine for different leads and lifts the minimum complement of carriers required for a company of diggers who are set a full task of T cubic feet per diem. Circumstances may still often render it unavoidable to employ more than this minimum number, and to whatever extent this may be the case the carriers will be lightly tasked. The determination of the minimum will, however, give a standard by which the lightness of the task will be judged, and if it is ever necessary to employ less than the minimum complement, that is, to increase the task above the standard, the carriers will be fairly entitled to something more than a minimum wage.

2. In many of the Codes, *e.g.*, that of Bombay, tables of standard tasks for carriers have been worked out for males and females of the three classes A, B and C and for working children, but in them certain relations are assumed between the task that can be done by a man, a women and a child, or by a member of one class and a member of another class, which are at least in some cases open to question, and although the task proposed may, in particular cases, be fairly correct, it does not follow that the derived tasks are correct, nor is it clear what task should be allowed for the average carrier on famine works. Another objection to most of the tables is that they are based on the assumption that the task will vary inversely as the horizontal lead when the lifts are the same. It is, however, much easier for a woman to carry a basket on her head for say a mile, and return with it empty, than to make 53 trips of 100 feet each and back with the same basket, taking it full from the digger in each case and returning to him with it empty. In any line of carriers the first in the line who takes the basket from the digger carries it a much shorter lead than the others when there is no lift, and it is clear that some allowance has to be made for the initial effort. The first carrier frequently has to assist in filling the basket, or loses time in waiting until it is filled by the digger. She has then to lift it to her head through a height of over five feet, but in this is generally assisted by the digger, and after carefully poising it has the most cases to step out of the pit, and whether (as in the case of very short leads) she be the only carrier, or the first in a long line, she usually has to take the load through a lift of at least three feet in addition to the horizontal lead.

3. We may thus consider the *reduced lead* upon which a carrier's task must be based to consist of three factors—the initial effort, the horizontal lead and the vertical lift; and if we can express the first and third of these factors in terms of the second, the sum of the three will represent the *reduced lead*. As regards the initial effort I consider that it may fairly be taken as equivalent to 72 feet of horizontal lead, that is to say, that the carrier who takes the basket from the digger and carries it to a distance of 28 feet will be just able to serve the second carrier who may be supposed to carry the basket through a horizontal lead of 100 feet. It must be added that this initial effort must be held to include a vertical lift of three feet, which may be taken as a minimum lift in almost all forms of earthwork. The carrier has usually to step out of a pit one or two feet in depth, and the earth when thrown down will stand at a level of one or two feet above the natural surface. The first in a line of carriers in almost all cases overcomes the first three feet of the vertical lift, as she transfers the basket from her own head to that of the second carrier at a level from which it can be thrown down to a level of at least three feet above the horizontal plane from which the earth was taken.

4. As regards the conversion of vertical lift into horizontal lead, there is some difference of opinion and practice. In the standard task-table, of the Bombay Famine Code, 5 feet of lift are taken as the equivalent of 100 feet of horizontal lead, or 1 in 20. In some experiments with able-bodied labour made many years ago on the Sirhind Canal, it was concluded that one foot of lift was equivalent to 6 feet only of horizontal lead. In the Bengal rules 3 feet of lift are taken as equivalent to 50 feet horizontal lead, which gives a proportion of 1 to 16·6 feet. Professor Rankine states that in wheel barrow work one foot of lift may be taken as equivalent of 6 feet horizontal lead, but for basket work no doubt the equivalent in horizontal work is greater. The extra rates paid for lift and lead in Northern India are usually 8 annas per chain of 100 feet horizontal lead and one anna per foot of lift, which is therefore the equivalent of 12½ feet of horizontal lead. On the whole, I think that a ratio of 1 to 12 may be accepted as that most generally applicable, and it accords very well with such observations as I have been able to make on relief-works.

5. The reduced lead on any work may therefore be expressed symbolically by the following formula :—

Let R = Reduced lead in feet.
H = Horizontal " "
V = Vertical lift " "
Then R = 72 + H + 12 (V — 3) = 36 + H + 12 V.
And if T = Task of diggers in cubic feet.
C = Task of carriers in cubic feet carried over lineal feet.
Then C = T. R.
And if C = Task of an ordinary famine carrier.
$\frac{T.\ R.}{C.}$ = Number of carriers required for a digger's task T to be carried over a reduced lead R.

6. We have next to consider a fair value for C, the carrying task of an individual famine cooly, and for this we may take a woman as representing the carrier unit. The great majority of the carriers will always be women, and we may assume, as in Madras, that children between 12 and 16 will between them be able to work up to the woman's task, the boys doing perhaps a little more than the average and the girls a little less. The male carriers will, as a rule, be old and feeble men who will not be able to do much more than the women, though a higher task may be set for strong men when it is necessary to employ them as carriers. Children under 12 may be regarded as half units.

7. By observations made on the works and collation of task-tables, etc., I have formed the conclusion that the maximum task that can be expected from one carrier unit, expressed in terms of the quantity of cubic feet to be carried multiplied by the number of lineal feet in the reduced lead, may as a rule be taken at 12,500, that is to say, that 12·5 cubic feet may be carried over a reduced lead of 1,000 feet, or 125 cubic feet over a reduced lead of 100 feet. This is, however, a maximum task, such as is found in long leads or when carriers can be worked to the utmost. For ordinary tasks, entitling to the minimum wage, and adapted to gangs containing a fair proportion of girls, nursing mothers, and others who may be a little below the average, a reduction of 20 per cent. may be made, and the ordinary famine task per carrier unit may be taken at 10,000.

8. A more concrete idea of the work involved in this task may be formed by considering the number of trips that must be made for leads of varying length. Observations made on many works showed that the weight of the loaded basket carried by the average carrier unit weighed from 30 to 35 lbs., and it may fairly be taken at one-third of a cubic foot. Some will of course carry heavier loads and move at a slower pace, while others will carry lighter loads and made more trips in the day, but in almost all soils the average load seems to approximate very closely to one-third of a cubic foot, as has been assumed as one of the data in the Bombay task-tables. If the number of cubic feet multiplied by the reduced lead in lineal feet be taken at 10,000, the number of baskets carried multiplied by the same lead will be 30,000, or one basket-load will have to the carried a distance of 30,000 feet, or 5·68 miles, the carrier returning with the empty basket. In practice of course

a single basket is not carried this distance, but more baskets over a shorter lead. Thus supposing the reduced lead to be 100 feet, 300 baskets would be carried. As 72 feet are allowed for the initial effort, the actual distance travelled in this case would be $300 \times 28 = 8,400$ basket-feet only, and back with the empty basket, but the carrier would in addition have to do all the initial work connected with the filling and first lifting of 300 baskets, which may be taken as the equivalent to a task of 21,600 basket-feet.

9. The determination of the number of carrier units required in any gang will thus be a very simple matter. All that is necessary is to multiply the full task of the diggers in cubic feet by the length of the reduced lead in lineal feet, and divide by 10,000 (that is, cut off by a decimal point the four figures on the right hand of the product) to find the number of carrier units required. In making up this number children under 12 should be counted as half units, and able-bodied men, of the digger class, whom it may be necessary to employ as carriers, should be counted as equal to $1\frac{1}{2}$ units. All other carriers should be regarded as single units.

10. In the following table the tasks per carrier unit deduced from the formula now suggested are compared with those derived from the standard task-tables of the various Provincial Codes, for a woman of B class, or man of C class:—

Lift and lead.	Reduced lead.	Task per carrier unit.	Bombay, Central Provinces, Upper Burma.	Bengal.	North-Western Provinces.	Punjab.
	Lin. feet.	Cubic feet.	Cubic feet.	Cubic feet.	Cubic feet.	Cubic feet.
50 feet lead, 5 feet lift	146	68	60	62	71	93
150 " " " " "	246	41	30	43	34	70
550 " " " " "	646	15	10	15	10	18
50 " " 20 " "	326	31	15	17	16	25
150 " " " " "	426	23	12	14	12	22
550 " " " " "	826	12	7	8	7	12

It will be seen that with one or two exceptions the tasks proposed for lifts of 5 feet agree very fairly with those prescribed in the Codes, though much below the Punjab tasks. For other lifts the tasks proposed are much higher than allowed in the Provincial Codes, except in the Punjab. This is due to the fact that the tables in other Codes are based on the assumption that 5 feet of lift are equivalent to 100 feet of horizontal lead, instead of 60 feet as in the formula proposed. The latter ratio appears to me to be more closely in accordance with observed facts, and if so, the tasks for high lifts proposed in the tables of standard tasks are much too low. The initial tasks prescribed for class A labourers in the Bombay, Central Provinces and Upper Burma table, are also low, as pointed out in paragraph 17 of the Bombay notes.

11. The standard task proposed of 10,000 cubic feet over lineal feet may now be considered with other formulæ or rules, and to certain observations recorded in my inspection notes—

(*a*) The formula proposed in a Resolution by the Government of Bengal, dated 5th October 1892, which has been inserted in almost all the Provincial Codes, assumes that the initial effort is equivalent to an additional lead of 50 feet; but it is stated that the formula is a little too liberal when the lead is long, so that it may be inferred that the allowance for initial effort is not quite as much as it should be, and that 72 feet allowed in my formula will be more appropriate. The assumption is also made that a man can carry 125 cubic feet, of soil for 100 cubic feet when there is no initial effort, and that a woman can carry a little less than a man. The task in cubic feet over lineal feet for a man is thus 12,500.

If 50 feet be allowed for initial effort, the task for a woman, according to the examples cited in the Resolution, will be 10,000.

(*b*) In the note by the Chief Engineer of Bengal, dated 15th March 1897, on the manner of laying out tanks for famine relief works, it is stated that under normal conditions a carrier will remove 125 cubic feet a day for a lead of 100 cubic feet and lift of 3 feet, but that famine carriers will not do more than five-eighths of such a task, or 75 cubic feet. This, however, is for the initial chain, and involves the initial effort. If we add 72 feet for this to the lead, the real task done is $76 \times 172 = 13,072$.

In paragraph 7 of the same note it is laid down that in road work 3 carriers are required for every 200 cubic feet carried over a lead usually under 50 feet, with a lift under 6 feet. For a 50 feet lead and 6 feet lift the reduced lead, according to the formula proposed, would be 158 lineal feet, and the work done by three carriers would be $158 \times 200 = 31,600$, or 10,533 per carrier. The carrier's task is generally low on road-works.

In paragraph 3 of the same note it is said that two extra carriers should be allowed in tank work for the second and successive lines of pits, that is, for every additional 25 feet of lead, the task of the diggers being 800 cubic feet. Here we have not to consider the initial effort. The task of the additional carriers is $\frac{800 \times 25}{2} = 10,000$ but it is remarked that this is somewhat too low.

In paragraph 4 of the same note it is directed that for every successive horizontal layer, 2 feet in depth, two extra carriers may be allowed for the task of 800 cubic feet. The extra depth of 2 feet in digging will probably involve an extra height of 1·5 feet in the spoil bank, so that the extra mean lift will be 3·5 feet, and for this the same number of extra carriers is allowed as for 25 feet extra horizontal lead, that is, 1 foot of lift is taken as equal to only 7 feet of horizontal lead instead of 12 feet allowed in the proposed formula, 16·6 feet in Bengal piece-work rules, and 20 feet in most of the standard task-tables. If we take the ratio as 1 to 12 as in the proposed formula, the carrier's task becomes $\frac{800 \times 3{\cdot}5 \times 12}{2} = 16,800$ which is very high.

The rules for extra carriers on tank work have been framed with a view to simplicity, and appear to be rather too liberal for extra horizontal lead and too hard for extra lift, but taking both together it will be found that the carrier's task varies in different pits and for different lifts from 11,000 to 13,000, and that 12,000 may be taken as the average contemplated in Mr. Glass's rules.

(*c*) In paragraph 16 of my notes on relief-works in North-Western Provinces it is shown that on road-work, with a lead not exceeding 50 feet, two carriers are allowed for a full digger's task of 100 cubic feet, and if the lift be taken at 5 feet, the carrier's task according to the formula is $\frac{100 \times (36 + 50 + 60)}{2} = 7,300$ only, while for a maximum digger's task of 125 cubic feet, the carrier's task is but 9,125. The carriers in the North-Western Provinces are, however, generally very lightly tasked, especially on road-work.

(*d*) On the Amipur Nullah embankment referred to in paragraph 25 of the same notes it may be assumed for the reasons given that the 1,736 diggers spent half their time in carrying. The carriers consisted, therefore, of—

	Carrier units.
868 diggers	= 1,302
2,006 other men	= 2,006
4,151 women	= 4,151
1,287	= 965
Total ...	8,424

I have taken each digger as equal to $1\frac{1}{2}$ carrier units and each child as $\frac{3}{4}$ of a unit. Small children should count only as half a unit, but on this work the proportion of small children was very low. The quantity of earth removed over a lead of 900 feet and lift of 3 feet was 104,160, and the average task per carrier unit was therefore $\frac{104,160 \times 972}{8,424} = 12,019$.

These were all piece-workers, and were probably doing their best. This example is an interesting one, as there was a long lead, but practically no lift.

(*e*) Two examples of high lifts are given in paragraphs 12 and 13 of my notes on the relief-works in Bengal. In the former the task of the carriers, according to the proposed formula, was $\frac{600 \times (36 + 200 + 240)}{22} = 12{,}982$, and in the latter $\frac{200 \times (36 + 140 + 240)}{7} = 11{,}886$. Both these cases were task-work on the Blackwood system, or practically piece-work.

(*f*) In paragraph 19 of the same notes it is shown that 18,302,704 cubic feet of earth work were carried out by 392,354 workers, of whom it is assumed that 30 per cent. were diggers, so that the number of carriers may be taken as 274,648, and the task per carrier will have been $\frac{18{,}302{,}704 \times (36 + 68 + 120)}{274{,}648} = 14{,}927$.

The digger's task worked out in this case to 155 cubic feet which is not very high, and it is possible that some of the diggers assisted in carrying, while the average lift of 10 feet has probably not been calculated very accurately, and may have been somewhat overestimated. A high duty might, however, be expected on this canal which was piece-work.

(*g*) In Madras I found that carrying tasks for leads of over a furlong were generally fixed on the assumption that a woman could carry a basket containing 0·4 cubic feet of earth a distance of 5 miles per diem, returning with the empty basket, and that a child could carry a basket containing 0·2 cubic feet the same distance. The woman's task would therefore be equivalent to 10,560, if no allowance be made for initial effort. With short and numerous trips, making up to 5 miles, the task done would be heavier than this, as allowance would have to be made for the initial effort. In practice, however, the tasks in Madras were generally much less than this owing to the excessive number of carriers.

(*h*) In paragraph 12 of the Bombay notes it is shown that woman carriers were required to carry 20 seers, or $\frac{1}{2}$ a cubic foot of road-metalling 6 miles daily, returning with the empty basket, and in paragraph 6 of the Central Provinces notes the task for carrying kankur long distances is stated to have been 3 cubic feet, divided by the distance in miles. In both these cases, therefore, 1 cubic foot is carried 3 miles, and disregarding initial effort for these long leads the measure of the task is 15,840.

(*i*) From a note by the Chief Engineer, Irrigation Works, Punjab, on relief-works in that province, it appears that for a horizontal lead of about 65 feet the carrier's task was 75, 50 and 40 cubic feet for mean lifts of 3, 9 and 16 feet respectively, and the measures of these tasks are 10,275, 10,250 and 11,720.

(*j*) On the Jhelum Canal in the Punjab three carriers were required to take 160 cubic feet over an average horizontal lead of 200 feet and a lift of 4 feet, the measure of the task, according to the proposed formula, being $\frac{160 \times (200 + 36 + 48)}{3} =$ 15,147. An extra carrier was allowed for every additional 8 feet of lift, the measure of whose task would be $160 \times 8 \times 12 = 15{,}360$. These tasks are high, but they were set for labourers receiving the A class wage.

12. A consideration of all these instances in different provinces, will, I think, be found to justify the assumption that 10,000 may be taken as the measure of the task for an average carrier's unit, and 12,500 of the task entitling to an extra wage. An able-bodied carrier receiving the wage of a digger should be required to perform a task of 15,000, while the ordinary task for a child would be 5,000.

13. It is not obligatory, however, to adopt these constants in all cases. In some provinces or districts the condition of the people may be such as to justify the adoption of a lower standard, and the task for the average carrier unit may be taken as 9,000 or 8,000, the tasks for child units or for able-bodied men employed as carriers being proportionally reduced. On the other hand there may be more provinces in which the standard may be fixed as high as 12,000. If the formula for the reduction of lead is accepted, the value of c, or the measure of the task for the average carrier unit, may be fixed at discretion. The formula and constants proposed are those which appear to me generally suitable for relief-works, but are only put forward tentatively for the consideration of those who have great or more extended experience in famine earthwork. What I am most desirous of urging is

the necessity for establishing some standard whereby it may be readily seen whether famine carriers are being over or under-tasked. Overtasking can always be prevented by taking off some of the diggers and making them carry. Undertasking will be often unavoidable when the proportion of carriers is excessive, but it is nevertheless desirable that there should be some standard by which the degree of undertasking can be measured and undue laxity prevented.

14. Let it be supposed that there are 10 diggers in a pit, whose normal or full task is 1,000 cubic feet per diem, *i.e.*, 100 cubic feet per man, and that 40 carriers are required to carry this away, for the given lead and lift, each carrier performing a task measured by 10,000. If the diggers do a maximum task (25 per cent. in excess of full task), or 1,250 cubic feet, they will be entitled to an extra wage, but this will involve on the part of each carrier a task of which the measure would be 12,500, and each carrier would also be entitled to the extra wage. If, however, owing to excess of carriers it were necessary to put 50 instead of 40 into the pit, the measure of the carrier's full task would be 8,000 only, and if the diggers did a maximum task of 1,250 cubic feet, the carrier's task would still only measure 10,000, so that the diggers only would be entitled to an extra wage. If, however, the number of carriers were less than 50, the task would exceed 10,000 when the diggers did 1,250 cubic feet, though it would not amount to 12,500 as long as the number of carriers exceeded 40. The extra wage should therefore be allowed for some number intermediate between 40 and 50. Let us fix this at 44, or 10 per cent. above the normal number. When the diggers perform a maximum task, the carriers will do a task of $\frac{40}{44} \times 12{,}500 = 11{,}364$ or 13·64 per cent. more than the standard task. If this may be considered as entitling them to an extra wage, the following rule may be adopted in deciding whether an extra wage may be allowed to carriers when the diggers do 25 per cent. more than the full task:—

"When the number of carriers on a work does not exceed the number required for the diggers, according to standard task-tables, by more than 10 per cent., carriers and diggers should alike receive an extra wage when the diggers perform a maximum task. When the number exceeds 10 per cent. the diggers only shall be paid an extra wage."

If the gang registers and work abstracts are properly maintained, it will never be difficult to ascertain when the number of carriers on a work exceed the number required by over 10 per cent.

If there is no Sunday wage, the carriers might, however, be allowed an extra wage whenever the diggers perform a maximum task.

2nd October 1897.

T. HIGHAM.

APPENDIX II TO REPORT ON MANAGEMENT OF FAMINE RELIEF WORKS.

Note on Initial and Periodical Returns relating to Famine Relief Works.

1. The initial field accounts and derived periodical returns relating to Famine Relief Works which are in use in different provinces differ very much, both in form and in regard to the nature and extent of the information which they are intended to convey, but all, including even those which are the most detailed and elaborate, are open to the following objections:—

Objections to present forms of Relief Work returns.

(i) The returns derived from the initial field accounts do not show the extent to which the relief workers are fined, or the difference between the amounts actually paid to them, and those to which they are normally entitled under the Famine Code rules in force.

(ii) The periodical returns do not compare the expenditure incurred on wages to relief workers, and on other items, with the value of the normal rates of the work done during the period under reference.

(iii) Nor do they show the average task required on the principal forms of works and, in comparison with this, the tasks actually performed.

(iv) The forms in use do not provide for showing separately the results of piece-work and task-work.

(v) All returns exhibit only the figures for the period, day, week, or month to which they relate, and there is no record of up-to-date figures.

(vi) The returns for one province are not comparable with those of another, owing to the great differences of form and classification, and even in the same province returns for different districts are in regard to many points not comparable, owing to differences in the grain rates, or the character of the works, *e.g.*, the out-turn of earthwork per male unit, without reference to the hardness of the soil or the conditions of lift and lead.

2. The great variety of forms is in a great measure due to the variety in the systems of classifying relief workers, and of fixing their tasks. If the suggestions in regard to these matters made in the Report to which this note is an appendix are accepted, it will be possible to introduce more uniform and simpler forms of returns to which the foregoing objections will not apply. The following proposals to this end are made, partly for the purpose of more fully illustrating the advantages of the system of classification proposed in the Report, and partly as a starting-point in the future consideration of the general question of the returns and accounts relating to relief works.

Simpler and more uniform returns will be possible under a simpler system of initial classification.

3. In most provinces some form of progress report or famine return is prepared weekly, and is either recorded in the district or divisional offices, or is published in a more or less condensed form at weekly, fortnightly or monthly intervals in the Local Government Gazette. In Bengal these returns were compiled weekly, and in addition separate sets of returns were submitted at 10-day intervals to the Examiner for accounts purposes. The length of the period to be embraced in periodical returns is a matter for the discretion of the Local Government, but it is at least advisable that the periods adopted for statistical and accounts purposes should be synchronous. The forms proposed in this note are intended to be made out half-monthly, that is for the former 15 and latter 15 or 16 days of a month of 30 or 31 days, and it is thought that this will be found more convenient than any other period. But there will be no difficulty whatever in using the forms for periods of a week, 10 days, a fortnight, or a month, as may be deemed desirable. It should be noted, however, that the periodical returns now under consideration are not intended to supersede the brief weekly returns which are now required by the Government of India showing for each district the numbers on the last day of the week of workers and dependants and recipients of other forms of gratuitous relief, without regard to sex, age or class.

Intervals embraced by periodical returns.

4. There are five forms of return to be considered, viz.:—

The series of statistical returns.

(1) The initial returns, including the Gang Register, Muster Roll and Measurement Book.
(2) The Daily Reports, or abstracts of the Gang Registers, &c.
(3) The Works Abstract or Day book maintained on each work by the officer in charge.
(4) The Half-monthly Progress Report, prepared from the work abstracts in the Sub-divisional or Divisional Office.
(5) The Final Return, or abstract of the figures given in the Progress Reports, for each Civil District, or, if thought necessary, for each sub-division of a district.

The last is the only return that would usually be published in the local Government Gazettes.

Each of the last four of these returns will be an abstract of the return immediately preceding and all will be essentially in the same form. The forms appended are those suggested for the Works Abstract or medial return of the series, and will be first described, the few modifications necessary in the initial and derived forms being explained subsequently.

5. The Works Abstract will consist of three parts, but the appended forms are for parts I and II only. Part III, which will be on the reverse of the form, is merely required for the exhibition of the progress, "last reported," "during month," and "to end of the month" under all the work sub-heads of the estimate, and will be in the form usually adopted for Day books or Work Abstracts.

The Works Abstract.

Parts I and II have been drawn up on the supposition that piece-work and task-work are both in progress on the same work, though this will not be very commonly the case. When there is no piece-work, columns 9 and 12 of Part I and columns 2 to 13 of Part II may be altogether omitted, and the form will be greatly simplified. When there is no daily labour, but all are piece-workers (which will perhaps seldom, however, be the case) columns 6 to 11 of Part I, and columns 14 to 25 of Part II will not be required. In practice, therefore, the Works Abstracts may often be in a much simpler form than proposed, but the two derived returns, the Progress Report and the Final return, will very often include piece-workers and daily labourers, and it is convenient therefore to show the Works Abstract in a form that will be suitable for these derived returns.

6. Part I of the Works Abstract will contain an abstract of the daily reports for every day in the half-month, each column being then totalled to show the totals for the half-month. This Part gives all necessary details of the attendance and classification of the workers, the amounts of the wages to which they are entitled at the prescribed normal rates, the amounts earned, and those actually paid. A comparison of the amounts entered in columns 10 and 10 (*a*) will show at a glance to what extent deductions have been made from the normal wage. Payments for piece-work and on account of other items are shown separately (column 13 may be sub-divided at pleasure), and the total daily payments on all accounts, except Relief of Dependants, are shown in column 14. The total in this column at end of the half-month is compared with the total value of work of all kinds done by the relief labourers, whether on piece or task work, during the same period, as worked out from the details of progress in Part III of the Works Abstract. In the next column the figure of merit for the half-month, or percentage on the total expenditure of the value of work done, is recorded. This in itself will not always be an index of the efficiency of the work, as in particular months the special or miscellaneous charges may be very heavy, but the forms permit the up-to-date percentage being also exhibited, and as miscellaneous charges are shown separately they can be always allowed for. The last four columns of this Part show the numbers of dependants and the amount paid on their account. This amount will not be included in the total expenditure shown in column 14, as many officers consider that gratuitous relief should never appear as a charge against the work. It may be said on the other hand that as daily wages are often fixed with reference to the consideration that dependants will receive gratuitous relief, and as

Part I of Works Abstract.

dependants are not usually relieved when piece-workers are employed, the cost of gratuitous relief may fairly be charged against the work. Where gratuitous relief is given it forms a considerable but very fluctuating proportion of the total expenditure, over which however the officer in charge has very little control, and on these grounds I think it better that it should not be included in the works expenditure shown in column 14. As long as the cost of such relief is shown separately, as in the form proposed, it is not of much importance whether it is included or excluded from the total in column 14, but the practice should be uniform in all provinces.

The form will show the totals for the half-month for each column. Some additions will probably have to be made in the sub-divisional or divisional office under columns 13 and 14, and when this has been done the form can be completed by entering from the last preceding Works Abstract the totals to end of previous half-month, and then showing for each column the totals from commencement to end of the half-month, or up to date.

Part II of Works Abstract.

7. It may be said that Part I will not give information as to the actual cost of the work in sufficient detail, especially as the payments to daily labourers will include the wages of many who have not been tasked. Its usefulness as a general abstract of the operations for the period embraced would be marred, however, by loading it with further details, and it is on this account that Part II is proposed, which will deal with the more important working statistics. Columns 2 to 7 relate to piece-workers of all kinds. In columns 2, 3 and 4 the total number of men, women, and children employed are shown, as it is very necessary to keep a distinct record of the proportions which men bear to women and children on piece-work. The corresponding number of male units, calculated as directed in the notes on the form, will be entered in column 5. The amounts to be entered in column 6 will be identical with those in column 12 of Part I, so that the average earning of the piece-workers per male unit may be shown in column 7.

When piece-work is in force it will probably assume various forms, on many of which very few workers will be employed. As full details cannot be maintained for each kind of piece-work all piece-workers will be accounted for together in columns 2 to 7. On all relief works however the great majority of the relief workers, whether paid by the day or by the piece, are employed either on earthwork or on road-metalling, and working statistics must be maintained for these if it is desired to test the efficiency of the management. As regards piece-workers the information to be given in columns 8 to 13 of Part II is all that is required, and required no explanation. Earthwork by daily labour will be accounted for in columns 14 to 19. Although it has long been recognized that earthwork tasks must be fixed, in the first place, with reference to the capacity of the diggers, I have seen no forms, except in some cases the gang registers, in which a record has been maintained of the work of the diggers. In column 14, however, the number of digger units employed daily will be shown, the aggregate task set for this number will be entered in column 15, and the work done, as measured, in column 16. A comparison of column 15 with column 16 will thus show at a glance to what extent the work of the diggers has fallen short of or exceeded the amount prescribed as a full task, however much this amount may differ, according to hardness of soil or for other reasons, in different gangs. Similarly as regards carriers; the number of units required for the work to be done by the diggers, as taken from tables based upon the formula and constants proposed in Appendix I will be entered in column 17, and a comparison with the number of units actually employed, as shown in column 18, will indicate at a glance whether carriers are in excess or are being too heavily worked. From these columns alone the efficiency of the task-work can be ascertained, but as most officers like to compare the wages actually paid to task-workers in working days with the amount of work done, I have added column 19 for this purpose. The work done is shown in column 16, but the total of this column should be corrected at the end of the half-month when necessary so as to accord with final measurements as reported in Part III.

Columns 20 to 21 will give necessary details of road-metalling task-work. Here the main point to be considered is the work of the breakers, of which details may be given in columns 20 to 22 similar to those relating to the work of diggers in columns 14 to 16. In addition to the breakers there will be a number of complementary workers, whose proportion to the breakers must be fixed for each work according to circumstances by the Sub-divisional officer, and a comparison of column 24 with column 23 will show at all times whether this number is being exceeded, that is, whether the complementary workers are being undertasked. The actual cost of the finished outturn (column 22) will be shown in column 25.

All the columns in Part II will, like those in Part I, be totalled at the end of the half-month, and in the Sub-divisional office the totals to end of previous half-month will be added, so as to show on the works abstract up to date totals to end of the period embraced, as well as those for the period itself.

Gang Register and Muster Roll.

8. We may now consider the initial field accounts, the Gang Register and Muster Roll. The measurement book, which is as important as either, may be in any convenient form, but as the daily outturn of each gang is posted into the gang register from the measurement book the latter requires no further consideration here. The gang register may be kept in a separate book, or it may form an outer cover to the muster roll; but from these two records, in whatever form maintained, will be derived the figures required for columns 2 to 12 and 16 to 19 or 20 of Part I, and all columns in Part II, though there will of course be separate gang registers for piece and task workers. The task-work gang registers will in the case of earthwork also show for each gang the lead, lift and reduced lead, from which the number of carrier units required will be calculated for purpose of column 17 of Part II.

Daily Reports.

9. The Daily Report will be a daily abstract of all the gang registers and muster rolls. It will be convenient to use exactly the same form as proposed for the works abstract, which will be posted from the daily reports. Each muharrir may submit a *goshwara* or abstract in this form of the registers of his own gangs, the totals of these abstracts being worked out in the works office for posting in the works abstract, or a muharrir may be sent round to post the abstract of each gang register into a book, the totals of which will be posted into the works abstract. On receipt of the daily report the officer in charge should particularly scrutinise the entries for each gang under columns 10 and 10(*a*) the differences between which will indicate the amount of the fines or deductions, or of the extra wages earned by doing more than full tasks, so that any cases in which the differences are abnormal may be promptly enquired into. Inspecting officers will also of course pay much attention to this point.

District Progress Reports.

10. After the works abstracts have been completed in the Sub-divisional or Divisional office, the District Progress Report can be prepared. This will be in two parts of identically the same form as Parts I and II of the Works Abstract, except that column 1 in both parts will be headed "Name of work" instead of "Day of the month" and column 10 (*a*) in Part I may be omitted, as in forms derived from the works abstract it is only necessary to consider wages paid, which in the long run are practically identical with wages payable. In this and the final returns annas and pie may also be omitted from the money columns. In column 1 will be entered in succession the name of each relief-work in progress in the district during the half-month, and opposite it on the same line the totals for half-month of each column, as shown in the works abstract. Below the last work will then be entered in each column the totals for the half-month for the whole district. Below this again will be entered the "Totals to end of previous half-month" for the district as reported in the previous Progress Report, and below this the district totals for each column to the end of the half-month under consideration.

The forms as thus prepared will show under each part the figures relating to each work for the half-month and the up-to-date figures for all works, *i.e.*, for the

district. It will not show the up-to-date figures for each work, though it can, of course, be prepared so as to do so if considered necessary. But the Divisional officer, who is most interested, will have the up-to-date figures for each work in the Work Register concerned, which will be filed in his office, and the more important entries will be posted in due course into his register of works.

Abstracts of the half-monthly Progress Reports.

11. Assuming that the responsibility for the management of relief-works under the Public Works Department lies solely with that Department, the Divisional officer will submit his half-monthly Progress Report to the Superintending Engineer, by whom abstracts of the same for each district (or copies if desired) will be forwarded to the Commissioner. The abstract would be in the same form as the half-monthly Progress Reports, with the exception that the heading for column 1 in each part would be "Civil districts" instead of "Name of work." Each part would then be divided into two sections. The first or upper section would be headed as "Operations for the half-month" and a line would be allotted for each district, upon which the column or totals for the half-month would be entered as given in the half-monthly Progress Report, the totals for all districts being shown at the bottom. The second or lower section in each part would show "Operation to end of the half-month," a separate line being again allotted to each district, upon which would be entered the column or up-to-date totals, at the foot of the half-monthly Progress Reports.

Returns for works carried out by Civil officers.

12. The abstract thus prepared would be the Final Return for a Civil Division if all works were conducted under the Public Works Agency, but in some districts there will probably be a few works under the management of civil officers. The initial accounts for such works should be kept as nearly as possible in the manner proposed for works under the Public Works Department, but as the civil works will generally be comparatively small and important, it will probably not be thought necessary to keep up Part II in the daily report or other derived returns. Part I should, however, be maintained, and at the end of the half-month the Collector or Deputy Commissioner would forward a half-monthly progress report in this form to the Commissioner for incorporation in the final return.

The final half-monthly returns.

13. The final return as prepared by the Commissioner would therefore require for its Part I two lines for each district, in both the first and second sections. On one line would be entered the appropriate totals for works under Public Works Agency, and on the second those for works under Civil Agency; but it will hardly be necessary to total these separately for each district, though the grand totals for the Civil Division at the bottom of each section may be shown on three lines, one for works under Public Works Department, the second for works under Civil Agency, and the third for the grand total for works of all kinds.

Part II would comprise only works under Public Works Department, and would remain in the form of the abstract received from the Superintending Engineer.

Final returns for the province.

14. These Final Returns for each Civil Division might be published in the local Government Gazette, but if relief-works have been started in more than one Civil Division, there should be an abstract at the end of both parts showing the aggregate totals for the province. It may be observed that the published provincial returns at present show only the figures for each district separately for the period to which they relate, and not the total operations of the province for that period and up-to-date, which is however desirable.

Sub-division of the district as a unit for returns.

15. I have hitherto proposed that the district should be the unit for the final returns, but if desired a sub-division of a district or the tahsil may be taken as the unit. The half-monthly progress reports can be prepared as easily for tahsils as for districts, but the final returns will be longer.

Reduction of daily labourers to the male unit.

16. In the Bengal returns it is the custom to reduce the numbers of relief-workers to male units. The total amount paid as wages divided by the number of male units is then taken as the average wage of the male unit, and the quantity of earthwork done, divided by the same number, is the outturn of work per male unit. In these proposals I have discarded the male unit, except for the returns relating to piece-work, for several reasons. In the first place the process of reduction, however simple it may be, involves a good deal of clerical labour when it has to be constantly repeated. The actual practice followed in making this reduction is however neither uniform nor correct, and is sometimes very incorrect. It is unnecessary to explain this at length, because even if we could reduce all labourers to a male unit by some system which was uniform, simple, and correct, we could not make very useful deductions. The average wage per male unit, who would have to be a male of one particular class, would no doubt be an indication of the average wage of a unit of any sex or class, but for all purposes of comparison we must know in every case what the wage basis or selling rate of grain has been, and this, which varies in different districts and often in the same districts at different times, is not shown in the returns, and cannot be shown without greatly complicating them, while the further reduction to a common wage basis would be very troublesome. The average wage of any class of daily labourer can be far more readily ascertained, either for the gang, work, district or province, by observing the ratio of column 10 (*a*) or column 11 of Part I of the proposed forms to column 10. The actual wage will have been in this ratio to the normal or Code wage of the class, and it is unnecessary to consider at all the wage basis.

So with regard to the outturn of work per male unit. Nothing can be more misleading than the outturn of work per male unit obtained by adding together the quantities of earthwork on different works and dividing the total by the number of male units. For the quantities of work are not like quantities, owing to differences both in the quality of the soil and in the lift and lead, and without a knowledge of these conditions in each case a statement that the average task per male unit or per worker unit was 30 cubic feet per diem conveys no meaning at all. Columns 14 to 16 of Part II will, however, show, also for the gang, the work, the district, or the province, what the average task for each digger has been in relation to the normal task due from him, and columns 17 to 19 show the same for the carriers, or what is the same thing, the number of carriers employed to the number normally required for the work to be done.

For piece-work it is, however, necessary to consider the male unit, because there is no classification of piece-workers, nor can a separate account be kept of diggers and carriers. For the consideration of piece-work satistics we must therefore fix some conventional ratios for the comparative efficiency of men, women and children as wage-earning units. Having regard to the conditions of those who will ordinarily come on piece-work, I would propose the ratios of 3, 2 and 1, that is, I would assume that a man could earn half as much again as a women and three times as much as a working child under 12 years of age. The wage for a piece-worker male unit might then be fairly compared with that earned by an ordinary digger, or that prescribed for a unit of class Y according to the new classification proposed in the report.

All returns will be comparable irrespective of the unit of area or difference of conditions.

17. The forms as now proposed will work upwards from the gang to the province, and a main object that has been kept in view is that the district, or even the Provincial, totals shall be as fairly comparable *inter se* as those for two neighbouring gangs on the same work. As regards the wage to daily labourers the figures will show in all cases what proportion the average bears to the average comtemplated under the Code rules for the time being in force without reference to the wage absolutely paid or the current price of grain. The total payments, whether on wages only, or on all accounts, will be comparable with the actual value of the work done, without reference to the total quantity of earthwork, etc., done, under very dissimilar conditions. As regards earthwork under task-work the total quantities will indeed be shown

irrespective of these conditions, but it will not be compared with the number of working or male units employed, but with the quantities that ought to have been done under the standard task-tables in force by the number of diggers employed, and it will at the same time be seen whether the complement of carriers has been excessive or not.

So too for earthwork by the piece; the returns will show the total quantity done under varying conditions of lead and lift by a given number of male units, but this will be considered wtih the amount paid for the same, or with the average rate per 1,000 cubic feet, which will sufficiently indicate the average character of the work as well as the quantity executed by the male unit. All these comparisons will therefore be between like and like, and in addition they can be made, not only for the period embraced in particular returns, but also on the transactions from the commencement and up to date. It is only by means of this double comparison that progress or retrogression in efficiency can be properly detected.

Concluding remarks.

18. It is believed that the forms now proposed will give a maximum of information and a minimum of labour, and that in the form in which can be most readily utilised. They do not involve any more entries in the initial or gang registers than are now regularly made on almost all works, except that of the normal number of carriers required. Their subsequent compilation will involve less labour than is now expended in almost all provinces on the returns at present maintained, though they will contain a great deal more information, and will be free from all the objections which may be raised against those returns. The great experience of many famine officers will no doubt enable them to suggest some modifications and improvements; but the form of statistical returns is so intimately connected with the general question of the management of relief-works that I have thought it desirable to indicate even at this stage the form in which statistical information can be most readily and usefully supplied, as a matter that must be taken into account when such questions as the future classification of workers are under consideration. The great wants, both in the initial classification and in all returns dependant on it, are simplicity and uniformity, and a constant effort to bear these in mind has been made in the proposals now offered for consideration.

9th October 1897.

T. HIGHAM.

Form of Works Abstract for Famine Relief Works—Part I.

1	2	3	4	5	6	7	8	9	10	10 (a)	11	12	13	14	15	16	17	18	19	20
Day of the month.	Relief-workers of all kinds on works.				Classification of daily labourers.				Payments to daily labourers.		Daily labour.						Gratuitous Relief.			
	Men.	Women.	Children.	Total.	Class X @	Class Y @	Class Z @	Children @	Normal amount due.	Amount payable.	Amount paid.	Amount paid for piece-work.	Payments for other items.	Total payments.	Value of work done.	Percentage of column 15 on column 14.	Men.	Women.	Children.	Amount paid.
									Rs. A. P.	Rs.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.						Rs. A. P.

Columns 2 to 5—Will include all relief-workers, whether on piece-work or a daily wage. The figures will be obtained from the gang registers of task and piece-workers. Boys and girls between the ages of 12 and 16 to be returned as men and women, respectively. Children to include all working children under the age of 12.

Columns 6 to 9—Will show the distribution by classes of all who are not employed on piece-work, without distinction of sex. When there are no piece-works the totals of columns 6, 7 and 8 will equal the total of columns 2 and 3, and the number in column 9 will equal the number of adults and children employed on piece-work.

Column 10—Will show for each day the amount normally due to the workers entered in columns 6 to 9, at the rates in force for each class. The rates in force on the first day should be noted in the heading. Changes in rates during the half-month should be shown in a foot-note.

Column 10 (*a*)—Will show the amount due to daily labourers, after deductions for short work, etc., as entered in the gang registers or muster rolls. Arrears due to labour at commencement of the period should be brought forward in head of this column.

Column 11—Will show actual daily payments on account of wages to daily labourers, whether tasked or not, including the Sunday wages or other payments for days on which little or no work has been done. Entries to agree with those shown in the cash book. The difference between total of column 11 and column 10 (*a*) at end of half-month will be the amount to be carried forward as arrears unpaid into column 10 (*a*) of the work abstract for next half-month.

Column 12—Will include all payments for work done by piece-works, as entered in the cash book.

Column 13—Other items will include pay of special establishment, expenditure on hutting exclusive of labour, purchases of baskets, string and other materials, and all other miscellaneous payments chargeable to the work. This column may be sub-divided so as to show principal items separately, when thought necessary.

Column 14—Will show total charges against the work, or the total of columns 11, 12 and 13.

Columns 15 and 16—Will be filled in only at end of half-month, and in sub-divisional office. The amount in column 15 will be obtained by evaluating the quantities shown as progress during half-month in Part III under sub-heads that are mainly or entirely carried out by relief labour at the rates entered in the works estimate, which should be normal rates. If relief labour is partially or to a small extent employed on other sub-heads the wages of the labour so employed or its value at a fair rate on the progress exhibited may also be included in the normal work rates, such as carriage of water, dressing earthwork, etc.

If relief labour is employed on work which is included in the normal work rates, but this should not include cost of labour employed on

Columns 17 to 19—Will show the daily attendance of dependants, as recorded in the muster rolls.

Column 20—Will show the daily payments on account of dependants, whether in the form of a cash dole or in the purchase of grain or maintenance of a kitchen,

Form of Works Abstract for Famine Relief Works—Part II.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	PIECE-WORKERS OF ALL KINDS.						EARTHWORK BY PIECE-WORKERS.			ROAD-METALLING BY PIECE-WORKERS.			EARTHWORK BY DAILY LABOUR.						ROAD-METALLING BY DAILY LABOUR.					
													Diggers.			Carriers.			Breakers.			Complementary.		
Day of the month.	Men.	Women.	Children.	Male units.	Amount paid to piece-workers.	Rate per male unit.	Male units.	Quantity of work done.	Amount paid.	Male units.	Quantity of work done.	Amount paid.	Number of units.	Full task.	Work done.	Units required.	Units employed.	Wages paid for earthwork.	Number of units.	Full task.	Work done.	Units required.	Units employed.	Wages paid for road metalling.

Columns 2—5—Will be filled in daily from the daily reports of the piece-work muharrirs. The number of male units will be the number of men as in column 2, *plus* ½ of the number of women as in column 3, *plus* ½ of the number of children as in column 4.

Column 6—The amounts to be entered in this column will agree with those entered in column 12 of Part I. Annas and pie may be omitted.

Column 7—The rate should be expressed in annas and decimals, and need be struck only at end of the half-month, and entered on the line showing totals for half-month.

Columns 8 and 11—The number of male units, calculated as for column 5, employed on earthwork and road-metalling will be taken direct from the muharrir's daily reports.

Columns 9 and 12—The quantities of work done will be as entered in the measurement books and daily reports.

Columns 10 and 13—Will include only the payments made to piece-workers on earthwork and road-metalling. Annas and pie may be omitted.

Columns 14—25—The figures for these columns are all obtainable from the gang registers and daily reports. Column 14 shows total number of task-work diggers' units, column 15 the total task required from them, and column 16 the total task accomplished, column 17 shows the number of carrier units required, as worked out for each gang according to the reduced lead, and column 18 the total number actually employed. Similarly column 20 shows number of units employed on breaking, and columns 21 and 22 the quantity of broken metal required from this number as a full task, and the quantity actually done. Column 23 shows the number of complementary units required for quarrying, sieving and carrying, and will be determined for each work by the Sub-divisional Officer according to circumstances, and column 24 will show whether this number has been actually exceeded. Columns 19 and 25 will show amount of wages actually paid to workers included in columns 14 and 18 and columns 20 and 24. It will not include Sunday wages, or payments to special or untasked gangs employed on miscellaneous work for which provision is not made in the number of carriers or complementary workers allowed, and which may be regarded as outside the form of task work under consideration. In both these columns annas and pie may be omitted.

1897.

GOVERNMENT OF INDIA.

DEPARTMENT OF REVENUE AND AGRICULTURE.

File No. 237 of 1897.
Serial No. 2.

FAMINE.

RESOLUTION.

No. 31—237-2-F.

Dated Simla, the 25th October, 1897.

SUBJECT.

Mr. Higham's Final Note on the management of famine relief-works and revision of Provincial Famine Codes.

G. C. Press, Simla.—No. 1312 R. & A. D.—26-10-97—1,217.

Extracts from the Proceedings of the Government of India in the Department of Revenue and Agriculture, No. 31—237-2-F., dated Simla, the 25th October, 1897.

READ :—

(1) Government of India Resolution No. 35—33, dated 24th August, 1893.
(2) Government of India Circular No. 16-104—1, dated 13th February, 1897.
(3) Government of India Resolution No. 20—157-1, dated 12th May, 1897.

RESOLUTION.

By the last Resolution read in the preamble Mr. T. Higham, C. I. E., Deputy Secretary to the Government of India in the Department of Public Works, was deputed in May last to visit the famine relief-works then in progress in the different provinces, and to make inquiries on matters in connection with them, regarding which the Government of India wished to obtain information which might be useful for a future revision of the Famine Codes, or the administration of the next famine. Mr. Higham completed his tour of inspection by the end of July, and has since submitted full Notes on the management and special features of relief-works in each province, which have been communicated to the several Local Governments and Administrations concerned. These Notes are of great interest and value, and the Governor General in Council desires to record his acknowledgments to Mr. Higham for the assiduity with which he discharged his inspection duties at the most trying season of the year, and for the care and ability with which he has placed the results of his enquiry before the Government of India.

2. In a Final Note which accompanies this Resolution Mr. Higham makes certain recommendations based on a comparison of the different methods of managing relief-works which came under his notice, and on a consideration of the extent to which the relief-work system embodied in the Famine Codes has in practice proved efficacious and economical. He is of opinion that, regarded as a whole, the system has well stood the severe strain to which it has been subjected. But he points out that numerous departures from the regulations of the Famine Codes with regard to relief-works have been found necessary by several, if not all, the Local Governments, and that the Codes no longer represent the actual practice approved by them. In these circumstances more or less extensive amendments in the chapters of these Codes which deal with the organization of famine labour will be required, and Mr. Higham's recommendations are accordingly now placed before Local Governments in order that they may receive careful consideration in connection with such revision.

3. The first group of recommendations deal with the classification and wages of relief-workers employed on task work, and their general purport is towards a simplification of the present Code regulations on the lines adopted in the North-Western Provinces and Oudh, Bengal and the Central Provinces in the present famine campaign. The Government of India will be glad to know how far Mr. Higham's detailed recommendations under this head (paragraphs 1 to 20) are accepted by Local Governments, and what alterations in the Provincial Codes will be thereby necessitated. Succinctly stated, these recommendations are:—

(1) Relief-workers to be classified into three classes, or (I) Special, (II) Diggers, (III) Carriers.

(2) The wages of the three classes to be the cash equivalent of—

42 ounces of grain	in the case of class I.
38 ounces of grain	in the case of class II.
26 ounces of grain	in the case of class III.
16 ounces of grain	in the case of children between 7 and 12.
22 ounces of grain	in the case of adult dependants.
10 ounces of grain	in the case of children between 7 and 12.

(3) No distinction in regard to wage to be made between males and females, and children over 12 to be reckoned as adults.

(4) A 'standard' task for class III to be fixed in each province: the task for class II being fixed for each work by some competent authority.

(5) On any work on which a Sunday wage is not given, workers in classes II and III to be permitted to earn an extra wage by the performance of a task in excess of that prescribed.

(6) On any work on which a Sunday wage is given and on which the workers in class III exceed by more than 10 per cent. the number actually required, an extra wage to be earnable by class II alone.

4. Paragraphs 21 to 24 and paragraphs 35 and 36 of the Note deal with the desirability of substituting "pure piece-work" or "petty contract," as distinguished from the modified forms of task-work which have been experimentally tried in several provinces under the name of "intermediate system," for the task-work system of the present Codes, to a greater extent than has hitherto been done. It will be observed that the Note indicates that piece-work, such as is discussed, has not had sufficient trial to enable a conclusion to be formed as to how far it is well adapted for relief purposes: and that all that is urged is that such modifications should be made in the letter of the Famine Codes as will permit of piece-work being resorted to, should this be found desirable, instead of the task-work system, when relief-works are required in a district, especially in the early stage of a famine, and when the relief works consist of works of permanent public utility. In the "Principles for regulating expenditure upon public works in time of Famine" circulated in the early part of the year the Government of India have already expressed approval to petty piece work as a form of relief when the existence of distress is first indicated by a demand for labour on the part of the able-bodied, and they will consider favourably any amendments for giving recognition to it within due limits in the Famine Codes that may be recommended by Local Governments. With regard to the advantages claimed for piece-work over task-work in the Final Note, the Government of India think that some, at least, of the defects and inconveniences attending the present Code system of task-work will be considerably reduced by the adoption of the simplified classification and wage-scale proposed by Mr. Higham, and by daily payments of the labourers. The simpler the system, the less occasion there is for large establishments, and the less room for successful fraud.

Circular No. 16-104—1 (Famine), dated 13th February 1897.

5. Paragraphs 25 to 29 of the Note contain recommendations as to the principles on which the programmes of relief-works should be drawn up and as to the desirability of including in them a greater number of large works of permanent utility. The Government of India concur in the view that large works are preferable to small works as the back bone of famine relief whenever the necessity arises for employing relief labour on an extensive scale, and they consider that the provisions contained in one or two of the Provincial Codes as to reserving large works for the late stage of a famine should be revised. They would like to receive the opinions of Local Governments as to the possibility of improving the programmes of famine works in the manner suggested by Mr. Higham, and as to the extent to which relief labour can be drafted to considerable distances. If any amendments on these points in the Famine Codes suggest themselves to Local Governments, they should be reported. Mr. Higham's remark in paragraph 29 that in the next great famine there will probably be less room for a programme of small works than hitherto, owing to the exhaustion of this class of works in the late famine, appears to the Government of India to be indisputably true. And this makes it all the more necessary that the question discussed by him should receive the fullest consideration.

6. With regard to paragraphs 31 to 34, which deal with the responsibilities of Civil and Public Works officers in charge of relief-works, the Government of India are aware that the present Codes are on this point somewhat wanting in clearness and that the degree of control over the management of relief-works exercised by the Divisional Commissioner and the District Officer in the present famine, has

been greater in some provinces than in others. It is desirable that the recommendations made in this portion of the Note should be carefully examined in the light of the actual practice and experience of each Local Government, and that amendments may be proposed in the Provincial Famine Codes embodying the final views of the Local Government. It is noticed by Mr. Higham that in most provinces during the present famine the chief responsibility for the management of the relief-works has been placed by the Local Government on Superintending Engineers, and that in practice the Collector of the district has not interfered. But the Government of India apprehend that the District Officer has at least been allowed a voice as to the opening and closing of relief-works in his district, as to the substitution of piece-work or modified task-work for the task-system of the Codes, and as to purely non-technical questions connected with the management of the works. While therefore the Government of India are anxious to define more clearly the respective duties of Civil and Departmental officers, and to give the latter the powers which in practice they have been authorised by Local Governments to exercise, they consider that a case does not exist from departing from the principle laid down in paragraph 130 of the Famine Commission's Report.

7. The question of relief-works accounts discussed in paragraph 38 of the Note should be considered in connection with the suggestions made by Mr. Higham in an Appendix, on which the opinions of Local Governments are invited.

8. The Government of India will be glad to have the opinions of Local Governments on the recommendations of the Note not later than the 1st March 1897. They propose to fix that date also for the submission by Local Governments of such amendments to the Provincial Famine Codes as the experience of the present famine may have shown to be necessary, not only in respect of the chapters regarding relief-works, but in respect also of other parts of the present Codes and their Appendices.

ORDER.—Ordered that a copy of the above Resolution be forwarded to Mr. T. Higham, C.I.E., Deputy Secretary to the Government of India in the Public Works Department, for information, and to the Local Governments and Administrations noted in the margin, for information and guidance.

Ordered also that copy be forwarded to the Foreign, Finance and Public Works Departments, for information.

Government of Madras.
" " Bombay.
" " Bengal.
" " the North-Western Provinces and Oudh.
" " the Punjab.
" " Burma.
Chief Commissioner of the Central Provinces.
" " " Assam.
" " " Coorg.
" " " Ajmere.
Resident at Hyderabad.

[True Extract,]

H. Coleman

Deputy Secretary to the Government of India.

To

The Secretary to the Government of Madras.

Go

CEEDINGS—OF THE MADRAS GOVERNMENT.

Read G.O. No. 9380, 30

G.O. (P.W.D.) No. 9588, 16-11-97

Forwarded to the Famine Comm for report. The question raised in Mr Stigand's note should be discussed at the conference ordered in G.O. 899, 29-10-97; with special reference to the observation made by the Govt in the letter read above and the report submitted to Govt so as to reach it not later than the 1st of February.

The C.E. P.W.D will also be requested to favour Govt with his views on the changes proposed by Mr Stigand.

11/11/97.

for the C.E. P.W.D

12/11/97

C. 11/11/97.
R. 12/11/97
C. 12/11/97.

P. Cons. 30-11-97
Secs. 17-11-97

25 6/3

Government {1897} of Madras.

REVENUE.

Recd. }
Regd. } 1897.

Enclosures

Spare copies

G.O., No. 958, 16th November 1897.

NOVEMBER.

Mr. Higham's final note on the management of famine relief-works and revision of Provincial Famine Codes.

Forwarding, with remarks to the Famine Commissioner, for report, Government of India resolution forwarding for information and guidance —.

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

Extracts from the Proceedings of the Government of India in the Department of Revenue and Agriculture, No. 31—237-2-F., dated Simla, the 25th October 1897.

Read—

(1) Government of India Resolution No. 35—33, dated 24th August 1893.
(2) " " Circular No. 16-104—1, dated 13th February 1897.
(3) " " Resolution No. 20—157-1, dated 12th May 1897.

Resolution.—By the last Resolution read in the preamble Mr. T. Higham, C.I.E., Deputy Secretary to the Government of India in the Department of Public Works, was deputed in May last to visit the famine relief-works then in progress in the different provinces, and to make inquiries on matters in connection with them, regarding which the Government of India wished to obtain information which might be useful for a future revision of the Famine Codes, or the administration of the next famine. Mr. Higham completed his tour of inspection by the end of July, and has since submitted full Notes on the management and special features of relief-works in each province, which have been communicated to the several Local Governments and Administrations concerned. These Notes are of great interest and value, and the Governor-General in Council desires to record his acknowledgments to Mr. Higham for the assiduity with which he discharged his inspection duties at the most trying season of the year, and for the care and ability with which he has placed the results of his enquiry before the Government of India.

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Order.—Ordered that a copy of the above resolution be forwarded to Mr. T. Higham, C.I.E., Deputy Secretary to the Government of India in the Public Works Department, for information, and to the Local Governments and Administrations noted in the margin, for information and guidance.

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Chief Commissioner of the Central Provinces.
" " " Assam.
" " " Coorg.
" " " Ajmere.
Resident at Hyderabad.

(True Extract.)

(Signed) J. HOLDERNESS,
Dy. Secretary to the Govt. of India.

To the Secretary to the Government of Madras.

ORDER—No. 958, Revenue, dated 16th November 1897.

Miscellaneous.

Forwarded to the Famine Commissioner for report. The questions raised in Mr. Higham's note should be discussed at the conference ordered in G.O., No. 899, dated 29th October 1897, with special reference to the observations made by the Government of India in the letter read above, and the report submitted to Government so as to reach it not later than the 1st February.

2. The Chief Engineer, Public Works Department, will also be requested to favour Government with his views on the changes proposed by Mr. Higham.

(True Extract.)

(Signed) G. STOKES,
Secretary to Government.

To the Famine Commissioner.
" the Chief Engineer, Public Works Department.

Exd. Shaik Karim.
250 Copies.

Number of copies required. Letter only. Order complete with Letter.
Being meant for despatch
Print in full.
Not to be printed.
Print abstract only.
Print heading only.