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ON THE

FAMINE IN THE BOMBAY PRES.

IN

1896-97.



Bombay:
PRINTED AT THE GOVERNMENT CENTRAL PRESS.

1898.

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CONTENTS.

Para.		Page.	Para.		Page.
1	Preliminary ...	1		<i>VIII.—Relief Measures and Expenditure.</i>	
	<i>I.—Pressure and effects of the Famine.</i>			<i>A.—Gratuitous Relief.</i>	
2	Areas affected ...	1—2	41	Kinds of gratuitous relief ...	29
3	Rainfall ...	2—3		<i>(a) Village Relief.</i>	
4	Outturn in 1876-77 and 1896-97 ...	3—4	42	Village doles ...	29—30
5	Effect of high prices ...	4	43	Assistance to inferior village servants ...	30
6	Prolongation of the famine ...	4—5	44	Doles to destitute school children ...	30
7	Need for comparison with 1876-77.	5	45	Extent of relief in villages ...	30—31
8	Extent of relief ...	5—6	46	Maximum numbers on village relief ...	31—32
9	Allegation of attractiveness of relief works considered ...	6—7	47	Cost of village relief ...	32
10	Introduction of the system of kitchens for dependants ...	7—8		<i>(b) Poor-house Relief.</i>	
11	Concentration of labour ...	8—9	48	Reasons for small amount of poor-house relief ...	32
12	Proportion of persons relieved to population ...	9—10	49	Number of poor-houses ...	32—33
13	Classes of people on works ...	10	50	Extent and cost of poor-house relief ...	33
14	Condition of low castes ...	10		<i>(c) Relief to non-working children and other dependants under Chapter IX of the Code.</i>	
15	Condition of the agricultural population ...	10—11	51	Kitchens and Cash Allowances for dependants on works ...	33—34
16	Relief of weavers and other artisans ...	11—13		<i>B.—Private Donations.</i>	
17	Sale of ornaments and utensils ...	13	52	Immense utility of Indian Charitable Relief Fund ...	34
18	Emigration ...	13	53	Allotments from the Fund ...	34
19	General conclusion as to effects ...	13—14	54	Manner of utilizing the allotments.	35—37
	<i>II.—Public Health.</i>		55	Local charities ...	37
20	Death-rate ...	14		<i>C.—Water-supply.</i>	
21	Cases of starvation ...	14—15	56	Instructions as to measures to be taken ...	37
22	Mortality in 1896-97 as compared with 1876-77 ...	15	57	Improvements of supply ...	37—38
23	Mortality on relief works ...	15—17	58	Results ...	38
24	Orphans ...	17		<i>D.—Cattle and Fodder.</i>	
25	Birth-rate ...	17	59	Measures for assisting in preservation of cattle ...	38—41
	<i>III.—Crime.</i>		60	Reluctance to take cattle to grazing areas ...	41
26	Offences against property ...	17—18	61	Importation of fodder by private enterprise ...	41—42
27	Additional Police and Magistrates.	18	62	Importation by Government ...	42
	<i>IV.—Supplies of food-grains.</i>		63	General results of grass operations.	42—43
28	Prices ...	18—19		<i>E.—Famine Allowances to Public Servants.</i>	
29	Stocks of grain ...	19	64	Classes of allowances...	43—44
30	Movements of grain ...	19—21		<i>F.—Loans to Agriculturists.</i>	
31	Refusal of Government to import.	21—22	65	Growth of the tagai system ...	44
32	Municipal grain shops ...	22—23	66	Total grants ...	44
33	Cheap grain shops ...	23	67	Advances for land improvement ...	45
34	Prohibition of export by Native States ...	23	68	Wells ...	45—46
	<i>V.—Water-supply.</i>		69	Embankments ...	46
35	Extent of failure ...	23—24	70	Deep digging ...	46
	<i>VI.—Cattle and Fodder.</i>				
36	Extent of scarcity of fodder ...	24			
37	Mortality among cattle ...	24—25			
	<i>VII.—Land Revenue collections.</i>				
38	Principles followed in the levy of the land revenue ...	25—27			
39	Collections, remissions and suspensions ...	27—28			
40	Coercion ...	28			

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73100

Para.		Page.		Page.
	<i>F.—Loans to Agriculturists—</i> <i>continued.</i>		<i>Appendices.</i>	
71	Measures for securing proper appli- cation of advances ...	46	A	Map showing the affected areas ...
72	Extent to which advances were profitably used ...	46—48	B	Statement showing the rainfall of the seasons of 1896 and 1876 ...
73	Recovery of advances for land improvement ...	48—49	C	Statement showing the number of persons receiving relief in each of the affected districts during 1896-97 and 1876-77 ...
74	Loan to an Ināmdār ...	49	D	Statement showing the classes of people on relief works ...
75	Loans for assistance of agricultural operations ...	49	E	Reports on the operations for the relief of weavers by employment in their own craft ...
76	Loans for subsistence of cultivators.	49—50	F	Statement showing the mortality in the affected districts from Oc- tober 1896 to October 1897 ...
77	Loan to Jath State ...	50	G	Statement showing the monthly prices of jowāri and bajri during 1896-97 and 1876-77 ...
	<i>G.—Public Works.</i>		H	Statement showing transactions in the principal food-grains of the Deccan and Karnatak Districts with the internal and external blocks during the five years end- ing 1895-96 ...
78	Measures affecting management already described ...	50	I	Statement showing the daily aver- age numbers receiving village relief in the last week of each month ...
79	Test works ...	50	J	Statement showing the daily aver- age numbers relieved in poor- houses in the last week of each month ...
80	Civil Agency works ...	50—51	K	Statement showing the daily aver- age numbers of dependants on relief workers in the last week of each month ...
81	Work in forests ...	51	L	Report on the famine grass opera- tions ...
82	Decision to employ labourers, except for special reasons, on large works under Public Works Department Agency and pre- parations to carry it into effect ...	51—52	M	Statement showing the advances under the Land Improvement Loans Act XIX of 1883 and the Agriculturists Loans Act XII of 1884 ...
83	Systems of task work ...	52	N	Maps showing the large works carried out during the famine ...
84	Piece work ...	52—53	O	Statement giving details regarding relief works supplied by Executive Engineers ...
85	Distribution of duties between Public Works Officers and Civil Officers and conduct of mis- cellaneous duties ...	53	P	Statement showing the daily aver- age numbers of men, women and children among relief workers in the last week of each month ...
86	Details of works, management and outturn of relief labour ...	53—55	Q	Statement showing the cost of extra establishments employed in connection with the famine in the year 1896-97 and 1897-98 ...
87	Utility of work done ...	55—58	R	Statement showing the numbers of persons receiving relief in Native States ...
88	Numbers employed and rate of expenditure ...	58—59	S	Statement showing the total ex- penditure on famine relief ...
	<i>H.—Special Establishment.</i>			
89	District staff ...	59		
90	Expenditure on special district establishments ...	60		
91	Strengthening of ordinary establish- ments in famine districts ...	60		
92	Expenditure on account of ad- ditions to ordinary establish- ments ...	60		
93	Conduct of establishments ...	60—61		
	<i>I.—Relief Measures undertaken by Local Boards and Municipalities.</i>			
94	Enlistment of aid of local bodies ...	61		
95	Loans for the purpose of relief ...	61—62		
96	Other relief given by Municipali- ties ...	62		
97	Municipal expenditure for relief ...	62		
98	Expenditure by Local Boards for relief ...	62		
	<i>J.—Relief Measures in Native States.</i>			
99	Affected area and expenditure ...	62—63		
	<i>IX.—Final Summary.</i>			
100	General results ...	63—64		

No. 364—FAM. OF 1898.

REVENUE DEPARTMENT (FAMINE).

Bombay Castle, 23rd May 1898.

FROM

THE HONOURABLE MR. J. MONTEATH, C.S.I., I.C.S.,

Chief Secretary to the Government of Bombay;

TO

THE SECRETARY TO THE GOVERNMENT OF INDIA,

Revenue and Agricultural Department,

Simla.

SIR,

With reference to the letters from the Government of India, Nos. 29-210-1 and 30-F.-210-2, dated respectively 23rd August and 3rd September 1897, I am directed to submit the final report on the Famine of 1896-97 in the Bombay Presidency. In paragraph 3 of the latter communication it was stated that the preparation of the report for each province must stand over until scarcity had disappeared. Relief measures on a small scale are still in progress in the Sholapur District, and it is probable that some will have to be undertaken again in Ahmednagar and Poona, and perhaps in Bijapur. The outturn of crops in some of the talukas of these districts has been unsatisfactory; the early rains in them were so scanty and irregular that many of the kharif crops failed entirely or were very poor, and though ample rain fell in September and October, the jowari crop over the greater part of this area has been blighted or dried up owing to the total absence of rain in November and December. The Collectors of these districts have accordingly been instructed to keep a vigilant watch and to re-open specified works if necessity for this course is disclosed. But the general famine in the Deccan may be held to be at an end, and a report on it may now be suitably submitted.

I.—Pressure and Effects of the Famine.

2. The districts affected in 1896-97 were the same as those in which

the great famine of 1876-77 prevailed. The total as well as the affected area and population are shown

below for both periods:—

District.	1876-77.				1896-97.			
	Total Area in square miles.	Affected Area in square miles.	Total Population.	Affected Population.	Total Area in square miles.	Affected Area in square miles.	Total Population.	Affected Population.
Sholapur ...	4,496	4,490	718,034	718,034	4,542	4,542	750,689	750,689
Ahmednagar ...	6,647	5,650	773,938	677,376	6,645	6,645	888,755	888,755
Poona ...	5,099	2,500	907,235	318,601	5,349	5,549 (2,987 specially)	1,067,800	1,067,800 (488,000 specially)
Satara ...	4,988	2,682	1,064,002	461,000	4,825	4,825	1,225,989	1,225,989
Nasik ...	8,113	2,000	729,252	250,000	5,817	5,817	843,582	843,582
Khandesh ...	10,162	5,500	1,028,642	646,944	10,700	10,700 (1,700 specially)	1,460,851	1,460,851 (260,000 specially)
Bijapur ...	5,695	5,695	816,037	816,037	5,627	5,627	796,339	796,339
Belgaum ...	4,591	2,660	938,750	501,000	4,674	1,612	1,013,261	353,000
Dhárwar ...	4,564	3,000	988,037	630,700	4,603	857	1,051,314	157,000
Total ...	54,355	34,183	7,963,927	5,018,992	52,782	46,004	9,098,580	7,544,005

The areas affected are shown in the accompanying map (Appendix A). The districts of Kolaba and Ratnagiri were also partially affected, and relief measures on a small scale had to be carried out at the expense of the State in the former district for a short period in the rains of 1897, when distress was deepest. No direct expenditure on account of famine was incurred by Government in the latter district, but test-works were kept open at the cost of the Local Fund. In neither Ratnagiri nor Kolaba however were considerable numbers of people willing to accept employment on famine wages. The Native States of the Southern Marátha Country and those of Akalkot, Aundh, Phaltan, Bhore and Surgana were affected similarly to the neighbouring British districts.

3. The famine of 1896-97 was of course mainly due to failure of crops in the affected tracts from the want of seasonable rain.

Rainfall.

The four previous seasons had on the whole been fair, and there was nothing in them which contributed to bring about distress. In 1891-92 there was scarcity in the Southern Marátha Country, but it was not such as to try severely the resources of the people and no visible effects from it remained. In Appendix B the rainfall of the season of 1896 at the head-quarters and certain selected stations of each affected district is compared with the average fall and that of 1876. The monsoon of 1896 set in regularly in the middle of June and sowings were well commenced. The rain in July and August was however abnormally heavy in the western hilly tracts and central talukas of the Deccan, which are mainly dependent on kharif crops. In several places in the plains the crops were destroyed by floods and resowing became necessary, while many of the embankments on the hills which sustain the soil on which the crops are sown were washed away by an abnormal down-pour. In the greater part of Ahmednagar, the eastern talukas of Sátára and the western talukas of Belgaum and Dhárwár conditions were favourable till the end of August. In Sholápur and Bijápur and the eastern talukas of Poona, Belgaum and Dhárwár on the other hand, the kharif rains were deficient. The monsoon ceased early in September and there was practically no rain in October. A more or less complete destruction of kharif crops was thus brought about and rabi sowings could not be undertaken except where irrigation was possible. There was some rain towards the end of November and again in December, but it was too late to improve prospects materially except in parts of Belgaum and Dhárwár. In some of the other districts, though large areas were sown after rain fell in November, they produced nothing but a small supply of inferior fodder. The extent to which the crops were affected may be judged from the following table, which shows the decrease in 1896-97 as compared with the previous year in the total cropped area and in the area cultivated with the principal food-crops—jowári and bájri—and the average outturn of the latter crops and of the principal hill-grain—ragi:—

District.	Decrease in net area cropped in Acres (000 omitted).	Net decrease in area cultivated with jowari and bájri in acres (000 omitted).	AVERAGE OUTTURN IN ANNAS (16 ANNAS = NORMAL CROP).			REMARKS.
			Jowári.	Bájri.	Ragi.	
Sholápur...	—767	—446	3	2	...	
Ahmednagar	—618	—135	6	5	4	
Poona	—287	—69	4	4	3	
Sátára	—93	—39	8	5	3	
Násik	—389	—81	4	5	8	
Khándesh	—168	—9	5	6	5	
Bijápur	—2,136	—1,160	1	...	...	
Belgaum	—248	—79	4	3	3	
Dhárwár	—272	—48	7	7	5	
Total	—4,978	—2,066	...	...	...	* The average outturn of the affected area in Dhárwár was under 2 annas.

In Bijápur the failure of crops was almost complete, while in the other districts the outturn of the principal food-crops ranged from 8.3 per cent. in

Sholápur to 37.5 per cent. in Dhárwár of the normal outturn. There was however a large increase in the area irrigated in the affected districts and sown with food-crops, but for which the total outturn would have been materially less. The increase in 1896-97 over the area in 1895-96 is shown below:—

District.	Acres.
Khándesh	+21,400
Násik	+27,900
Ahmednagar	+58,600
Poona	+35,800
Sholápur	+22,900
Sátára	+38,200
Belgaum	+3,000
Bijápur	+14,900
Dhárwár	+5,500
Total	+228,200

It is estimated that the loss to the agriculturists as represented by the difference between the outturn of the year and the normal outturn valued at an average price amounted to 1,830 lakhs of rupees.

4. A comparison of the anna valuation of crops in the affected districts given in the report of the Director of Land Records and Agriculture for 1896-97 with that adopted by the Indian Famine Commission from the reports of the District Officers for 1876-77 shows the percentages of the actual outturn to the normal outturn as follows:—

District.	1876-77.	1896-97.
Khándesh	60.5	35.4
Násik	51.1	36.8
Ahmednagar	40.2	29.2
Poona	30.2	24.3
Sholápur	3.6	8.3
Sátára	62.3	30.5
Bijápur	5.2	0.7
Belgaum	28.6	29.2
Dhárwár	21.6	37.5

The figures for the past year are, it is presumed, those supplied by the Circle Inspectors under special instructions. The Director of Land Records and Agriculture and his Deputy and the Superintendents of Land Records and Agriculture were directed to travel through the affected districts and test the estimates by personal observation. They reported that except in the case of irrigated crops they were fairly accurate. They however have themselves estimated both the outturn of the year and the average outturn for the previous two years in quantities, and the proportion of the latter to the former, as shown below, is different from that given above:—

District.	Average Outturn of 1894-95 and 1895-96.	Actual Outturn of 1896-97.	Percentage proportion of Column 3 to Column 2.
1	2	3	4
	Mds.	Mds.	
Khándesh	12,209,153	3,995,479	32.7
Násik	11,158,056	3,657,351	32.7
Ahmednagar	12,147,953	4,833,510	39.8
Poona	10,459,098	2,863,135	27.3
Sholápur	8,945,225	810,000	9.0
Sátára	9,815,378	6,122,210	62.3
Bijápur	10,000,246	401,183	4.0
Belgaum	12,138,476	3,042,413	25.0
Dhárwár	11,871,880	5,301,750	44.7

It is probable that the estimates of 1876-77 were not so accurate. In the circumstances it is not possible to make any close comparison. The extent of crop failure was however undoubtedly greater in Bijápur in the past year than in 1876-77, and in the opinion of the Governor in Council Sholápur cannot have been much less severely affected than Bijápur, for with no larger population the demand for relief under stricter conditions—more concentration being practicable—was greater. Whether or not the outturn in Sholápur has been over-estimated, the greater part of it was obtained from a small area of irrigated land, which probably belongs to comparatively wealthy people. Except so far as that produce affected prices it was of little or no more use to the bulk of the population than the produce of other provinces. The Collector, who made inquiries throughout the district with the view of determining of what revenue the levy should be suspended, considered that the dry-crop land did not on an average yield more than $\frac{1}{16}$ of the ordinary outturn, and in two tálukas it yielded no grain at all. In Ahmednagar also the yield of the dry-crop land, though greater than in Sholápur, was confined to particular tracts. It is doubtful whether on the whole the loss was greater in Poona and in Sátára than in 1876-77, but in the hill tracts of these districts as well as in the Akola Táluka of the Ahmednagar District, which are considered immune from famine, it was almost complete. Undoubtedly in Khándesh and Násik the extent of failure was greater, but in Dhárwar and Belgaum, which suffered severely in 1876-77, only 3 and 2 tálukas in the north-east and east respectively were affected; in all the former and one of the latter however the crops were almost entirely lost. On the whole the extent of crop failure seems to have been quite as great in the past year as in the preceding famine period.

5. It is further to be observed that what affects the poorer classes and

Effect of high prices.—especially the landless classes most acutely is the high price of food rather than the failure of the crops in the locality in which they reside. Now prices at an early period rose to a higher point than would have been the case if the failure of crops had been confined to the tracts in this Presidency in which there was not seasonable rain, although throughout the Presidency proper the season was unfavourable. Previous bad harvests and unsatisfactory prospects in Northern India created a demand for food-grains before apprehensions of distress in this Presidency were entertained. The statistics of export and import show that there was an unusual demand on the resources of this Presidency in 1894-95 and in 1895-96, which was maintained until September 1896, the early part of the season having given promise of a good harvest. This abnormal export must have reduced stocks considerably below the normal quantity. When therefore the usual rains of the north-east monsoon failed to come, a famine was created and by the middle of November the price of jowári—the staple food-grain—was in some districts under 18 lbs. per rupee and in most of the other affected districts only a fraction over that rate, the normal price in these districts varying from 38 to 45 lbs. per rupee. There was no such rapid rise in 1876 except in the Southern Marátha Country, to almost all parts of which imported grain had then to be carried at least 100 miles by road. When rain fell at the end of November, prices dropped materially and remained steadier afterwards. The course of them will be more fully dealt with in connection with the subject of supply of food-grains.

6. There was also reason for the late famine being more prolonged than its predecessor. The early rains of 1877 were not

Prolongation of the famine.

A comparative statement is given below, the rainfall of the latter year being shown not only as gauged at the head-quarter stations of the eastern districts, but also at the head-quarters of a taluka in each district distant from the head-quarters.

[illegible]

It will be seen that in the eastern parts of Poona, in Ahmednagar, in portions of Sholapur and in Bijapur there was no useful rain in July and August, and on the whole these months with the greater part of September constituted the period of greatest intensity of the famine in these tracts. People who had before struggled to maintain themselves without assistance from the State were forced by the exhaustion of their resources and the fear of another failure of crops to come to the works, and many came in a sadly deteriorated condition. In 1877 on the other hand there was except in Bijapur a gradual decline in the need for State relief from May or June, and it practically ceased at the end of October, whereas in the past year relief on a large scale could not be stopped till December. In the hill tracts the rainfall of 1897 was generally seasonable and sufficient, but the people suffered acutely until their crops ripened.

7. In the foregoing paragraphs the causes which produced the famine

Need for comparison
with 1876-77.

occurred in the same districts and on the whole in about an equal area, though not in the same area in all the districts. This comparison enables a further comparison of the effects of the two famines to be made with advantage, and indeed without some such method of gauge the results cannot be properly appreciated. But the actual results depend also on the measures of relief adopted to counteract the natural effects of the loss of crops and on the resources of the people themselves. In considering the pressure of the famine therefore it is necessary to take account of these resources and measures, although some of them will be more fully described in subsequent parts of this report.

8. It has been shown that the causes which produce distress were on the whole not less potent in 1896-97 than in 1876-77.

Extent of Relief.

The detailed figures are given in Appendix C. It seems to be generally supposed that in 1876 operations were commenced too late and that there was a difficulty at that time in inducing the people to go to the works. But this is a misapprehension. The number of people on the works in November 1876 was four times the number in November 1896, and it increased rapidly till the latter part of January 1877, when the wage on works under Civil agency was reduced and a strike occurred. This reduction was made because these works were too attractive, but it had a disastrous result in causing great bodies of people to wander about without definite aim and in pro-

ducing much mortality. In the year 1896 the works were opened only after a demand for employment at famine rates was established. Early in October special reports on the situation were called for and by the middle of the month the Commissioner, C. D., was authorized to open test-works where he deemed it necessary, suitable Local Fund works being selected for the purpose. In a Resolution No. 8370, dated 23rd October 1896, more general orders regarding test-works were issued and special care that the labour should be paid for at the rates prescribed in the Code was enjoined. Eventually in Government Resolution No. 8831, dated 9th November 1896, the Commissioners were authorized to commence works where there was a demand for employment at famine wages, but it was directed that regular relief works should not be opened until the test-works established such a demand. In several places, notably for a time in Belgaum and Sátara, and throughout the periods of distress in Kolaba and Ratnagiri, the people refused to work for the wages prescribed in the Code, but on the whole there was a steady increase in the number of persons on the works till April. Considerable numbers came from Native States, especially from His Highness the Nizam's territory, which interlaces to a large extent with parts of the Ahmednagar and Sholapur districts.

9. It was however represented by several officers that considerable numbers of people who were not in absolute need of relief resorted to the works and that the wages given were excessively liberal. Their belief seems to have been based mainly on the evidence of possession of some property by some of the labourers, of occasional savings out of the payments made and of a disinclination on the part of many to work for the higher rates of wage. A few instances have also been cited of private employers being unable to get labour at ordinary rates. His Excellency the Governor in Council has no sympathy with the theory that nobody who has any other resource left should be received on a relief work. Such a doctrine could not be carried into effect without much cruelty and loss of life. It is most desirable and in the end conducive to economy that people who cannot live through the period of famine without aid from the State should resort to the works before their resources are entirely exhausted and have their small savings still available for utilization when they are resuming their ordinary occupation. Nor can the Governor in Council accept the view that the scale of wages is on the whole much in excess of what is needed for the preservation of health. It was settled in the light of the experience gained in 1877. While prices are comparatively low, it is less favourable for adult males and working children than the scale of that year and *prima facie* cannot be extravagant. The equity of making the entire wage dependent on the price of food and work performed cannot be questioned. Experience has shown that the payments for the work are sufficient to maintain the labourers in good health, and many preferred to accept the minimum ration rather than work for more. In some cases where people on the works were fined so as to reduce their earnings below the value of that ration, their condition deteriorated, and the inference is that those people at any rate had no other resources, and that the lowest wage was sufficient to preserve their strength but little more than sufficient. There is indeed no doubt that the rations are less than the people are accustomed to, but it is probable that they ordinarily eat more than they need for the preservation of health, and in some cases the labourers were able to get inferior grain at a lower rate than that of the staple food, while those of the lowest castes supplemented their diet with the flesh of the cattle which died. So far as savings were made out of wages, they could have been made only when these aids to their sustenance were forthcoming. The private employers who complained of inability to obtain labour at the ordinary rates seem to have overlooked the fact that in most places these rates represented much less than half the food which they would represent when prices are normal. It appears, however, that in several districts, as will be more fully shown below, advantage was taken of the readiness of labourers to accept low wages to carry out the construction of wells and other land improvements on an altogether unprecedented scale out of private capital as well as with the aid of advances from Government, and no difficulty was experienced in obtaining the labour. This fact is believed to account largely for the disproportion between men and women on the works, the former being employed on the land improvements. On the whole it appears to the Governor in Council

to be beyond question that the scale of wages is not such as to attract to the works people who are not in real need of relief, although it is so framed as to discourage work up to the higher standards—a defect which will be separately considered.

10. It was however found that the cash allowances admissible to young children gave rise to an abuse. The rate is probably not more than enough for a child of 6 or 7 years of age, but it is too much for the younger children. People of the lowest castes are extraordinarily prolific, and there were many parents with several infants who were able to obtain sufficient for themselves and them while doing no more work than they were compelled to do, and in many cases none at all. Some of these people could probably have done without State relief. There were ascertained instances of men remaining idle in their villages while their wives and children were sent to the works. The cash allowances were permitted at first owing to the strong representations of experienced officers that they would be more convenient and economical than cooked food, although an element of danger was recognized in the argument that they were more acceptable to the people. But the very large proportion of dependants to workers at an early stage attracted the attention of Government, and on 27th January 1897 it was directed that the system of cash allowances should be discontinued except in cases in which there was shown to be a difficulty in the distribution of cooked food in kitchens. The order elicited many strong objections, and it was eventually deemed necessary to assemble a conference of the most experienced officers of the Land Revenue, Public Works and Famine Departments for the discussion of the question. The result was that the orders were maintained. It was recognized that the cost per unit of the relief of dependants would be greater under the system of cooked food than under that of cash allowances, but it was believed that the introduction of kitchens would be effectual in eliminating workers and their dependants who were not in real need of relief and would thus prove economical. The following figures show that this belief was well founded:—

District.	WORKERS.						DEPENDANTS.					
	Before Kitchens were opened.	Four subsequent weeks.				Week ending 15th May.	Before Kitchens were opened.	Four subsequent weeks.				Week ending 15th May.
		1st.	2nd.	3rd.	4th.			1st.	2nd.	3rd.	4th.	
Bijapur ...	58,831	59,914	54,217	54,444	51,652	48,556	20,629	20,070	18,346	16,965	16,082	11,014
Sholapur ...	78,634	86,630	86,620	90,779	91,203	88,232	37,447	40,049	38,149	34,821	32,571	28,927
Ahmednagar ...	58,863	65,077	63,439	65,386	64,310	59,076	31,528	30,763	30,019	26,197	22,563	11,860
Poona ...	15,773	16,760	15,514	15,274	14,953	21,803	7,106	5,313	5,084	4,016	3,214	3,250
Nasik ...	23,657	17,661	23,535	19,734	19,519	20,325	12,817	6,740	7,899	6,434	6,862	6,903
Sátara ...	28,750	31,568	31,302	31,311	21,703	10,658	4,852	4,608	4,917	4,574	3,401	2,067
Khandesh ...	23,965	23,130	20,955	24,774	28,495	17,586	10,493	10,125	8,799	7,895	9,064	5,125

In all cases the arrangements for cooking were such as to avoid all possibility of offence to caste feeling, and no instance was reported of objection being made on that ground. At first fear of an intention to injure the children was entertained, but it was soon overcome, and although there were throughout some instances of women maintaining their children out of their own earnings rather than send them to kitchens, they appear to have been very few, and the system was highly appreciated by almost all of those in real need. As the prescribed ration is scarcely sufficient for the larger children but too much for the smaller, it was directed that if the scale was not on the average exceeded, the food given to each child should be in proportion to its needs, and this is a material advantage which the kitchens have over cash allowances. There is universal testimony that the children in the kitchens were well nourished. The separation of children from the labourers during working hours also facilitated work and the exaction of proper tasks. It was not however possible to keep in the kitchens the very young children. Provision is made in the Code for nursing mothers not allowed to work. For such children of those able to work as were not old enough to eat the cash allowance was given; for those old enough to eat but

The Indian Famine Commission estimated the maximum number likely to be in receipt of relief in the worst months at 15 per cent. of the severely affected population. This limit was somewhat exceeded in 1897 in Sholapur and Bijapur only. In 1876-77 it was exceeded in Bijapur and Poona. On the whole the proportion in receipt of relief in the past famine was materially less than in the preceding famine.

13. Appendix D shows the figures given by the Collectors as the proportions of several classes of the people on relief works to the total number of workers and to the total population of the class at different stages of the famine. The figures cannot be accepted as entirely accurate, for although it was directed in some places that a census should be carried out in a systematic form, there was no test taken by superior officers. It is also to be observed that it is exceedingly difficult to draw the line between cultivators and labourers. There are few members of the agricultural communities of the Deccan who have not some interest in land, although many earn the main part of their livelihood by working for others. It is probable that people of that class are divided between the categories of cultivators and labourers in different proportions in different districts. As was to be expected the labouring classes came first on the works and cultivators came in increasing proportion as the famine became more intense, but it is scarcely credible that in Bijapur the proportion of cultivators rose from 29.1 per cent. in January to 45.6 per cent. in May and the proportion of labourers fell from 62.6 per cent. to 27.4 per cent. while there was a decline in the total number of persons on the works.

14. A very large proportion of the people on the works were **Mhars** and **Mangs** and members of other low-castes. Of the whole Mhar population of the districts 43.4 per cent. were employed on relief wages in Sholapur, 40 per cent. in Ahmednagar, 31.9 per cent. in Nasik and 30.6 per cent. in Bijapur. In the village system people of this class render services both to Government and the community in consideration of which they hold inam land and have a customary right to certain perquisites from land-holders. But their fecundity is extraordinary and subjected to no restraint, and they have multiplied far beyond the number needed for their hereditary occupation. The more enterprising go to a distance for employment in various ways, but the great bulk of them remain in the villages as mere parasites on the rest of the community. These have no adequate ostensible means of subsistence, and the claims they make on the rest of the villagers are at all times a source of danger to the public peace. In a time of distress there is no resource for them but relief from the State, and this will always be the case unless new industries which will afford employment to them are introduced.

15. Except in Sholapur, Poona and Bijapur the proportion of cultivators employed on the works is nowhere shown so high as 3 per cent., and in all the other districts except Ahmednagar it was under 2 per cent. It is reported that many lands yield enough in a favourable season to feed the occupants and their families for 2 or 3 years. But, as already stated, there are some cultivators who are scarcely, if at all, above the status of labourers and others had not resources to hold out, especially after the failure of the early rains of 1897. The occurrence of this famine however has afforded the most gratifying indications of an improvement in the general condition of the cultivating classes and in their power of resisting the calamity. The more substantial land-holders not only continued to provide for those habitually employed by them but took advantage of cheap labour to effect improvements in their land. It is reported that Rs. 6,55,784 were spent out of private capital on this object in Ahmednagar, and Rs. 2,00,000 in Bijapur and large sums in other districts. Not a single acre has been reported to have been relinquished, while nearly 342,000 acres were abandoned in 1876-77. Although in some districts, as will be shown below, the total loss of cattle has been enormous, the more useful have been preserved, and from Poona and Ahmednagar only is there reported any unusual area of fallow in the current year. The great bulk of the revenue has been collected without any coercion, the proportions suspended and remitted being small, as shown in the margin. No doubt the immense loss of crops and cattle must have driven many to borrow and it is reported that in some cases very high interest has been exacted. Statements of registered transactions have not been

furnished in a uniform manner but the information given has been tabulated so far as it can be in the following table:—

District.	1896-97.				1895-96.				Increase (+) or decrease (—) in 1896-97.			
	Mortgages.		Sales.		Mortgages.		Sales.		Mortgages.		Sales.	
	Number of transactions.	Value of transactions.	Number of transactions.	Value of transactions.	Number of transactions.	Value of transactions.	Number of transactions.	Value of transactions.	Number.	Value.	Number.	Value.
Sholapur	...	Rs. 4,55,445 (Includes Rs. 1,01,209 on account of mortgages with possession).	...	Rs. 6,65,362	.....	Rs. 4,28,166 (Includes Rs. 1,16,067 on account of mortgages with possession).	.....	Rs. 5,69,195	...	Rs. +27,279	...	Rs. +96,114
(a) Ahmednagar	19,604 (Includes 8,223 with possession).	.....	5,418	...	8,867 (Includes 4,639 with possession).	.....	4,078	.....	+10,737	...	+1,340	...
Poona	24,507	.....	8,074	...	18,773	.....	7,440	.....	+5,734	...	+634	...
Satara	28,477 (Includes 14,304 with possession).	Rs. 21,21,571 (Rs. 11,76,100 on account of mortgages with possession).	5,212	7,76,071	21,316 (Includes 11,197 with possession).	Rs. 20,88,398 (Rs. 11,82,371 with possession).	4,731	7,45,413	+7,161	+33,173	+678	+50,652
Nasik	5,196	13,27,051	2,037	8,13,319	3,939 (Average for 3 years ending 1895-96.)	Rs. 10,57,244 (Average for 3 years ending 1895-96.)	2,509 (Average for 3 years ending 1895-96.)	Rs. 5,64,028 (Average for 3 years ending 1895-96.)	+1,267	+2,69,637	+437	+2,49,291
Khandesh	83,778 (Area in acres).	99,858 (Assessment).	51,612 (Area in acres).	62,224 (Assessment).	85,414 (Area in acres).	99,544 (Assessment).	65,422 (Area in acres).	80,451 (Assessment).	-1,636 (Area in acres).	+314 (Assessment).	-14,810 (Area in acres).	-18,237 (Assessment).
(c) Bijapur	3,314	6,58,466	1,213	2,54,621	3,417	7,01,209	2,135	5,82,407	+927	-45,803	-922	-2,77,786
Belgaum (Athni and Gokak Talukas only).	1,715	4,91,476	680	1,85,769	1,426	4,61,788	735	1,79,558	+319	+29,688	-55	+6,202
Dharwar (Calag, Ron and Navalgund Talukas only).	2,324	.....	1,000	...	1,896	.....	1,621	.....	+428	...	-21	...

(a) The figures against Ahmednagar show the numbers of deeds registered by Village Registrars. In addition to these numbers 9,502 documents affecting immovable property were registered in the Sub-Registry Offices in 1896-97 against 8,643 in 1895-96.

(b) These are exclusive of figures for one taluka which are not reported.

(c) The figures for 1895-96 against Bijapur are for the financial year ending 31st March 1896. Figures for the year ending October 1896 have not been furnished.

The figures given do not indicate a very large increase in either sales or mortgages, but they were more numerous in the districts in which the Deccan Agriculturists' Relief Act is in force (Sholapur, Ahmednagar, Poona and Satara) than in those in which it is not; indeed in Khandesh and Bijapur there has been a remarkable decrease. The Collector of Nasik states that the transactions were as numerous in the Kalvan and Biglan Talukas, where there was no distress, as in others. The prediction that in a year of distress in the districts in which the Deccan Agriculturists' Relief Act is in force the money-lenders would insist on sale in lieu of mortgage has not been fulfilled. In all these districts except Sholapur there has been a greater increase in mortgages than in sales, while in Sholapur nearly half of the sales and between one-third and one-fourth of the mortgages were between agriculturists and agriculturists. On the whole it is not open to doubt that since the famine of 1876-77 there has been a remarkable improvement in the condition of the cultivators as a body and whether or not indebtedness amongst them has increased it has not impaired their means to resist famine or imperilled the Government revenue. The settlements under which land has become a transferable and generally valuable property have made extensive indebtedness possible and doubtless many improvident and spendthrift occupants are worse off than if they had had no credit or security on which to borrow, but they have immeasurably enhanced the prosperity of the agricultural community as a whole. The cultivators in the hill tracts however are in a much less satisfactory state than those in the plains, and many of them live from hand to mouth. The experience of ages has led them to rely on a certain rainfall, which notwithstanding the poverty of the soil makes some harvest sure, and they have not been in the habit of storing any surplus grain. The unprecedented failure of crops in 1893 reduced the majority of them to almost absolute destitution.

16. The only other class of importance on the relief works was that of weavers. They suffered not only from the failure of crops and high prices but from the absence of demand for their products on account of the year being the Sinhasht year, in which Hindus of the higher castes do not marry. These people seem to be more dependent on money-lenders than almost any other class, and as the capitalists who did not wish to accumulate a stock

of cloth in the absence of a demand for it ceased to make advances, the weavers at once fell into distress. In some places, particularly in the Nāsik District, they were among the first to apply for relief and their condition gave cause for great anxiety. According to a provision of the Code as then existing employment should have been given to them in their own craft, but the number in the several districts in need of relief was so large that the provision could not be carried out. There were on the relief works in May no less than 13,324 weavers. It would have been quite impracticable to organize a system of expert supervision on the scale required and to provide buildings for the storage of the cloth produced and arrange for its safe custody and for the prevention of injury from damp, vermin and insects, while the accumulation of enormous stocks would probably have disorganized the market for years to come and, as the weavers were suffering largely from an absence of demand for their products, have done more injury to the whole class than would have been compensated by the relief of some of them in a manner agreeable to them. As the wages for the labour would have been only a third or a fourth of the total cost, the method of relief would have been unjustifiably expensive, unless a fair price could be got for a large proportion of the cloth. Various schemes were suggested for the management of the manufacture by private gentlemen from funds supplied by Government or under a guarantee of Government against loss, but they were all considered impracticable. The following were estimates of the cost of employing the numbers specified :—

Place.	Number.	Months.	Cost.
			Rs.
Ahmednagar	2,000	7	5,00,000
Yeola	2,048	8	1,01,000
Sholapur	4,800	8	3,84,000
Bijapur	6,000	7	4,13,437

The provision in the Code was accordingly altered so as to admit of relief being given by employment in their own craft to such weavers as are deemed incapable of earning a livelihood on the ordinary relief works. Funds were placed at the disposal of the Collectors to enable them to carry out the provision as amended, it being directed that the weavers to whom it applied should be employed in weaving coarse cloth which would afterwards be of use for persons in distress requiring clothing. But except in Sholapur, where the Collector undertook to bear half the cost of relief of those employed by the Municipality, no expenditure from these funds was incurred. It was however recognized that what could not be done by Government on a large scale might be done by Municipalities on a moderate scale if the members of the Boards gave their personal attention to the matter, and the Government of India at the request of this Government passed an Act to empower local bodies to borrow for such a purpose. But the Municipalities of Yeola, Sholapur and Gokāk only took advantage of the Act. The number of weavers relieved by them was comparatively small, but the operations were carried out with perfect success, and will probably yield a small profit, as the following figures show :—

Municipality.	Advances and other expenditure incurred.	Recoveries already made by sale of cloth.	Value of stock in hand.
	Rs. a. p.	Rs. a. p.	Rs. a. p.
Sholapur	5,702 13 2	3,298 11 3	2,512 11 9
Yeola	18,605 13 3	11,007 5 9	7,669 6 5
Gokāk	14,627 12 10	5,250 1 5	*8,942 6 0

Detailed reports of the relief given in this manner in these places are appended (marked E). The results so far as they have gone fully justify the view taken by this Government, but it is recognized that the difficulties increase

* Besides this amount, advances amounting to Rs. 531 made to weavers have still to be recovered.

in proportion to the magnitude of the operations. With these exceptions the weavers in distress were employed on the ordinary relief works, but it was ordered that so far as was practicable they should be employed on earthwork rather than on metal-breaking. Although their hands suffered at first from the unusual employment their general health was reported by the medical officers, who paid special attention to them, to improve from regular food and work in the open air, and it is stated that some who were offered employment in their own craft at ordinary market rates in Yeola refused to leave the works. At the suggestion of the Collector of Sholapur coarse cloth was used instead of matting for huts in many places in order to give employment to weavers, but it did not prove very suitable. It does not appear that other artisans suffered much.

17. There has not been observed any large sale of gold and silver ornaments and of metal utensils such as attracted attention in 1876-77. The fact has been cited as an indication of greater poverty amongst the general population, but if so it would be inconsistent with all other indications, and it is more probably evidence either of the possession of other resources or of the greater efficacy of the relief granted. It is indeed likely that the practice of investing savings in gold and silver ornaments is less common than it was, the more profitable methods of utilizing them being better appreciated, and there is reported from Sholapur a matter of some significance in connection with this question, that amongst the revenue collections there were found many King William rupees, but these facts would not much affect the classes who fall into distress. There is no evidence that they possess fewer ornaments than formerly, and instances have been cited of the reluctance of even persons in poor-houses to part with their children's ornaments. The possession of metal utensils is certainly not less common than it was, and the fact that they have not been brought to market in large quantities shows that the need to part with them has not arisen.

18. The last contrast with 1876-77 which it is considered necessary to draw here proves increased confidence of the people in the efficacy of the relief measures. It has already been mentioned that the relief works were opened in the preceding famine period as soon as in the last, and that at first as great advantage was taken of them. But this notwithstanding people emigrated in large numbers from the affected districts, and many villages were entirely deserted. In the recent period of famine the numbers reported to have left their districts were—

Bijapur	155,266
Sholapur	37,500
Sātra	9,083
Belgaum	5,000

Most of the emigrants from Bijapur went with their cattle to grazing tracts and 85 per cent. returned. The large majority of the emigrants from the other districts also returned. After the strike against the reduction of the wage on Civil agency works in 1877, there occurred what is described by the Famine Commission as "that restless and aimless wandering which caused immense trouble to the Relief Officers and great suffering and mortality among the people concerned," and reference is made to the "obstinacy with which persons almost in a dying state would go anywhere rather than to a relief camp." In the past year there was no such wandering and the difficulty was with some exceptions not to persuade people to go to relief works but to devise measures for keeping off those not in real need. On the first indication of famine however measures were taken to test the existence of distress and work was made available for those who required State relief.

19. On the whole it may be said with confidence that although the causes which produce famine were as potent in 1896-97 as in 1876-77, the effects, partly through the improvement in the condition of many of the people, partly through their greater readiness to rely on the assistance of Government, and partly through the effectiveness of the measures employed, have been far less injurious. It is said that many of the labourers were owing to the regular employment even better off than in an ordinary year. The cultivating classes have been able to resume their occupation with no visible decrease of efficiency, although doubtless for some years to come they will feel the loss of cattle and

crops and the depletion of their stocks. Other results with measures affecting them will be more properly considered in subsequent parts of this report.

II.—Public Health.

20. The natural and most important effect of a famine is an increase in the mortality, and the effectiveness of the relief measures adopted is largely indicated by the extent

Death-rate.

to which the death-rate of the period varies from the normal. In Appendix F is given a statement of the deaths in each month in the several districts, the rate *per mille* being compared with the normal rate for each month. It will be seen that in the earlier months of the famine the mortality was less than usual, and especially so in the districts most affected. It is probable that the absence of heavy rain in September and October 1896 was beneficial for a time to the public health, but it is remarkable that this low mortality should have continued through the months when the checks against an abuse of relief measures—the introduction of kitchens and the concentration of labour—were applied. There was no material increase of mortality till May and June, when heavy showers filled the nálas and people drank polluted water. Outbreaks of cholera in Sátára and Bijápur were distinctly traced to this cause. Throughout the monsoon months of 1897 the mortality was generally above the average. The diseases to which the people chiefly succumbed are shown as cholera, fever, dysentery and diarrhoea. It has been reported that much old and partially rotten grain was taken from the pits and brought to market and this practice probably increased as the famine deepened and prices rose, and attained its maximum when the early rains of 1897 failed. The strain of continued high prices, which was greatest in June, July and August, must have compelled even those people to whom State relief could not properly be given to resort to inferior diet, and the consequent deterioration of health no doubt weakened their power to withstand disease. It was of course inevitable in the circumstances that the mortality should be greater than usual. It is probable that on that account the ravages even of cholera were more fatal than they otherwise would have been, and it will be seen from the statement that that disease prevailed in an epidemic form in the months in which the mortality was highest in the several districts and caused sudden increases in the death-rate. It is worthy of notice that in August and September the mortality was higher in Násik and Khándesh than in other districts, but in these months the need for relief operations had practically ceased in these districts, in which kharif crops are mostly grown, and in which the early rains were exceedingly favourable. The Collector of Násik reports after examination of the registers that the mortality was as high in parts of the district in which there was no distress as in others and indeed that the rate in the two talukas most affected was nearly normal. On the whole it would seem clear that the high rate of mortality which prevailed after the commencement of the rains of 1897, just as the low rate of mortality in the previous period, was mainly due to climatic conditions, but in some places the power of the people to withstand disease had been weakened. This was especially the case in the hill tracts of Poona and Ahmednagar, where the death-rate was especially high as shown below:—

	Death-rate in district generally.	Death-rate in hill talukas.
Poona ...	51.9	57.3
Ahmednagar ...	43.1	51.9

Plague caused 5,801 deaths in Sátára in the period of greatest mortality, and it prevailed in Poona but to the largest extent before the death-rate became high.

21. Thirty-nine deaths which had been attributed in the village registers to starvation have been investigated. Seventeen of them occurred in the Khándesh district and twenty

in the Násik district, in both of which the distress was not very severe. The remaining two occurred in the Ahmednagar District. Some of the people who were alleged to have died from this cause were found to be well-to-do or to have able-bodied relations. In only eleven cases are there reasonable grounds for holding that death was due mainly to the want of food. Seven of these people did not belong to this Presidency but wandered into it in a state of emaciation, and the rest, though belonging to the Presidency, were also wanderers who would not stay on the works or take advantage of the relief provided for them. In no case could death be attributed to the absence of opportunity of relief, but

as already stated insufficient or unwholesome food no doubt rendered many susceptible to disease and contributed to bring about the bowel complaints to which many deaths are attributed.

22. Registration in 1876-77 was so imperfect that no advantage would be gained by a comparison of the deaths then recorded

Mortality in 1896-97 as compared with 1876-77. with those recorded in 1896-97. It may be observed however that while the death-rate as deduced from the registers rose from 27.9 in 1876 to 71.7 *per mille* in 1877, it was 45 *per mille* in the period from November 1896 to October 1897 as compared with 35 *per mille* in the period from November 1895 to October 1896. The latter is the rate assumed by the Indian Famine Commission to be normal, and it may be inferred that the registration is now practically accurate. It was especially accurate in the period of famine, being constantly subjected to the test of a chain of officers from Circle Inspectors to Collectors. These are facts which must be borne in mind in any comparison which is made. The Indian Famine Commission calculated that in 1877-78 there was in the five districts of Sholápur, Sátára, Bijápur, Belgaum and Dhárwar an excess of mortality over that of ordinary years amounting to 315,000. In the whole nine affected districts, including the very large one of Khándesh, the excess of deaths from November 1896 to October 1897 has been only 91,397. Indeed the destruction of human life caused by the preceding famine still lives in the memory of the people; the higher death-rate of the past year has attracted no attention.

23. The following statement shows the mortality on Relief Works in the affected districts from March to October 1897:—

Month.	SHOLAPUR.					AHMEDNAGAR.				
	Cholera.	Other causes.	Total.	Rate per 1,000 of people on works.	General death-rate for the district.	Cholera.	Other causes.	Total.	Rate per 1,000 of people on works.	General death-rate for the district.
1	2	3	4	5	6	7	8	9	10	11
1897.										
March...	9	2	11	99	2.59	2	2	4	42	2.10
April ...	108	10	118	91	3.75	10	10	20	11	2.63
May ...	178	8	186	161	4.12	7	7	14	10	3.32
June ...	43	18	61	55	3.96	17	8	25	49	3.50
July ...	110	79	219	230	7.72	68	34	102	140	6.86
August ...	22	22	44	42	5.78	9	15	24	35	7.18
September ...	7	33	40	43	4.77	10	10	20	21	5.09
October ...	7	36	43	81	5.20	5	17	22	51	4.52

Month.	POONA.					SÁTÁRA.				
	Cholera.	Other causes.	Total.	Rate per 1,000 of people on works.	General death-rate for the district.	Cholera.	Other causes.	Total.	Rate per 1,000 of people on works.	General death-rate for the district.
1	12	13	14	15	16	17	18	19	20	21
1897.										
March...	4	4	8	21	3.89	4	4	8	12	2.38
April ...	1	1	2	05	2.91	72	14	86	2.75	3.72
May ...	1	1	2	04	2.59	10	2	12	01	7.12
June ...	58	8	66	265	5.72	20	...	30	330	5.81
July ...	28	15	43	408	10.10	4	3	7	59	5.82
August ...	7	25	32	197	7.18	...	2	2	24	5.52
September ...	2	18	20	110	5.14	...	12	12	03	5.30
October ...	1	13	14	98	5.25	...	2	2	26	6.74

Month.	NÁSİK.					REUNDESH.				
	Cholera.	Other causes.	Total.	Rate per 1,000 of people on works.	General death-rate for the district.	Cholera.	Other causes.	Total.	Rate per 1,000 of people on works.	General death-rate for the district.
1	22	23	24	25	26	27	28	29	30	31
1897.										
March...	...	2	2	105	2.90	...	2	2	105	2.52
April ...	...	4	4	13	3.19	...	1	1	103	3.09
May ...	...	...	...	...	3.23	...	...	...	...	2.95
June ...	10	3	13	106	5.25	...	2	2	112	3.17
July ...	23	17	40	2.70	6.51	37	2	39	2.80	3.62
August ...	46	13	59	10.10	8.06	3	6	9	1.35	7.32
September ...	...	22	22	5.10	6.51	1	1	2	1.00	6.40
October ...	1	4	5	3.30	5.11	...	...	...	...	3.68

Month.	BIDAR.					BEGANUR.				
	Cholera.	Other causes.	Total.	Rate per 1,000 of people on works.	General death-rate for the district.	Cholera.	Other causes.	Total.	Rate per 1,000 of people on works.	General death-rate for the district.
1	32	33	34	35	36	37	38	39	40	41
1897.										
March...	...	1	1	101	2.77	...	3	3	57	3.41
April ...	2	1	3	103	3.22	...	8	8	1	4.32
May ...	38	...	38	105	6.87	13	26	39	2.80	5.23
June ...	1	2	3	101	4.16	21	20	41	1.60	5.09
July ...	12	3	15	108	5.25	50	50	100	7.60	3.73
August ...	26	6	32	122	5.18	57	60	116	7.50	3.46
September ...	9	6	14	109	4.48	80	97	177	10.20	2.82
October ...	...	2	2	108	4.22	82	50	131	9.50	2.72

Note.—The figures in italics in columns 3, 11, 16, 21, 26, 31, 36 and 41 represent the general death-rates.

* This figure represents the number of deaths during the twelve months ending 31st October 1897, and the rate *per mille* in column 10 against it has been calculated on the only average number on works during this time, viz. 100.

The number is so small that it cannot be supposed to include all the deaths of people who were employed on relief works, and many of them must have been separately registered in villages in which they resided. But of course most of the people who came to the works were able-bodied, and the death-rate amongst them would naturally be very much below the general death-rate. Where it was unusually high, special causes were traced. It will be seen from the statement that the principal of these causes was cholera, but in the months of July and August people came to the works in such large numbers that it was impossible at once to provide shelter for all, and many who had avoided seeking relief until their condition had been reduced were unable to withstand the exposure, from which however small children mainly suffered. Many residents in His Highness the Nizám's territory reached the works in those months in a very weakly state. Every precaution was taken to keep the people on relief works in good health, and the sanitary arrangements and water-supply of the camps were carefully supervised. Wherever cholera broke out, most stringent measures were adopted to prevent its spreading to the surrounding villages by enforcing compulsory residence in camps and by segregating the patients in sheds specially erected for the purpose and the wells were constantly disinfected with permanganate of potash. Cases of small-pox were rare and vaccination was carried on wherever necessary. In July and August, when large numbers of people came on the works in reduced condition, scorbutic symptoms were noticed among a few, but they quickly yielded to medical treatment. On the whole the health of the people employed on the works was generally very satisfactory

and, as already mentioned, that of children fed in kitchens was especially so. There can be no doubt that the scale of wages is such that the people can manage to maintain their health and strength on it.

24. In previous famines large numbers of orphans were left on the hands of Government; in the past year no difficulty at all appears to have been experienced in this matter. In

the beginning of the distress philanthropic Hindu and Mahomedan gentlemen established orphanages and the District Officers were instructed to send to them children of these classes who were without protectors, but the reports do not show that it was necessary to take any advantage of these institutions. There are no accounts of abandoned or neglected children except so far that mothers on the works could often not be induced to take suffering children to the hospitals. The tie of parental affection appears to have been in no way relaxed, and as already mentioned the reluctance to send children to kitchens, which in a few exceptional cases was continued and induced parents to stint themselves for the benefit of their offspring, was due to fear of injury to them.

25. In the following statement the number of births and the birth-rate in the affected districts from November 1896 to October 1897 are contrasted with the averages of the

previous five years:—

District.	Annual average of five years.	For twelve months from November 1896 to October 1897.	Average rate <i>per mille</i> .	Rate <i>per mille</i> for twelve months from November 1896 to October 1897.
Sholapur ...	30,981	21,837	41.27	33.09
Ahmednagar ...	40,009	35,999	45.02	41.63
Poona ...	30,130	35,862	36.35	33.58
Sátara ...	48,820	42,925	39.82	35.01
Násik ...	37,195	37,071	41.45	43.34
Khándesh ...	61,790	65,616	41.35	45.62
Bijápur ...	32,729	25,586	41.10	32.13
Belgaum ...	40,372	39,041	39.81	38.53
Dhárwár ...	44,400	43,104	42.32	41.00
Total ...	378,817	352,071	41.63	38.69

With the disorganization of home life caused by a famine some decline in the birth-rate is of course inevitable, and unless it is excessive it is of no significance. It was calculated that in the affected districts in 1877 and 1878 the number of births was less by about 260,000 than in two average years. The figures given above show a decrease of 26,746 only, but it is probable that there will be a greater decline in the current year, and it is doubtful whether the registration of births is yet so accurate as that of deaths.

III.—Crime.

26. As was to be expected, there was a general increase of offences against property in the affected districts during the period of the famine. The numbers of cases of robberies, thefts and dacoities reported to the police during this period and the preceding 12 months are compared below:—

District.	1895-96.	1896-97.
Sholapur ...	489 (for 1894-95)	903
Ahmednagar ...	483	837
Poona ...	629	841
Sátara ...	683	1,161
Násik ...	(Not reported.)	1,715
Khándesh ...	1,462	2,994
Bijápur ...	1,137	1,149
Belgaum (Athni and Gokák Talukas).	154 (Average of 3 preceding years.)	205
Dhárwár (affected area) ...	164	182

At the commencement of the famine the sudden rise in prices led to more or less serious grain riots at Sholapur, where the police found it necessary to fire and killed one and wounded* two men, Karad and Hubli and at three places in the Khândesh District. The object in most, if not all, of the cases appears to have been to protest against export of grain or against the action of the grain-dealers in holding up their stocks in expectation of higher profits, and in one case resentment arose from the fact that the bonds which had been executed for grain to be supplied were cancelled, while in another the rioters offered money for the grain before resorting to force. Most of the offences in the Poona, Ahmednagar, Sâtara, Násik and Khândesh districts were committed by Bhils, Mángs, Kolis, Thákurs and members of other similar classes, who are generally averse to continuous labour and take to pilfering and house-breaking when they are short of food. In the Ahmednagar and Násik districts dacoities and thefts were especially prevalent during the latter period of the famine when the pressure of scarcity was most severely felt, and nearly one-third of the dacoity cases in Ahmednagar were traced to subjects of the adjoining Native States. In the Sâtara District a considerable part of the increase in crime was also due to the prevalence of plague, in consequence of which many houses were left vacant and unguarded and the criminals had therefore unusual opportunities of stealing. Except in Ahmednagar the increase seems to have been mainly in petty offences. In that district there was also an unusual number of murders, but this fact can be in no way connected with the famine. The conduct of the people employed on relief works was excellent.

27. For the purpose of keeping order in the affected districts and on relief camps and guarding the treasure in the custody of the Additional Police and Magistrates. Public Works Department cashiers extra police were entertained in all the affected districts, and in most of them Subordinate Judges were invested with First Class Magisterial powers so as to relieve the Sub-divisional Officers and Mamlatdars from the strain of criminal work and leave them more time to devote to relief measures.

IV.—Supplies of food-grains.

28. In Appendix G is given a statement of the monthly prices of the staple food-grains—jowári and bájri—at the head-quarters of the affected districts during 1876-77 and 1896-97 respectively. The average prices for the whole of each district in the latter year are shown in italics below the figures for head-quarters. It has already been mentioned that owing to bad seasons in Northern India there had been a greater net export than usual in 1894-95 and in 1895-96. Details are given in Appendix H. The export continued till September 1896, but when in the next month the failure of the north-east monsoon, on which the affected tracts mainly depend, became almost certain, prices went up with a bound to famine point. The rainfall in November 1896 led to a temporary decline in some districts, but they soon rose again, reaching their highest point in July or August 1897, when owing to cessation of rain fears were entertained of another year of famine. The highest rates at which jowári was sold during the recent famine in the interior of the affected districts are given below :—

District and Station.	Price.	During week ending
	Lbs.	
Sholapur (Málsiras) ...	12½	21st August 1897.
Ahmednagar (Jámkhed)...	11	Do.
Poona (Bhimthadi) ...	12 9/16	28th August 1897.
Násik (Kalvan) ...	10 7/16	21st August 1897.
Sâtara (Pátan) ...	10 1/16	Do.
Khândesh (Chopda) ...	11 9/16	14th August 1897.
Bijapur (Sindgi) ...	13½	24th July 1897.
Belgaum (Athni) ...	14	10th July 1897.
Dhárwár (Ron) ...	16½	4th September 1897.

* Of these one died on the way to the hospital.

In no place was the rate of about 9 lbs. per rupee at which jowári was sold in Dhárwár and Bijapur in August 1877 reached in this famine. The improvement in communications, and especially the construction of the Southern Marátha Railway, account for this advantage. Grain had to be carried into these districts by head-loads and in carts drawn by human beings in 1876-77. Except however in the Southern Marátha Country prices were generally higher than in 1876-77, and they were higher in the northern districts than the southern, because the latter are nearer the sources of supply which were most important in this famine—Madras and Mysore.

29. As already stated, many, probably most, of the lands in the precarious tracts yield in a good season enough to feed the occupants and their families for 2 or 3 years, and the production of grain is shown by the statistics of crops to be carried on on as large a scale as ever. It is known that the practice of storing in pits is continued. But the depletion of stocks which resulted from the increased export of 1894-95 and 1895-96 gave cause for anxiety, and the Director of Land Records and Agriculture was desired to use every effort to obtain such information as was procurable regarding the stores remaining. As the owners had the strongest motives for concealment and the stocks were underground, the estimates could be little better than guesses, but the inquiries made it fairly certain that a considerable supply of food still remained in the country in the earlier part of the famine. The following statement shows the outturn of the affected districts except Belgaum and Dhárwár as compared with the normal and the amount which had to be provided from the surpluses of the former years or by imports :—

District.	Average outturn of food-grain crops for 1894-95 and 1895-96.	Consumption of each year.	Net yearly import or export of food-grains (Import + Export =).	Average surplus of each year.	Outturn of food crops in 1896-97.	Quantity which had to be provided from the surplus of previous years or by imports.
1	2	3	4	5	6	7
	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.
Sholapur ...	8,945,225	6,290,516	—150,557	2,204,752	810,000	5,480,516
Ahmednagar ...	12,147,953	7,733,563	—165,613	1,243,777	4,833,510	2,900,053
Poona ...	10,459,098	8,129,760	+ 787,702	2,817,040	2,763,135	5,566,625
Sâtara ...	9,815,378	9,123,084	+ 120,000	812,294	6,122,210	3,000,874
Násik ...	11,158,056	6,918,057	—820,406	3,419,593	3,657,351	3,260,706
Khândesh ...	12,209,153	10,782,330	+ 73,306	1,193,129	3,995,479	6,793,851
Bijapur ...	10,009,716	6,304,036	—302,093	2,793,247	401,183	6,502,853
Total ...	74,735,109	56,188,346	+ 981,008 —1,739,569	17,788,202	22,682,868	33,503,478

The net imports of food-grains by rail into the affected districts from March to October 1897 amounted to over 45½ lakhs of maunds, a quantity just sufficient to feed the population (91 lakhs) of those districts for a month at the rate of half a maund per head. This fact shows that there must have been stocks in the affected districts sufficient to feed the large majority of the population. The continuance of high prices however after good harvests in some of the affected districts and in other parts of the country were assured is a ground for inference that the stocks must have been to a large extent exhausted at the close of the year.

30. The following statement shows the imports and exports of food-grains by rail for all the districts of the Presidency from March to October 1897 :—

local dealers to sell only at unduly high prices, the purchase by Government of grain at a distance for the purpose of breaking down such a combination might have a beneficial effect. But such a measure is not unlikely to deter traders from entering the market and should not be adopted except in a case of extreme urgency."

"Government must decline, at any rate at this early stage, to import grain in large quantities and store it or even to undertake to buy and store at a centre like Ahmednagar large quantities imported by a private firm. It will be contrary to all experience if private trade does not supply large centres accessible by rail more successfully than could be done by State agency, and indeed a State agency adequate for the satisfactory storage and distribution of grain to the places where it is needed could not be organized without much time and great expense, and, as has been repeatedly pointed out, any attempt to substitute State agency for private trade in this matter would most probably have disastrous results. Prices are exceedingly high now at the large centres as well as elsewhere, but they will be reduced to their proper level by the ordinary action of trade and this result would not be helped by Government interference.

"2. The existing difficulty, however, arises mainly from the action of local dealers. If they continue to keep back their stocks, as they are at present doing, it will be quite legitimate and in accordance with the conclusions recorded by the Famine Commission for the officers in charge of relief camps to obtain supplies from a distance. Wherever therefore there is a difficulty in obtaining locally a sufficient supply at any price for persons employed on relief works or entitled to gratuitous relief or where the local price is such that it would be less expensive to buy grain in distant markets and convey it to the relief works, Collectors are authorised to adopt the latter course. By distant markets are of course meant markets in India and not those in foreign countries, and it will not generally be necessary or expedient to go beyond the nearest large towns accessible by rail, so that much time will not be needed to obtain the necessary supply. Where this course is adopted, it will be desirable to have always in hand sufficient grain for two weeks' consumption on the relief works, and in accordance with Section 112 of the Famine Relief Code, the ration should in such cases be paid in kind. But interference with private trade even to the extent above shown to be legitimate should be adopted only if traders cannot be induced to supply the labourers on reasonable terms. If local traders will not do so, an endeavour should be made to arrange with the larger traders in market towns to undertake the supply, and in such case a reasonable price may be guaranteed for a sufficient period. The inducement of this guarantee to prevent the larger traders being at once undersold by the local traders will be necessary, but it should be given only for such period as is necessary, after which the local traders will in all probability accept the proper market price."

Similar principles were laid down by the Government of India in their Circular No. 4 F—21-1, dated 6th January 1897. The advance of money or grant of a guarantee against loss to Syndicates or Associations, which was suggested from several sources, was held to be open to the same objection as import by the State.

32. Municipalities were also advised to refrain from competition with private traders. It being brought to the notice of Government that municipal funds were being used in certain places to help in the establishment of cheap grain shops the following orders were passed:—

Government Resolution No. 9296, dated 21st November 1896. "Government have learned with satisfaction that the members of the Ahmednagar Municipality are co-operating with other leading citizens in efforts to make grain available at a reasonable price for the Municipal population.

"2. With reference to the resolution, however, that the Municipality should agree to pay interest at 6 per cent. and pass an acknowledgment under the signatures of the President and the Secretary and the seal of the Municipality, it is to be observed that by Section 8 of the Local Authorities Loans Act local authorities are precluded from borrowing money upon or otherwise charging their funds except as provided in the Act and the rules made under it; that the sanction of Government would, therefore, be necessary for such a charge on the funds of the Municipality and that it could not be given for purposes other than that contemplated in the Act, viz., the carrying out of works. It must, therefore, be understood that the resolution can have no effect in making Municipal funds security for any loss incurred or interest due on sums borrowed for the supply of grain. As, however, the sum of Rs. 5,000 raised by popular contribution has been placed at the disposal of the Municipal Committee to provide against any loss, and as the money is to be kept apart from Municipal funds, it is presumed that the members of the Municipal Committee understand that they can act in this matter only in their private capacity.

"3. It may be remarked however that it is competent to the Municipality as such to provide for the establishment and maintenance of relief and relief works and that there would be no objection to its purchasing grain required for gratuitous relief or for payment in kind to persons employed on its relief works."

"It would be neither legal nor desirable for the Municipality to advance money in aid of the grain shop, which is intended apparently to be a private institution, and in no way under the control or management of the Municipality. Such a measure would be likely to deter private traders from importing grain and, by restricting competition, might do more harm than good. If the Municipality has money to spare, it may well consider whether it can spend it on useful relief works or devote it to providing labour in their own craft for the weavers."

The wisdom of this policy of non-intervention was amply demonstrated. At no time in the course of the famine did private trade fail to meet the demand for grain even in the remotest corner of the affected tract, except in the isolated case described below. In July 1897 the Collector of Poona brought to notice the difficulty of obtaining grain for the labourers at the Shetphal Tank work as there were no grain-dealers either at Shetphal or Indapur who would undertake to provide it. In the circumstances the Collector was authorized to arrange for the import of grain to Shetphal from Poona. The work was closed before all the grain sent was utilized, and the balance was sold by auction at a considerable loss.

33. In almost all the larger towns in the affected districts however shops at which grain was sold at or below cost price were opened at the expense of philanthropic gentlemen, one of whom is said to have borne a loss of Rs. 25,000 and another of Rs. 16,000. In one district part of an allotment from the Indian Famine Charitable Relief Fund was devoted to this purpose. There is a widespread belief in the efficacy of this measure, which nevertheless appears to the Governor in Council to be very doubtful. If the operations are conducted on an extensive scale, they constitute an unfair competition with legitimate trade, which can scarcely fail to check it. If they are not on a sufficiently large scale to affect that trade, they merely constitute a somewhat inconvenient form of private charity. The practice however seems to have the effect of inspiring the people with confidence and of enabling them to judge what is a fair price. And there is evidence that prices may be to some extent a matter of arrangement. In the town of Poona what is called a grain-ringing was formed to settle the rates periodically, and in Sholapur the managers of the cheap grain shops and the Huzur Deputy Collector are said to have fixed prices which were adhered to by dealers.

34. As it was reported that certain Native States had prohibited export of grain from their territories, communications were made to the Government of India on the subject, the purport of which is shown in the extract from Government Resolution No. 8386, dated 10th November 1896, quoted below:—

"4. The Government of India have already been addressed with regard to a report that the Indore Darbār has prohibited export. They should now be informed of the report as regards His Highness the Nizām's Government, and a suggestion should be made that Political Officers accredited to the Native States generally might be asked to point out to the Darbārs the great importance of leaving to private trade the business of the supply and distribution of food, as urged by the Famine Commission. The subjects of Native States who apply for relief in British India will not be refused it, but the Rulers should take measures for the relief of their own needy subjects, and should co-operate with the British Government by adopting the same general system as regards leaving trade free as well as other matters. The subjects of many Native States have already in the current year benefited by freedom of import from British Territory."

V.—Water-supply.

35. Except in Nāsik and Khándesh, where no difficulty was experienced, the water-supply in the affected tracts began to fail early in the fair season. The water-level in the Sholapur District is said to have been unprecedentedly low. The smaller streams and nālas and many of the public wells were dried up by February, and in several places people had to go long distances from their villages to get their supply of drinking water. In the town of Karmāla it was sold at 3 pies per pot, and the Ahmednagar Municipality had to incur an expenditure of about Rs. 3,000 per mensem to fill the aqueducts by lifts worked by men and cattle.

The low-caste people especially were put to considerable inconvenience. The hilly tracts of Ahmednagar and Sātara were the first parts of these districts to suffer, but in the intervening hill talukas of Poona there was no great scarcity of water. The measures which were taken to improve the supply will be described below.

VI.—Cattle and Fodder.

36. The loss of fodder was perhaps scarcely so extensive as the loss of grain, for in some places there was some yield of straw when the ears did not fill and irrigation from wells was largely devoted to the production of quick-growing fodder crops. On the other hand there were no large stocks of fodder kept over from previous years and the importation of it presents much greater difficulties than the importation of grain. Wherever in the plain country crops failed there was also little or no grass, and in the western parts of Poona the hill-side grass is said to have been injured like the grain-crops by the heavy downpour in July as well as by subsequent drought. But generally in the ghát tracts there was some grass available and in the Satpuda hills it was plentiful. Sholapur, Bijapur and Ahmednagar were accordingly the districts which suffered most from the scarcity of fodder, although the circumstances of the eastern talukas of the other districts were little better. At an early stage of the famine the more useless cattle began to die or were sold on account of their skins for a few annas. This was especially the case in Bijapur and was one of the first signs of the great intensity of the famine. Soon afterwards even useful plough-cattle were sold for nominal prices.

37. The following table shows the decrease in the number of cattle in the affected districts during the period between the 1st July 1896 and 30th June 1897, and figures are added to contrast the loss with that of 1876-77 :—

District.	PLOWN CATTLE.				MILK CATTLE.				YOUNG STOCK.				TOTAL.			
	June 1896.	June 1897.	De-crease.	Percent- age of de- crease.	June 1896.	June 1897.	De-crease.	Percent- age of de- crease.	June 1896.	June 1897.	De-crease.	Percent- age of de- crease.	June 1896.	June 1897.	De-crease.	Percent- age of de- crease.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Sholapur ...	2,21,528	1,60,237	61,291	27·6	1,60,233	95,903	64,340	40·1	1,30,007	82,276	47,821	36·7	3,77,143 6,11,958	1,75,540 3,38,500	2,01,600 1,78,462	63·5 33·8
Ahmednagar ...	3,22,708	2,72,180	40,528	15·3	2,48,320	1,88,112	60,208	24·2	1,72,425	1,30,704	41,721	24·2	5,61,787 7,43,453	3,80,342 5,01,006	1,84,445 1,51,457	37·7 20·3
Poona ...	2,63,400	2,40,557	22,822	9	2,65,301	1,82,903	22,398	11	1,19,524	1,12,760	6,764	6	4,26,694 5,88,231	3,56,380 5,36,250	70,114 1,19,84	16·1 9
Satara ...	2,60,903	2,47,626	13,367	6·2	2,43,392	2,22,408	20,984	8·6	1,78,680	1,61,277	17,403	9·8	5,31,506 6,89,065	4,44,545 6,31,101	58,021 57,664	13·4 8·3
Nasik ...	2,46,413	2,24,919	21,594	8·7	2,02,453	1,72,915	20,538	14·8	1,26,558	1,06,963	19,595	15·4	No 5,75,424	No 5,04,697	data avail 70,727	able 12·2
Khandesh ...	3,60,740	3,31,277	29,472	8·2	3,16,546	2,70,103	46,443	14·6	2,47,793	2,19,902	27,891	11·2	No 8,21,582	No 8,21,582	data avail 1,03,506	able 11·2
Bijapur ...	2,06,699	1,33,113	73,586	35·6	1,49,086	90,813	98,273	61·07	2,17,250	1,07,507	1,09,743	50·5	4,58,282 6,13,093	1,77,324 3,31,433	2,80,758 2,81,602	61·3 46·9
Belgaum ...	80,397	70,951	9,446	11·7	71,640	59,123	12,526	17·5	60,008	55,034	5,034	8·4	1,62,372 2,12,114	86,776 1,86,108	75,896 27,000	46·8 12·7
Dharwar ...	53,503	45,011	8,492	16	37,912	28,740	9,182	24·2	45,582	35,035	9,917	21·6	1,22,685 1,37,267	84,297 1,09,675	69,368 27,502	56·1 20·1
Total ...	20,22,390	17,26,501	2,95,889	14·6	16,74,992	13,11,489	3,63,503	21·7	12,93,247	10,12,358	2,85,889	22	26,44,439 49,95,638	16,64,204 40,50,648	9,80,225 9,44,900	37·0 19·4

* Affected Tálukas—Athni, Gokák and Paragad only.

† " " " —Navalgund, Gadag and Ron only.

Note.—The figures in italics in columns 14 and 15 represent the number of cattle in the corresponding month of 1876 and 1877 respectively.

Unfortunately the high rate of mortality had not ceased when the general census was taken, but continued until the late rains brought up grass. A further census taken in Bijapur showed that between June and November there was an additional loss of about 4,000 cattle and doubtless there was a similar decrease in Sholapur and Ahmednagar. It is to some extent satisfactory that the animals saved are the useful, and that the mortality among plough cattle has not been so great as might have been expected, but the heavy loss of

milk cattle and young stock will be felt for some years to come. The total mortality will be seen to be very much less than in 1876-77, and part of the improvement may fairly be attributed to the measures adopted which will be described below. Sheep and goats, which can apparently pick up a living in almost any circumstances, are reported to have suffered little.

VII.—*Land Revenue Collections.*

38. On the 2nd December 1896 Government issued the following circular regarding the collection of land revenue to the Collectors of all districts, affected as well as unaffected, in the Presidency proper :—

"I am directed to request that you will now submit with the least possible delay a statement of the extent to which in your opinion it will be necessary, if at all, to suspend the collection of the land revenue in each taluka of your district. You have already in Government Circular No. 9292, dated 21st November 1896, been asked to furnish a report as to the areas sown and the estimated output. The information collected on this matter will give a general indication of the suspensions which will probably be needed. I am however to point out that if occupants have the means of paying the assessment it is not to their own interest that the levy of it should be postponed. It is to be remembered that if they have been able to sell any produce even of previous years, they have probably received a very high price for it and may be in a better position even than in ordinary years to pay what is due in money. In districts in which there has been only a partial failure of crops many are likely to have some surplus even of this year's produce, which will fetch a high price, and in some cases fodder which is available for sale will probably realize more than enough to pay the assessment. But the principle* that as far as possible nobody should be forced to borrow in order to pay the assessment should be carefully borne in mind, and estimates of the suspensions needed should be framed on that basis. In any case in which for special reasons the levy of assessment due from a land-owner who does not cultivate himself is postponed, it should only be on the condition that the levy of rent due to him from tenants is also postponed, and the condition should be strictly enforced.

"2. In connection with this question it will be desirable to ascertain how far, if at all, small occupants and tenants are already in such distress that they resort to the relief works and how far substantial land-holders have ceased to employ the labourers who ordinarily work for them. Careful inquiries should be made on this point from the labourers employed on the works or otherwise.

"3. As soon as the information on the points above noted is ready for any taluka, it should be forwarded without waiting for that for other talukas. The estimates should be corrected and observations on them made by the Asst. Collector or Deputy Collector, Collector and Commissioner, with the aid of such independent information as they may be in possession of. The effect of the recent rain will of course be carefully taken into account."

About the end of December 1896 it came to the notice of Government that agents of the Pooma Sarvajani Sabha had been deputed to several districts for the ostensible purpose of explaining to the people what privileges and concessions they could claim from Government under the Famine Code, and there were reports that the land-holders were being incited to withhold the land revenue. A circular was accordingly issued on 30th December 1896 to the District Magistrates requesting them to take steps to have a very careful watch kept over the proceedings of those agents with a view to prevent the law being transgressed. About the same time the Collector of Pooma forwarded a copy of the following circular issued by him to the Assistant Collectors in his district : —

"Mr. Orr reports that in his charge not a pie of the revenue instalment due on 10th instant has been paid, and that he has taken the following steps:—

(4) Directed notices should be issued only for land of which the crop is four annas or over.

(2) Directed police to issue to mortgagor (*sic* query mortgage) or other interested person as well as to the occupant.

(3) Directed immediate report to him on expiry of term of notice with a view to forfeiture of occupancy under Section 152, Bombay Land Revenue Code, which he recommends in all cases in which there is a well-to-do defaulter interested in the crop, the forfeited land to be let thereafter on annual lease until the occupancy can be sold again for a fair price.

2. "In the opinion of the Collector it is desirable to issue notices somewhat more freely than Mr. Orr proposes. There are unmistakeable signs of a determination to pay no revenue being

had been everywhere favourable, but it has been far otherwise in Sholapur and Bijapur and parts of Poona and Ahmednagar. The succession of another year of drought in these districts will render necessary some further postponement of collections and probably the conversion of some of the suspensions into remissions. Already in the current year remissions of the following amounts have been made or are believed to be required in the several Divisions :—

Division.	1897-98.		
	Remitted.	Likely to be remitted.	Total.
	Rs.	Rs.	Rs.
Northern Division...	14,055	20,030	34,085
Central do. ...	544	55,300	55,844
Southern do. ...	160	1,000	1,160
Total ...	14,759	76,330	91,089

Moreover in many places the plague is interfering with the disposal of produce and making it necessary to defer collection.

40. The following table compares the coercive measures adopted in the affected districts in 1896-97 with those in the previous year :—

District.	Number of notices served.		Number of cases in which penalty was levied.		Number of cases of distraints of moveable property.		Number of cases of forfeiture of occupancies.	
	1895-96.	1896-97.	1895-96.	1896-97.	1895-96.	1896-97.	1895-96.	1896-97.
Khándesh ...	4,961	18,539	2	2	...	12	34	75
Násik ...	2,789	10,617	1	32	2	9	20	32
Ahmednagar ...	27	17,529	...	...	4	...	...	2
Poona ...	6,307	22,087	...	52	3	...	...	130
Sátára ...	4,049	7,800	2	...	2	6	...	1
Sholapur ...	1,971	14,339	...	...	2	7	...	...
Belgaum (Athni and Gokak Talukas) ...	...	332	...	...	...	...	...	...
Bijapur ...	596	3,148	5	...	8	9	2	...
Dhárwár (affected talukás) ...	17	4,553	...	...	...	...	...	...

The agitation which has been described above led to the very large increase which is shown in the number of notices. The real pressure exercised was not much in excess of what might be expected in even a favourable year, and Government have the assurance of the Collectors that it was restricted to cases in which the defaulters were well able to pay. The opposition indeed came entirely from non-agriculturist capitalists, many of them holding lands which yielded fair or good crops, not from cultivating occupants, who when able paid their dues with the most praiseworthy punctuality. In all the cases in Khándesh in which lands were forfeited they were, the Collector reports, resold to the former occupants on easy terms after the object of the measure had been accomplished.

VIII.—Relief Measures and Expenditure.

A.—Gratuitous Relief.

41. The gratuitous relief given at the cost of the State consisted of—

(a) Grant of doles to persons eligible for relief under Section 57 of the Famine Code and to the inferior village servants referred to in Section 60.

(b) Relief in poor-houses under Chapter VIII of the Code.

(c) Relief to non-working children and other dependants on relief workers under Chapter IX of the Code.

The following general instructions were issued with regard to the first institution of this form of relief :—

"The Governor in Council does not consider that the time has yet come for the application of Chapters VIII and IX. It is to be remembered that, as has been pointed out by the Famine Commission, an ill-directed and excessive distribution of charitable relief demoralizes the recipients of it and that an essential condition of relief is to demand in return labour commensurate with the powers of those relieved. The premature application of the provisions regarding gratuitous relief is therefore to be avoided. Discretion is however allowed to the Collectors of affected districts to give gratuitous relief to any persons unable to work and found to be starving if any cases coming under that category are already found, the amount expended being weekly reported for sanction. Such relief will of course be given strictly in accordance with the principles laid down in Chapter V of the Famine Code."

"2. The Commissioner will doubtless take steps to see that the provisions with regard to gratuitous relief are strictly applied. The distinction between the classes to be relieved in their villages under Chapter V and those to be received in poor-houses under Chapter VIII should be carefully borne in mind and great caution is needed that the poor-houses shall be managed in such a way that relief will not involve any offence to religious sentiment. The poor-house at Pandharpur seems intended for its proper purpose, and the Municipal Commissioners are entitled to credit for their recognition of their responsibilities in this matter. Relief of persons entitled to it in their villages under Chapter V is not likely to offend caste scruples, but it is very liable to abuse, and very constant and close supervision is necessary. There should be a chain of checks applied through Circle Inspectors, Relief Mámlatdárs, Sub-divisional officers and higher authorities to prevent the entry on the dole register of persons who are not eligible and the demoralization which would ensue from any laxity in this respect."

It was not found necessary to give any gratuitous relief in Khándesh except to dependants on workers, as the people in the plains are generally prosperous and private charity was not relaxed, while the dwellers in the hills find means of livelihood in hunting and gathering wild fruits.

(a)—Village Relief.

42. Gratuitous relief under head (a) was given in rural areas through the agency of the village officers assisted by a Committee as required by the Code, while in Municipal towns

the distribution of the dole was supervised by Municipal officers. In order to secure a sufficient check each taluka was divided into groups or circles consisting of a few villages and placed under an Inspector, who visited every village and examined the registers and recipients of the dole in it once a week. Relief Mámlatdárs were also appointed wherever necessary to supervise the work of the Circle Inspectors, to arrange for payment of dole bills and generally to control the operations under the orders of the Sub-divisional officers. The system on the whole worked well, the admissions to the dole lists being usually made with great care and discretion, although there were discovered a few cases of abuse. The Collector of Sholapur states that, as in the case of relief works, the difficulty was not in tracing out the needy but in keeping off the undeserving, of whom considerable numbers were found seeking admission in every village, that there was none of the repugnance to being entered on the dole register which was observed in the famine of 1876-77 though at first the dole was regarded with some suspicion, and that persons eagerly came to receive the dole as well from among the Bráhmans and Maráthas as from the lower classes. But in some districts, notably in Sátára, the village officers were unduly strict, probably being afraid that fault would be found with them if the lists were large, and the proportion of members

of the higher classes in receipt of gratuitous relief in districts for which figures have been given is exceedingly small. There were not wanting instances of people suffering much privation through reluctance to accept charitable relief.

43. The amount of gratuitous relief given in villages includes the assistance given in the shape of doles to inferior village servants under Section 60 of the Famine Relief Code. **Assistance to inferior village servants.** The whole of the expenditure shown for Khándesh under this head and by far the greater part of that shown for Dhárwár were on this account. It was necessary to insist with regard to the Mbárs that such only as were required in the villages for the performance of their duties should be relieved in this manner, and that the rest including the wives and children fit for work of those receiving the dole should be required to earn a livelihood on the nearest relief work or in other ways. Some village watchmen through a feeling which is entitled to respect refused to receive assistance in this form, and the grant of the equivalent in money or of an allowance of Rs. 2 per mensem, when that was less, was authorized.

44. On a representation from the Collector of Bijápur gratuitous relief in the schools was authorized for such children attending the Local Board and indigenous aided schools as were **Doles to destitute school children.** unfit for work whose parents were employed on famine relief works or were gratuitously relieved and were unable to maintain them. The advantage of avoiding a break in the education of the children was regarded as of some weight, but the main considerations were that relief in this form could be very efficiently controlled and that the recipients would be kept away from relief works, where they are an encumbrance. The duty of distributing the doles was entrusted to the Head Masters, who were authorized to give cooked food when practicable, and the whole arrangements were under the supervision of the Deputy Educational Inspector and his Assistants. The daily average number of children relieved as compared with the daily average attendance in several months is shown below :—

Months.	Attendance.	Relieved.
June	7,919	343
July	8,162	810
August	7,885	964
September	7,904	1,085
October	7,771	1,189
Total	39,641	4,391
Average	7,928	878

The proportions in the last two months are undoubtedly much larger than might be expected in view of the fact that the schools are mainly attended by the children of people of substance.

45. Appendix I contains a statement of the daily average numbers of men, women and children receiving gratuitous relief under **Extent of relief in villages.** Sections 57 and 60 of the Code during the last week of each month and the percentage of the total numbers so relieved to the numbers of relief workers. The number generally rose rapidly after the commencement of the rains. Doubtless many of the dependants of persons who returned from relief works for agricultural operations had then to be relieved in villages, as the Collectors had on the approach of the monsoon been desired to see that the village inspection was very carefully carried out and that the dependants on persons who had to resume their agricultural occupation were not allowed to fall into a reduced condition. The increase continued as distress deepened after the rain ceased until in September it attained the enormous figure of 92,324. The number is not far short of the highest number receiving gratuitous relief of any kind in 1877, when however distrust was felt of the practice of relieving persons in their homes. The most striking point in the statement is the exceedingly large proportion

of persons gratuitously relieved to workers in the Poona District. Even in the earlier months the proportion was high and an explanation was called for, it being pointed out that while a constant ratio between the number of relief workers and the number of persons gratuitously relieved cannot be expected, both numbers should indicate the intensity of distress and if the ratio varies widely in different districts there is ground for inferring that there is some diversity in the method of administering relief. The main reason for the excess, the impossibility of inducing many people in the hill tracts to go to relief works so that they could eventually be saved from absolute starvation only by gratuitous relief, has already been mentioned. The Collector reported that the caution exercised in opening relief works and the discipline maintained on them had not caused any increase of gratuitous relief through deterring people from work until they were enfeebled and was enjoined to continue to take great pains to see that this result was avoided. In the early months of the monsoon the number did not increase much more rapidly in Poona than in other districts, but the ratio of persons gratuitously relieved to relief workers did because most of the works even in the eastern talukas were closed. As rain held off, it became necessary to re-open works. The Collector had indeed urged that as the season was so advanced it was better to retain the needy on a bare subsistence for a short time than to re-open works, but Government declined to accept his recommendation. The following instructions were issued to him :—

"It is a cardinal principle of the system of relief which has been adopted that labour commensurate with the labourer's powers must be demanded from people capable of work in return for the payment made to them. Government Resolution No. 1722, dated 21st September 1897. It has been recognized that in the hill talukas it is not possible to carry on relief works at this season. If residents in these talukas obstinately refuse to go to relief works at a distance and thus fall into a reduced condition, it is necessary then to save them from death by starvation by the grant of gratuitous relief. But this practice must not be carried further than is absolutely necessary. Economy is not the only consideration; avoidance of the demoralization of the people is even more important. Nor is it possible to distinguish between those who are needy and those who are not unless a labour test is applied or unless relief is deferred until physical deterioration is manifest. Government cannot approve of the application of the latter condition. Works must therefore be opened in places where there appear good grounds for believing them to be needed, but of course they will not be held to be needed if there are other works available within a reasonable distance for the people in need of relief."

Apparently however he had acted on his view for a time and the sudden large increase in September is thus accounted for wholly or partly. Ahmednagar has only one hill taluka, and as a large work could be carried on within it, there was not the same need for gratuitous relief in that district as in Poona, which however largely increased when the work was stopped on account of cholera. But the circumstances of Sátára are much the same as those of Poona, and the amount of gratuitous relief given there was very much smaller; it is believed that the people in the hill tracts of that district were more liberally assisted from the Relief Fund. Gratuitous relief was continued longer than had been expected, especially in Poona, in the hill tracts of which district the kharif crops were good, and it was directed that although the utmost vigilance was needed to prevent suffering from the stoppage of State relief before the ordinary charity became effective, some firmness should be exercised in transferring to householders the obligation of which they had for some time been relieved. Subject to the precaution above enjoined it was ordered on 23rd October 1897 that gratuitous relief at the cost of the State should not be continued in any village beyond the time when a fair kharif harvest had been reaped or when the price of the staple food-grain was not higher than 28 lbs. the rupee. Appendix I shows when it was discontinued except in Sholápur, where it is still needed. The dole was given in cash in the Akola Taluka owing to the absence of grain shops in the taluka and the great distance which it consequently would have been necessary to convey the grain through very difficult country; elsewhere it was given in kind.

Maximum numbers on village relief. 46. The highest numbers in any month on village relief in each district and their proportion to the affected population were as follows :—

District.	Maximum Number.	Percentage ratio to affected population.	Month in which the maximum occurred.
Sholapur ...	15,458	2.05	September.
Ahmednagar ...	21,741	2.44	"
Poona ...	23,998	2.24	October.
Násik ...	1,542	0.18	July.
Sátára ...	5,094	0.41	September.
Khándesh ...	567	0.03	"
Bijápur ...	14,993	1.88	"
Belgaum ...	1,049	0.29	"
Dhárwár ...	1,041	0.66	August and September

47. The total units of gratuitous village relief in each district and expenditure on such relief up to the end of December 1897 are shown below :—

District.	Total units relieved.	Total expenditure.	Incidence per head.
		Rs.	Rs. a. p.
Sholapur ...	2,989,349	2,81,120	0 1 6
Ahmednagar ...	2,602,719	2,93,758	0 1 9
Poona ...	3,523,870	3,84,054	0 1 8
Násik ...	178,990	15,951	0 1 5
Sátára ...	411,558	35,781	0 1 4
Khándesh ...	39,599	3,955	0 1 7
Bijápur ...	3,153,724	3,20,648	0 1 7
Belgaum ...	202,034	15,791	0 1 3
Dhárwár ...	235,802	20,268	0 1 4
Kolába ...	69,300	5,675	0 1 4
Total ...	13,856,945	18,77,001	0 1 7

(b).—*Poor-house Relief.*

48. The poor-houses in 1877 were mainly filled by the aimless wanderers to whom reference has before been made, and as the amount of poor-house relief was engendered. As timely employment had been provided in 1896 Government did not anticipate that the number of wanderers would be very large and it was not expected that extensive accommodation would be required for professional beggars or people of other classes for whom poor-houses are intended. When therefore a rough plan for poor-houses was sanctioned it was intimated that it would probably be cheaper to hire houses or to use such as were deserted, and that wherever it was necessary to put up enclosures care should be taken that expensive structures were not erected until there was a reasonable probability that so much accommodation as they provided would be needed.

49. The numbers of poor-houses opened at the expense of the State were 29 in Bijápur, 8 in Ahmednagar, 2 each in Sholapur and Násik and one in Sátára. Of the 29 poor-houses in Bijápur however there was only one answering to the description in the Code, the others being merely places for the supply of meals, the recipients being left to make their own arrangements for residence. This system obviates many abuses and like the kitchens on relief works secures the restriction of the relief to those in real need of it, but unless the so-called poor-houses were very numerous, they could not provide relief for a large proportion

of the classes of people referred to in Section 57 of the Famine Relief Code, who ought not to be removed from their homes. Poor-houses were maintained for some time by the Municipalities of Bijápur, Guledgud and Ilkal at their expense. Of the two poor-houses in Sholapur one at Pandharpur was maintained by the Municipality of that town till the end of July when on the application of the Municipality Government consented to bear a moiety of the expenditure. The other poor-house was opened so late as 22nd September 1897 at Bárasi because

(a) there were some emaciated people receiving the grain dole who found it difficult to get their food cooked ;

(b) there were others receiving the dole who seemed mere undeserving idlers and it was thought that the restraint of a poor-house would not be acceptable to them.

About the middle of July it was found necessary to open a poor-house at Sátára for the reception of poor people from the hill talukas who flocked into the town owing to the long break in the rains. One of the two poor-houses in the Násik District was opened in the town of Násik for the reception of large numbers of wandering beggars who were attracted to the town by the indiscriminate charity of certain wealthy people who had left Bombay owing to the plague.

50. Appendix J shows the daily average numbers of men, women and children relieved in poor-houses during the last week of each month. The total units relieved and expenditure incurred by Government are shown below :—

District.	Units.	Expenditure.	Incidence per head.
		Rs.	A. p.
Sholapur (for the poor-house at Bárasi) ...	3,032	187	1 0
Ahmednagar ...	136,486	24,131	2 10
Násik ...	24,115	5,503	3 7½
Sátára ...	25,438	2,258	1 5
Bijápur ...	186,781	17,126	1 5½
Total ...	375,852	49,205	2 1

(c).—*Relief to non-working children and other dependants on relief workers under Chapter IX of the Code.*

51. Appendix K shows the numbers of dependants relieved at the works in the last week of each month with their ratio per cent of dependants on the workers. In discussing the intensity of the famine it was mentioned that the system of giving cash allowances for children attracted to the works people who were not in real need of relief and it became necessary to explain how by the introduction of the system of kitchens and another measure the number on the works both of people able to work and of dependants on them became a fairly correct gauge of the extent of the distress. It has been shown that eventually all non-working children who could eat and other dependants on relief workers were fed in kitchens except where the number was so small that incommensurate expense would be involved in providing the kitchens. On the works of road repairs in Sholapur, which generally extended over many miles, so that the children could not conveniently be collected in one place, the food was cooked in a central kitchen and distributed by means of hand-carts to the children on the works. The very careful application of Section 132 of the Code to children whose condition was reduced from the refusal of parents to allow them to be fed in kitchens was strictly enjoined. But there was in some places considerable delay in introducing the system, and in the meantime cash allowances were paid. And these allowances were paid throughout for children in arms who could not eat in addition to the wage earned by the mothers. It was directed that nursing mothers unable to work should ordinarily be fed in the

kitchens, but that those to whom it was not considered desirable to give the cooked ration should receive in accordance with Section 74 of the Code the allowance for adult males of Class A. Children to whom cash allowances were paid were generally mustered and paid by the Public Works officers along with their parents, the cost being debited to "gratuitous relief." The supervision of kitchens was entrusted to the Special Civil officers attached to the works. The total units relieved in kitchens and expenditure on their account up to the end of December 1897 are shown below :—

Districts.	Units.	Expenditure.	Incidence per head.	
			Rs.	As. p.
Sholapur ...	2,915,143	1,66,523	0	11
Ahmednagar ...	2,019,367	1,18,829	0	11
Poona ...	541,506	53,404	1	7
Nasik ...	348,250	16,751	0	9
Satara ...	264,388	38,052	2	3
Khandesh ...	299,096	28,400	1	6
Bijapur ...	945,042	38,886	0	8
Belgaum ...	190,099	7,770	0	8
Total ...	7,522,886	4,68,615	1	0

The following amounts were disbursed by the Public Works Department as cash allowances to dependants on workers :—

	Rs.
Sholapur ...	54,503*
Ahmednagar ...	1,24,920
Poona ...	3,203
Nasik ...	64,810
Satara ...	20,076
Khandesh ...	22,312
Bijapur ...	1,55,170
Belgaum ...	14,744
Total ...	4,59,738

* This is the amount shown in the accounts as the expenditure incurred up to the end of December 1897. The amount reported by the Superintending Engineer, C. D., is Rs. 5,29,833.

B.—Private Donations.

52. The administration of the Indian Charitable Relief Fund was not official, although Government officers took a large part in the distribution of the money, and as it has, it is understood, formed the subject of a separate complete report, it is not necessary to deal with it here in much detail. But this account of the famine in this Presidency would not be complete if it failed to make mention of the immense relief of suffering and of assistance to destitute people in resuming their ordinary occupations which were effected through the use of that fund and of the most valuable aid thus given to Government in mitigating the effects of famine, and the Governor in Council has much satisfaction in communicating the gratitude, which has been made apparent in many ways, of the thousands to whom help was thus given in their hour of need.

53. The allotments made from the fund to the different districts are shown below :—

	Rs.
Sholapur ...	3,93,000
Ahmednagar ...	3,25,000
Poona ...	53,690
Satara ...	1,00,022
Nasik ...	85,000
Khandesh ...	86,000
Bijapur ...	4,28,010
Dharwar ...	7,000
Belgaum ...	15,000

54. It will be convenient to set forth here the objects to which it was held that the fund might legitimately be adopted and to show how far the money available was utilized accordingly. The following instructions were issued by the Government of India in their Circular No. 1—F.—66—2, dated 22nd December 1896 :—

"Government fully accepts general responsibility for saving the lives of the people in tracts in which famine prevails; and it is essential that private charity, while working side by side with it, should not interfere with or overlap the operations which are organized for this purpose. There is, however, ample scope for its exercise in supplementing these operations, in mitigating suffering, and in relieving distress which falls just short of absolute destitution. Especially, private contributions might usefully be expended on the following objects :—

Firstly : in supplementing the subsistence ration which alone is provided from public funds, by the addition of small comforts, whether of food or of clothing, for the aged or infirm, for the patients in hospitals, for children, and the like.

As guardian of the public purse and in view of the magnitude of the calamity, Government is obliged to limit its assistance to what is absolutely necessary for the preservation of life.

Secondly : in providing for the maintenance of orphans.

Every famine leaves behind it a number of waifs who have lost or become separated from those who should be responsible for them, and for whose maintenance it is necessary to provide till they are of an age to support themselves.

Thirdly : in relieving the numerous poor but respectable persons who will endure almost any privation rather than apply for Government relief, accompanied as it must be by official enquiry into, and by some kind of test of the reality of, the destitution which is to be relieved.

The feeling of the sacredness of the "purdah" or domestic privacy is intensely strong in India; and it is most difficult for any official organization to reach, or even to ascertain with certainty the existence of distress of this nature.

Fourthly : in restoring to their original position, when acute distress is subsiding, those who have lost their all in the struggle, and in giving them a fresh start in life.

The peasant cultivator may often thus be saved from losing his holding through sheer inability to cultivate it and from sinking to the position of a day-labourer."

The amounts disbursed from the fund for these objects and the total numbers relieved, so far as they have been reported, are shown in the following statement :—

Objects.	SHOLAPUR.		AHMEDNAGAR.		POONA.		SATARA.	
	Number relieved.	Amount.	Number relieved.	Amount.	Number relieved.	Amount.	Number relieved.	Amount.
		Rs.		Rs.		Rs.		Rs.
I.—Supplementing the subsistence ration, &c.		26,398	10,000	14,161				
II.—Providing for orphans		581	225	567				
III.—Relieving the respectable poor.	Not reported.	18,796	9,460	28,180	Details not furnished.		Not reported.	42,007
IV.—Assisting peasant cultivators.		2,91,788	34,485	2,11,784				55,735
Miscellaneous		619	.....	841				.....
Total	.....	(a) 3,35,182	54,170	(b) 2,50,473	.....	53,035	.....	97,742

(a) This amount was disbursed up to the end of October 1897. Since then Rs. 45,000 more have been disbursed.

(b) This amount is exclusive of Rs. 22,937 disbursed by the Ahmednagar City Relief Committee as shown below :—

Rs. 12,937 for objects I to III.
 ... 3,000 contribution to a cheap grain-shop.
 ... 8,000 for relief of distressed weavers.
 ... 2,000 for relief of Gavis.

Rs. 22,937

Objects.	NÁSIK.		KHÁNDESH.		BÍJÁPUR.		DHARWÁR.		BELGAUM.	
	Number relieved.	Amount.	Number relieved.	Amount.	Number relieved.	Amount.	Number relieved.	Amount.	Number relieved.	Amount.
		Rs.		Rs.		Rs.		Rs.		Rs.
I.—Supplementing the subsistence ration, &c.	8,992	7,461	30,973	24,864	50,102	54,757	3,365	1,768	2,436	2,182
II.—Providing for orphans ...	13	864	355	405	...	...	91	74	1	4
III.—Relieving the respectable poor.	10,114	11,771	7,906	17,599	35,718	(d) 78,293	45	209	16	68
IV.—Assisting peasant cultivators.	4,157	20,432	7,698	43,065	38,216	2,92,088	898	4,928	1,386	5,995
Miscellaneous ...	...	384	...	67	...	390	...	1	...	...
Total ...	28,275	(c) 46,412	47,022	88,000	1,24,036	4,25,528	3,899	6,978	3,788	8,247

(c) In addition to this amount Rs. 14,150 were disbursed as follows :—
 Rs. 4,160 contribution towards grain shops for the poor.
 „ 10,000 contribution for supporting and educating 34 famine orphans sent to the Násik Orphanage.
 (d) This amount includes Rs. 4,892 on account of contributions towards cheap grain shops started in the district.

(a) The greater part of the expenditure incurred on object I was on account of the supply of clothing. In Bijápur alone Rs. 42,096 were spent for this purpose, and the number of recipients was 36,189. A large portion of the clothing required was purchased from the local weavers, who thus got employment in their own craft. In that district extra meals of rice were given for some time to the children in kitchens, but Government were of opinion that this luxury should be confined to children in feeble health, there being abundant evidence that the rations prescribed in the Code were ample for maintaining the health of the children generally, and that it was not desirable to attract children to the works.

(b) The expenditure on object II was very small except in the Násik District, where a sum of Rs. 10,000 is stated to have been given for supporting and educating 34 famine orphans sent to the Násik Orphanage.

(c) The expenditure on object III consisted for the most part of money doles and gifts of clothing to respectable Musalman and Bráhmañ families reduced to the verge of starvation. There were particularly in Bijápur many persons of this class who were discovered by the untiring efforts of the officers who administered the funds supplied to that district.

(d) The largest amounts spent from the fund however were on object IV—the provision of plough-cattle, fodder and seed for destitute land-holders. The assistance thus given proved of the greatest value and was highly appreciated. The Collector of Bijápur states that the area cultivated with the help of the cattle and seed provided from the Charitable Fund amounted to 348,874 acres or 11 per cent. of the total area (3,135,655) cultivated in ordinary years, but although the amount utilized for this purpose in that district was little short of 3 lakhs, it is difficult to believe that it had so wide an effect, especially in view of the high price which would have to be paid for cattle on the resumption of agricultural operations after so high a mortality amongst them. The expenditure shown under this head for Sátára and to a smaller extent for Ahmednagar and Poona includes amounts utilized for a purpose which does not fall strictly within the description of the object, but which nevertheless seems to His Excellency in Council to be very legitimate, viz., the maintenance of cultivators while engaged on agricultural operations. It has already been explained that in the hill tracts of these districts these operations are almost continuous and that most of the cultivators have no habit of saving. Such of them as had security to offer could get loans from Government for their subsistence while engaged on the tillage of their lands, but for those who had no such security to offer there was no resource except gratuitous relief, and that could not according to the principle followed be given at the cost of the State so long as the people were fit for employment on relief works. In the opinion of the Governor in Council the whole of the expenditure shown under this

head was most useful and was made with discretion. Instances however have been reported of people refusing free grants from the fund and applying for advances from Government which they could receive and repay without loss of self-respect.

(e) In one district a cheap grain shop was maintained at the cost of the fund, and as already mentioned there were many such shops kept up at the expense of philanthropic gentlemen. The Governor in Council does not doubt that as a form of charity this arrangement has some advantages, but is inclined to the belief that it is not so beneficial a method as others of utilizing a charitable fund.

55. In addition to local contributions to the Indian Charitable Relief Fund there was much liberality shown in various forms of private charity. Missionaries in Ahmednagar were provided with money and grain by their co-religionists in Europe and America to aid in the relief of suffering, but no report has been received of the extent of their assistance. His Highness the Maharája Holkar sent 600 maunds of jowári to Ahmednagar and the same quantity to Sholápur for distribution by the Collectors. In many places there was no intermission of the usual form of charity, the grant of a handful of grain to the needy, and as already stated gratuitous relief except to dependants on relief works was thus rendered unnecessary in Khándesh. It is stated that money-lenders who show little compassion to debtors were not remiss in helping the destitute, and in Belgaum the more substantial land-holders helped the poorer when prices were very high by advances of grain. In some of the larger towns private gentlemen arranged for the free distribution of grain or cooked food. Early in December the Collectors were urged to use all possible efforts to bring such charity under direction and control through the appointment of committees who would be guided by the officers engaged on famine duty, and these efforts were generally successful. But in some places there was a want of organization, notably in the case at Násik already referred to, a crowd of undeserving people, many of them able-bodied, being attracted to the town with the result that a severe outbreak of cholera occurred. Asylums for the reception of famine orphans, to which reference has already been made, were provided by Mr. Chhabildás Lallubhai, a Hindu citizen of Bombay, by some leading Mahomedan gentlemen of the same town and by the Managing Board of the Deccan Orphanage, but although the co-operation of all district officers in furthering this philanthropic purpose was enjoined, it has not been reported that any advantage was taken of the institutions.

C.—Water Supply.

56. At a very early stage measures were taken to cope with the scarcity of drinking water which was anticipated. The following instructions as to measures to be taken. orders were passed by Government on 4th November 1896 :—

“Attention is also called to Section 152 of the Famine Code. There is every probability of a great scarcity of drinking water before next rains, and so far as is practicable provision should be made to meet it. Such works will also be a suitable form of employing needy labourers. Wherever it is possible the work should be carried out at the joint cost of Government and Local Funds, with such aid from private persons either in money or in labour as is forthcoming. But in cases in which measures for providing water are urgent and no aid from Local Boards or private persons can be given, applications should be made for grants for the purpose.”

Allotments under Section 152 of the Famine Code were sanctioned from time to time as required by the Collectors, and it was directed that the works for the temporary improvement of water-supply should be carried out through the agency of village officers and that the preparation of formal estimates for them should be dispensed with.

57. The amounts spent by Government for the improvement of water supply in the different districts and the numbers of improvements of supply works carried out are stated below :—

District.					No. of works.	Amount.
						Rs.
Sholapur	...	...	...	...	533	18,232
Ahmednagar	...	...	...	...	435	23,051
Poona	...	...	...	...	.....	20,213
Satara	...	...	...	...	.....	2,728
Bijapur	...	...	...	...	103	8,004
Belgaum.	...	...	...	...	34	974

The works generally consisted of digging pits in beds of nálas where they had run dry, constructing new wells and repairing or deepening old wells, and they were of considerable help in relieving the scarcity of water and gave employment to a large number of labourers. In Bijapur 23 small works were undertaken for the sole benefit of the members of the low-castes. The amounts spent from Local Funds for the same purpose were :—

					Rs.
Sholapur	...	...	...	...	*12,970
Bijapur	...	...	...	...	1,609
Belgaum	...	...	...	...	952
Ratnagiri	...	...	...	...	2,209

The District Local Board of Dhárwar spent Rs. 66,965 on water-works (47 tanks and 9 wells) of permanent utility in the affected tract. Of these works 4 tanks and 4 wells were carried out with the aid of the Government grant of Rs. 5,000 for the improvement of the water-supply.

58. The results of these temporary improvements of the water-supply appear to have been satisfactory. Although in some cases drinking water was procurable only at great distances, no village was abandoned and few if any people seem to have left their homes on this account. The wells dug for irrigation also provided some water for both men and animals. The supply on relief works was adequate and as already stated was carefully disinfected; in the cases in which cholera broke out on works, it was traced to the use of polluted water in nálas after heavy showers, although disinfected water was available.

D.—Cattle and Fodder.

59. The first step taken by Government for the preservation of cattle was to authorize the application wherever desirable of the provisions of Chapter XI of the Famine Code regarding the opening of reserved forests to grazing. The following general orders were subsequently issued regarding measures to be taken for the preservation of agricultural cattle in the affected districts :—

"His Excellency the Governor in Council recognizes the extreme importance of preserving as many as possible of the agricultural cattle, as the recovery of the affected districts from the effects of famine depends mainly on the existence of adequate means of cultivation. All practicable measures towards this end should therefore be adopted with the least possible delay.

"2. The question arises whether it is preferable to take cattle to places where forage is available or to import fodder to the places where the cattle are. In the opinion of Government the former course must be adopted in the great majority of cases. Authority has been given to the Collectors of affected districts to take action under the provisions of Chapter XI of the Famine Code, but these provisions affect only the power of each Collector within his own district and with regard to the cattle belonging to his district. But the exigencies of the case demand a wider liberality. The Commissioner, S. D., has in consultation with the Conservator of Forests, S. O., issued a proclamation that the Kánars forests are open to free grazing to cattle from the affected districts to the extent contemplated in Section 155 of the Famine Code, and his proceeding in this matter is entirely approved subject to the reservation made below. A similar measure will be taken in

* This amount was expended during the 12 months ending 31st March 1897.

regard to other forests where grazing is available. The Collectors of Thána, Kolába and Panch Maháls have been asked whether the forest and waste lands in their districts will supply grazing for a large number of cattle from the Deccan and the information supplied by them will be communicated to the Collectors of affected districts. Doubtless in Khándesh also, particularly in the Sátputa Range, there will be found a considerable area suitable for grazing. Of course where there is any grass land in affected districts, as it is presumed that there is in the ghát talukas of Poona, Ahmednagar and Násik, the cattle of these districts severally will have a prior claim to it.

"3. The reservation to be made in this matter is that the concession is to be allowed only for cattle really valuable for agriculture and for milch cattle, and it must be strictly carried out. The grazing available will in all probability be found insufficient to fully meet the requirements for even these useful and valuable cattle, and Government cannot permit the supply to be curtailed by useless animals. The cattle which are sent from affected districts to other districts for the purpose of free grazing must, therefore, be accompanied by certificates signed by officers not below the grade of Mahalkari that the cattle are agricultural or milch cattle belonging to those districts, and no such certificates are to be granted for cattle which are not useful for cultivation or breeding.

"4. Difficulty is likely to be experienced in keeping cattle alive during a long march to places where grazing is available. It appears that in 1876-77 passes were given for the free transport by rail of some cattle. This is a concession which is liable to be abused and cannot be allowed except in extreme cases and for special reasons, and only (1) for cattle of actual cultivators, (2) for plough oxen and milch cattle actually in use, and (3) for such number as the individual cultivator requires for the cultivation of the land actually occupied by him and for the supply of milk to his family. But the case is one in which advances may be given under Act XII of 1884, and Government considers that this will be the most suitable method of assisting transport where conveyance by rail is required. Care must of course be taken that sums in excess of the amount needed are not granted, and that they are devoted to the purpose for which they are given. There must be some security for repayment, but this course will be more economical than absolute gifts of the money even if a proportion of the amount advanced cannot be recovered. The Railway Companies should be asked through the Railway Department what provision they can make for the conveyance of cattle and what rates would be charged on the assumption that carriage was required for considerable numbers.

"5. Turning to the question of importing fodder into the affected districts, it is to be observed that it is quite impossible for Government to provide a supply for all the cattle which remain in the districts. The supply through the agency of the State of grain in sufficient quantities to prevent any loss of human life is a task which is practically beyond its power and the supply of the much more bulky article of fodder in quantities sufficient to preserve the lives of even a considerable proportion of agricultural cattle would be still more difficult. No attempt was made in this direction in 1876-77. All that was tried was to provide a stock of fodder on the main lines of road along which grain had to be carried, and even this comparatively modest endeavour failed, the greater part of the grass supplied never being utilized. There is not the same reason which existed in 1876-77 for attempting to supply fodder on the lines of grain traffic, for all the districts affected have now communication by rail, and grain will not have to be carried very long distances by road. All that Government can undertake is to facilitate as far as lies in its power the supply of fodder by private agency. For this purpose inquiries should be made where surplus stocks of fodder of any kind are available, and the information on the subject should be disseminated, together with statements of the prices likely to be demanded in the districts of supply and to be offered in the districts where the supply is needed and of the rates which the Railway Companies will charge for carriage. It is not improbable that it may be profitable to send the more valuable kinds of fodder even from Sind to affected districts, and inquiries should be made on this point. If there is any grass fit for cutting in forest or waste lands, it may be offered free to contractors, provided arrangements can be made to secure that it will be supplied at a moderate profit in the affected districts.

"6. Attention should be called to the Resolutions quoted in the margin regarding the use of prickly-pear for feeding cattle. It is possible that advantage can be taken of this method of supplying a useful food for animals to a larger extent than has hitherto been contemplated. If the people can be induced to use the leaves of the plant for their cattle to a material extent, persons who require employment near their homes and for whom the eradication of prickly-pear is a suitable employment, may also be engaged in preparing the leaves for fodder, which at first should be supplied free, but for which a charge should be made if there arises a demand for it.

"7. It is understood that the irrigation works are being used as far as is practicable for the production of fodder crops, but inquiry will be made whether any further utilization is them for this purpose is possible.

"8. The facilitation of the supply of forage is a matter of such grave importance that His Excellency the Governor in Council considers it expedient to appoint an officer to the special duty of directing it and is pleased to appoint accordingly the Honourable Mr. Shuttleworth whose knowledge of the resources of the forests and experience in the famine of 1876-77 make

him particularly fitted for the work. His task will be mainly to carry out the instructions above given. He will ascertain where grazing is available and will take measures for the distribution of the animals entitled to admission to the forests in the manner most suitable in consideration of comparative convenience and the supply available. He will arrange with the Railway Companies for the conveyance of such cattle as may be carried by rail in accordance with the orders above given. He will also keep the Companies informed of the quantities of fodder likely to be available for transport to the affected districts, so that arrangements may be made as cheaply and expeditiously as possible for its conveyance. And he will also afford assistance in regard to another matter for which the Governor in Council considers that provision should be made. The difficulty of procuring fodder for the horses or other animals of officers who have to move about in the affected area, referred to by the Collector of Ahmednagar, is likely to interfere very materially with their efficiency and is one which Government may very properly help to remove. Many of those employed on relief duty have small pay and few servants and could not without serious interference with their duties arrange to procure fodder for the animals on which they are dependent for moving actively about. The Honourable Mr. Shuttleworth should therefore arrange so far as he can to aid those officers on famine duty who apply for his assistance in procuring fodder for their own animals employed for the purpose of their travelling. Where necessary grass can be cut on forest and waste lands or it may be purchased where it is available and sent to the places where it is needed. The charge made for what is supplied should be sufficient to cover all costs."

The Collector of Khándesh having reported that grass was plentiful in the hill tracts of Khándesh and that it should be removed as fast as possible if it was to be saved from destruction by the usual forest fires, Government gave the following orders:—

"The Collector should be authorized to begin forthwith the cutting and stacking at suitable places near the grass tracts of grass by Forest Department agency, reporting what grant he considers to be necessary. If the Honourable Mr. Shuttleworth can at the same time make arrangements with contractors to cut and carry off some of the grass available, that measure should also be adopted. But it will not be expedient to attempt the distribution of the grass through State agency. The stacks of grass should, if possible, be sold where they may be to traders, who will arrange themselves for pressing the grass. If however traders will not buy it where stacked, the best arrangements feasible should be made for pressing it and moving it down to railway stations, where it can be sold to dealers or cultivators at the price it will fetch; not less than the cost should be taken unless there is no prospect of getting so much. Care should be taken that only grass suitable for fodder is collected."

At the same time the most careful measures to prevent destruction of grass by fire were enjoined, and special establishments were employed for its protection. In Government Resolution No. 10201, dated 12th December 1896, quoted below, more detailed instructions were issued as to the method of disposing of the grass collected by Government Agency:—

"The Honourable Mr. Shuttleworth should be referred to paragraph 6 of Government Resolution No. 9158, dated 18th ultimo. He has full authority to despatch the grass by rail to the larger railway stations in the affected districts if suitable offers are not made to buy it at an earlier stage. He should make the best arrangements he can to dispose of grass sent to these places at a fair price, such as if possible will cover all charges. If the grass is sold there, there will be little risk of the greater part of it not being used for the purpose for which it is intended. There should be no attempt to exclude dealers, who on the contrary should be encouraged to take part as far as possible in the distribution of the grass. The Honourable Mr. Shuttleworth may be correct in abandoning all hope that private enterprise will undertake any speculation in grass in the famine-affected areas, but if he is right, then there must also be abandoned the hope that a material proportion of the agricultural cattle can be saved by importation of grass. No arrangements which can be made by State agency could be effectual for supplying fodder for more than a small fraction of the cattle in the affected districts. The Honourable Mr. Shuttleworth should therefore not relax his efforts to obtain all possible aid from private enterprise. He should recognize that the assistance and direction into the proper channels of private trade in this matter are of much more importance than any measures which he single-handed can take for the supply of grass. At the same time, as already directed, he should do all in his power to secure all grass fit for fodder which is available in the forests or waste lands and dispose of it in the best manner which in the circumstances is practicable, preferably where it is stacked or pressed, otherwise at railway stations from which it can be despatched, and in the last resort at railway stations in the affected districts. All that he can do in this matter will be of advantage, although of little advantage as compared with what can be done by private trade."

"2. As before pointed out, however, the great bulk of the cattle can be saved only by being taken to the grazing grounds, and to this point special attention should be paid. Importation of grass is intended only for those which must be kept in the district."

In Government Resolution No. 10603, dated 24th December 1896, it was observed that the only equitable arrangement was to sell the grass at the stations either by auction or under some other system of free competition. Authority was at the same time given to make advances in grass in lieu of cash subject to the general rules for tagái advances, the amount of the loan being calculated on the price of the grass at the railway stations if there was competition for it, otherwise on the actual cost of the grass delivered at the railway stations. The concession already made regarding the grant of advances under the Agriculturists' Loans Act to agriculturists to assist them in conveying their cattle by rail to grazing grounds was extended to transport of cattle by road. Arrangements were made with the Railway Companies to charge reduced rates for the conveyance of cattle from affected areas to forest grazing grounds and of fodder for supply to the affected tracts.

60. The facilities offered by Government for the transport of useful agricultural cattle from affected districts to areas where grazing could be found were not taken advantage of to any large extent. The experience of the preceding famine was said to show that the grass and water on the gháts did not suit the cattle of the plains. It was made known that 250,000 outside cattle could be fed in the Sátputa forests of Khándesh and that considerable areas of grazing were also available in the Panch Maháls and Thána, but no cattle were sent from the affected tracts to these places. In 21 cases however in Sholápur advances were given for the conveyance of cattle by rail, but in two the money was found to be misapplied and was at once recovered; it has not been reported in what precise manner the other advances were utilized. Cultivators in the plain talukas of the Deccan were generally reluctant to send their cattle to the forests of even the hill talukas of their own district. Generally however advantage was keenly taken of the opening of forest areas in which there was grass by the cattle owners of the district, and in a few cases cattle were taken from one district into a neighbouring district to graze. In Belgaum *apta* leaves and in Násik *anjan* leaves taken from the forests were very profitably used, and in other districts use was made of other leaves, but none of prickly-pear. It has been reported that 60,000 cattle belonging to the Bijápur District were taken to the western hilly portions of Dhárwár and other places where grazing was available, and that only 18,000 of them returned; that about 2,000 cattle were sent from the Kopargaon Taluka of the Ahmednagar District to the Akola forests in the same district, and to the Dindori and Nándgaon hill forests of the Násik District, and that only about 500 came back; that even the cattle taken from the eastern talukas of the Násik District to the western hills where there was a fair supply of grazing did not stand the climate; and that out of 21,834 taken from the affected talukas of Dhárwár to the pasture grounds in the west only 8,793 were brought back. These facts seem to justify the belief of the cattle owners that the climate and surroundings of the gháts are not suitable for the cattle of the plains, but it is not improbable that some at least of the cattle which were taken away were sold. The cultivators of the Konkan get most of their cattle from the Deccan, and advantage may have been taken of their cheapness in the past year.

61. The efforts which were made to induce private traders to take part in the importation of fodder were not very successful. Statements of the operations were published weekly, so that the chance of profitable trade might be known, and every other measure which seemed practicable was taken to induce private enterprise to come in at one stage or other, but without much effect. When the Southern Marátha Railway reduced their rates for carriage of fodder from three annas to one anna per wagon, large quantities of *karbi* were conveyed from Dhárwár and even from Mysore into the Bijápur District. Within some districts also, particularly Khándesh, Ahmednagar and Sátára, considerable numbers of people and carts were employed by dealers in bringing grass from the hills to the plains, and when a keen demand set in in May stocks were sent by traders from the Thána district into the Násik, Ahmednagar and Poona districts. But they would have nothing to do with the grass cut and collected

by Government agency, and it was necessary to make the best arrangements possible for otherwise disposing of it.

62. In February 1897 as the system of selling imported grass by auction at railway stations had not resulted in inducing traders to undertake its distribution, Mr. Shuttleworth requested authority to establish a depôt at every railway station in the famine-affected area with a forest official in charge of it and to sell bales of grass there to every person applying for it at a price not less than the actual cost incurred by Government in respect of such grass up to the date of its sale. Government passed the following orders on this communication:—

“It should be pointed out to the Honourable Mr. Shuttleworth that there was no direction in Government Resolution No. 10603, dated 24th December 1896, that the grass should not be sold otherwise than by auction; it was pointed out only that it must be sold under some system of free competition. If traders do not come forward to buy the grass for distribution, there is no objection to the adoption of the course proposed in paragraph 3 of the letter, always provided that whenever there is competition the price will be settled by it and that it is made generally known that if private individuals engage in the trade they will not be undersold by Government.”

Six depôts were accordingly established in Poona, 13 in Ahmednagar, 3 in Násik, 8 in Sholápur and 9 in Bijápur. Till the end of April the sales of grass at the depôts were not encouraging, and it seemed probable that the greater part of the stock accumulated would not be utilized. There never had been any absolute prohibition of an acceptance of less than the cost, but as above shown it was directed that “not less than the cost should be taken unless there is no prospect of getting so much.” It appears however to have been understood that the cost was intended to be a minimum price, and indeed in the case of sales left in the hands of subordinates not highly paid, it is difficult to exercise any check unless a price is fixed. On 10th May 1897 however Mr. Shuttleworth was at his request authorized to accept the best prices he could get subject to a minimum of 8 annas per 80 lbs. or Rs. 6½ per 1,000 lbs. This minimum seems to have been understood as a fixed price, and as other stocks of fodder had at the time become almost exhausted, an enormous demand for the grass set in. It had been thought advisable when the demand was slack to abandon a large quantity which had been collected in the Sátputa hills, but it was now determined to convey all the grass available into the famine districts and the most strenuous exertions were made to attain this object. But a fraction of the demand could however be supplied, and at the end of May it was thought desirable to hand over the balance of the grass to the Collectors of Ahmednagar, Sholápur and Bijápur for distribution to the most needy in the form of tagái or at the cost of the Indian Famine Charitable Relief Fund, the minimum price above specified being taken as the rate for credit to Government in both cases.

63. One of the principal objects which Government had in view, that of inducing private enterprise to engage in the importation of fodder, was not attained to a material extent, but it may be said with confidence that much has been done towards the promotion of this purpose in the case of future famines. It has been established in opposition to what was understood to be the result of former experience that the grass of the gháts and even of the Konkan if cut at the proper time is in the absence of *karbi* of the greatest utility as fodder for the cattle of the Deccan plains, and there can be little doubt that on a similar occasion in future it will not remain a drug in the market till all other hope of saving cattle is abandoned and that traders will recognize that it can probably be imported with profit. The great advantage of cutting before the sap has dried up has been demonstrated, but as the certainty of a famine in the parts of this Presidency which are subject to it is not established till at least the end of October, the time within which arrangements can be made for opportune cutting is limited. The reduction of the price no doubt helped to stimulate the demand, but the demand became so keen that prices which would yield a profit would almost certainly have been offered if free competition had then been allowed. Government recognized from the first that unaided by private enterprise they could do comparatively little for the preservation of cattle and, as has been

shown above, the loss has been very great, but the provision of 11,209,121 lbs. of grass cannot but have saved a considerable number of useful animals, and the assistance thus given to a large number of agriculturists who contribute largely to the resources of the State to carry on their occupation without intermission is well worth the sum of Rs. 72,740 which represents the loss on the operations. The benefit would have been greater if the early rains had been favourable, the grass being used for the maintenance of the cattle just at the time when they were most needed for agriculture. But the subsequent drought did much to neutralize the advantage. The Collector of Sholápur is of opinion that even when the grass was not much in demand, the fact of its being available kept down the price of *karbi*, and the course of prices supports this view. The rate in that district, which is usually Re. 1 per 100 bundles, ranged between Rs. 3-8-0 and Rs. 5 till the middle of February, when it fell to Rs. 3 and remained stationary till the end of April. In July and August however, when both grass and *karbi* were nearly exhausted, it was Rs. 11 per 100 bundles and even sugarcane was used to keep cattle alive. In Ahmednagar also it rose quite tenfold, and in Sirur Rs. 240 were paid for 1,000 bundles in July and Rs. 160 in other eastern talukas of Poona, the normal price being Rs. 15. The subject of the supply of fodder in a period of famine is so important and the experience gained is likely to be so valuable in the future that the Governor in Council has thought it desirable to append (Appendix L) the full report of Mr. Shuttleworth, exclusive of a few paragraphs which ought not to have found a place in it, although it contains many minute details which will not be of much use and might have been much condensed with advantage. In these circumstances it is not deemed necessary to describe the transactions more fully here.

E.—Famine Allowances to Public Servants.

64. The principal item of expenditure under this head was that of grain compensation to peons and other Government servants on low pay for dearness of food in accordance with the rules contained in Article 72 of the Civil Account Code. Owing to the high prices of grain and fodder the grant of increased travelling allowance up to a maximum of Rs. 15 per mensem was sanctioned for Circle Inspectors and Foresters in charge of Ranges, who are required to keep ponies or other animals for their journeys. For the same reason an allowance of Rs. 5 each per mensem was granted to the Mounted Police in the affected districts. Such of the Hospital Assistants attached to large famine relief works as were specially recommended by the Sanitary Commissioner received the increased conveyance or horse allowance of Rs. 15 per mensem authorized in Article 1183 of the Civil Service Regulations. Additional remuneration was given under Section 52 (f) of the Code to patels and village accountants in the districts so as to bring the emoluments of the former up to a minimum of Rs. 5 and of the latter to a minimum of Rs. 6 per mensem. The expenditure on account of these famine allowances is shown below:—

District.	Expenditure.
	Rs.
Sholápur	25,159
Ahmednagar	37,800
Poona	60,151
Sátára	36,810
Násik	35,063
Khándesh	52,967
Bijápur	25,355
Belgaum	14,218
Dhárwár	8,163
Kolába	21,993
Ratnágiri	33,942
Elsewhere	4,44,928
Total	7,96,549

As already explained, such of the inferior village servants in the affected districts as were required for duty in their villages received the grain dole under Section 60 or in some cases its equivalent in cash, but the expenditure on this account has been classed as "Gratuitous relief", although it would with equal propriety have been brought under this head.

F.—Loans to Agriculturists.

65. The system of loans from Government to cultivators for the improvement of land or assistance of agricultural operations has long been in force in this Presidency, but until 1891-92 comparatively little advantage was taken of it in spite of all the efforts made to remove supposed difficulties by amendment of rules and to explain the benefits. Various reasons have been assigned for the reluctance to apply for these advances, the most common being the fear of rigorous recovery in case of default of punctual voluntary payment and the delay caused by inquiries and other formalities prescribed in the rules. The Collector of Khândesh has suggested that owing to the attempts which have been made to reclaim Bhils by the grant of such advances the cultivators of the plains have conceived a prejudice against them and regarded them as demeaning. The real or at least the main reason for the apathy with which the system was long regarded is no doubt the conservative habit of the Indian ryots and the slowness with which they recognize the benefit of anything new. When however scarcity occurred in the Southern Marátha Country in 1891, the reluctance of the cultivators to apply for such advances was overcome, and the liberal grant of them then went far to render relief works unnecessary. The appreciation of the benefits then became keen and gradually extended to the rest of the Presidency. It has been suggested that the operation of the Deccan Agriculturists' Relief Act has made *sávkárs* less willing to lend and thus induced applications for advances from Government, and it is therefore significant that the popularity of the system began and has grown most rapidly in a part of the province in which that Act is not in force. As soon as famine declared itself in 1896 the Government came to the conclusion that no form of relief could be more useful and economical than the grant of advances for the improvement of land, subject to reasonable precautions with regard to security and the method of expending the money. Land-holders can make arrangements with labourers which Government cannot to ensure the most profitable employment of the money. Congenial means of earning a livelihood are thus provided, and so far the dislocation of the village organization and of household arrangements is avoided, while the relations between landlords and tenants, between masters and servants and generally between employers and those they habitually employ are maintained. The loans are largely used for making wells, which aid in producing much-needed crops at the time they are most wanted. And if the loans are given with care and discretion, the cost to Government of this form of relief is little or nothing. Acting on these views the Governor in Council directed at the beginning of November 1896 that the assignments which had previously been made for the year 1896-97 should be utilized as far as possible in the places in which scarcity was most felt, and applied to the Government of India for a further allotment of 5 lakhs and subsequently for further sums as the demand for advances increased. His Excellency in Council desires to take this opportunity of acknowledging the promptitude with which these requests were met by the Supreme Government and the co-operation thus afforded in carrying out a form of relief which is of all others the most efficient and profitable and likely to cost least to the State. No other has been more highly appreciated or evoked more gratitude.

66. In Appendix M are shown the loans of all classes made in the affected districts both in 1896-97 and 1897-98. As already stated, the Commissioners were desired to concentrate all the money available in these districts, but in the former year part of the assignment had been utilized before the famine declared itself. In the latter year the whole of the allotments sanctioned by the Government of India were distributed in the districts suffering from famine.

Advances for land improvement. 67. The advances actually made during the financial years 1896-97 and 1897-98 under the Land Improvement Loans Act were as follows:—

District.	1896-97.	1897-98.	Total.
	Rs.	Rs.	Rs.
Sholápur ...	2,36,400	1,84,910	3,71,310
Ahmednagar ...	4,78,351	1,80,375	6,58,726
Poona ...	1,54,665	2,24,510	3,79,175
Sátára ...	2,54,868	1,14,110	3,68,978
Násik ...	1,28,280	25,145	1,53,425
Khândesh ...	1,13,341	49,330	1,62,671
Bijápur ...	9,31,400	.....	9,31,400
Belgaum ...	3,91,750	16,800	4,08,550
Dhárwár ...	2,92,780	.....	2,92,780
Kolába ...	50,870	4,250	55,120
Total ...	30,32,705	7,49,480	37,82,185

Of the total amount advanced for land improvements Rs. 22,34,675 were applied for the construction and repair of wells.

68. The number of wells constructed or repaired by means of these loans and the estimated area of land irrigable from them are given below:—

District.	Amount of Tagái advances utilized for wells.	Number of wells constructed or repaired.	Estimated area of land irrigable from these wells.	Average amount of cost per well.	Average estimated area irrigable from each well.
	Rs.		Acres.	Rs.	Acres.
Sholápur ...	3,54,119	1,878	7,512	189	4.0
Ahmednagar ...	6,41,531	3,495	9,861	184	2.8
Poona ...	2,80,815	1,105	5,855	254	5.3
Sátára ...	2,55,720	1,307	6,549	196	5.0
Násik ...	1,43,665	620	1,825	232	3.0
Khândesh ...	1,59,085	747	2,430	213	3.2
Bijápur ...	3,26,310	1,580	6,844	207	4.3
Belgaum ...	51,430	284	803	181	3.0
Dhárwár ...	21,400	47	191	455	4.0
Kolába ...	600	2	4	300	2.0
Total ...	22,34,675	11,065	41,874	202	3.8

It will be seen that almost the whole of the allotments made to the Ahmednagar, Sholápur, Násik and Khândesh Districts were appropriated for wells. The utility of water was impressed on the people in a manner which will not soon be forgotten. The contrast between the luxuriant crops under irrigation and the arid barrenness of adjoining areas could not fail to strike the least observant. The devices adopted to make the fullest use of all available water were remarkable. It is stated that in Ahmednagar 1,825 wells were in use for the production of fodder crops, but it does not appear whether all of them were newly made or newly repaired. There was similar activity shown in other districts. It will be seen that the average cost of the wells was only Rs. 202, and doubtless many of them were of a merely temporary nature, and will not be used in ordinary seasons, for most Deccan ryots are averse to the toil of irrigation so long as they can get through the rainfall enough for their livelihood. At the same time irrigation from wells which they can carry out according to their will is more congenial to them than irrigation from reservoirs which is under official control. It is probable that the value of the crops produced in the past year by the aid of most of the wells which were successful was greater

than their cost, and the repair of such as fall into disuse will on a future occasion of drought cost much less than the construction of new wells.

69. The form of land improvement next in importance is the construction of embankments. These are of two classes—one for the retention of detritus and the formation or improvement thereby of a cultivable area; the other for the sustainment of terraces on the slopes of hills. The first class of embankment is most commonly made in the Southern Marátha Country, and especially in Bijápur. In the northern part of that district there are huge stretches of bare upland off which rain water flows in shallow ravines, widening as they approach the rivulets. By the construction of dams across the foot of such ravines the silt which is washed down by the rain is collected and a considerable area of rich soil is thus obtained. The second class of embankment is of course mainly found in the hill tracts, and the considerable sums advanced in Poona and Sátára are thus accounted for.

70. The remaining important form of land improvement is the eradication of weeds and grasses through deep digging. The roots of "nutt" grass are found in black soil 5 or 6 feet deep, and so long as they remain crops are much injured, and without constant weeding are entirely choked up. The effect of deep digging is often the production of a treble or quadruple outturn and it lasts for several years.

71. As the demands for these advances were very numerous and prompt disposal of them was of essential importance, the powers of a Sub-divisional Officer under the rules were conferred on Mámlatdárs, three additional officers being employed solely on this duty in the hill tracts of Poona and Ahmednagar, and special kárkúns were appointed in each táluka to assist them, while in Bijápur a Deputy Collector for a considerable period devoted himself exclusively to supervision of this work. The kárkúns moved about their tálukas and personally inquired into the case of each applicant for a loan, and watched the progress of works for which loans had been granted. The Circle Inspectors were also instructed to see during their tours that the works stipulated for were being carried out, and the Sub-divisional Officers and Relief Mámlatdárs took every possible care to prevent misapplication of the advances. The instructions issued at the beginning of the season and frequently repeated were that the loans should be granted to persons who were likely to turn the money to good account, that as a principal object of the liberal issue of advances at that time was the useful employment of people in need of relief, it was very necessary to see that that object was being attained and that as soon as the special establishments had some relief from the task of making inquiries regarding the security offered for the loans they should be engaged in ascertaining and reporting whether the works were being carried out. It was directed that if the money was used for purposes not contemplated in the Act and rules prompt measures should be taken for its recovery. Some of the district officers adopted means of their own devising to secure the attainment of the object prescribed. In Bijápur it was stipulated that for each Rs. 100 advanced at least 25 labourers should be employed for one month and in Belgaum that the work should be completed within 6 months although the rules allow a longer period.

Extent to which advances were profitably used.

72. The following estimates of the labourers supported by advances have been given:—

District.	Daily Average Number.	Period of employment.
Sholápur	... 24,700	4 months.
Sátára ...	... 15,299	6 "
Bijápur ...	... 18,750	8 "
Belgaum	... 16,370	5 "

At one time as many as 30,687 are said to have been employed in this manner in Bijápur, and it is asserted that in Belgaum Government were thus relieved of the cost of supporting one-third of the persons in need of employment. The Collector of Dhárwár states that without these advances relief works on a large scale would have been needed. None of the estimates can pretend to

accuracy, but it is beyond all doubt that very large numbers of people were in this manner provided with useful employment. It is reported that in Sholápur the labourers themselves took care to see that employment was given to them by those who got advances for the purpose. As women are not engaged for these land improvements, the disproportion between men and women on relief works is thus largely accounted for. There is an almost universal consensus of opinion that the money was generally used for the purpose for which it was granted. In some cases no doubt part of it was used for the subsistence of the borrower and his family, but on condition of their working on the improvement this appropriation was not open to objection. It has been suggested that in some cases land revenue was paid out of advances, but this seems to be a mere surmise, and the Governor in Council cannot believe that there was any such common practice. The instruction that occupants should not be forced to borrow in order to pay the assessment was, it is understood, communicated to all village officers and must have been generally known and it is in the highest degree improbable that even ignorant occupants would charge themselves with a liability for interest which they knew to be unnecessary. The numbers of cases of clear misappropriation reported are as follows:—

District.	Number.
Ahmednagar	... 165
Bijápur	... 72
Dhárwár	... 3

In all the districts except Ahmednagar the whole of the advances which were not properly applied were at once recovered. The only really discordant note was sounded from that district towards the close of the famine. A letter from the Collector No. 11161, dated 29th September 1897, and the orders passed on it are reproduced below:—

Government Resolution No. 1806-FAM., dated 14th October 1897.

"Memorandum from the Commissioner, C. D., No. 2.—6532, dated 30th September 1897—Submitting for information the following letter No. 11161, dated 29th idem, from the Collector of Ahmednagar:—

'I have the honour to forward a statement showing expenditure incurred on sinking wells in this district from 1st April 1896 to 31st May 1897. All but a small fraction was incurred since November.

'2. The information has been collected by Circle Inspectors and tagái kárkúns. The expenditure is the amount estimated by these officers with the assistance of the village officers. Work of the kind is not very difficult to estimate, and I do not think the estimates are likely to be very far out.

'3. You will see that about 10½ lakhs of rupees have been spent by about 10,000 occupants on wells, about 60 per cent. coming out of their own pockets and the balance from Government in the shape of tagái.

'4. Of the total number of wells little short of half and of the new wells 61 per cent. are failures; possibly some of the latter may not turn out failures after all when more money is spent on them, but I fear the number of these will not be very large. I have not been able to see a great many new wells myself, but in several cases most unfavourable sites seemed to have been selected, and large expenditure incurred in blasting through rock, without so far as I could judge the least prospect of striking water. On the other hand I have come across cases where water has been struck in abundance.

'5. It is unsatisfactory to note that 46 per cent. of the tagái advanced has not been spent, but this might perhaps have been anticipated. More than three quarters of the tagái wells have not been completed, and it was inevitable that with such large numbers of wells under construction the masonry work would not be finished in the time available. The money unspent may probably be distributed thus—

(a) Money held in reserve to complete the work after the rains.

(b) Money that will never be spent on the wells at all as no water has been found.

(c) Money that has been devoted to other objects as the maintenance of the occupant and his family.

Probably (b) and (c) considerably exceed (a). You will observe that in 165 cases representing Rs. 22,815 of tagái no expenditure whatever has been incurred and that in less than half the cases of incomplete wells is the occupant supposed to have sufficient means to finish the work.

6. The most gratifying feature of the return is, I think, the large amount (8½ lakhs) spent from private resources.

7. I hope shortly to furnish more trustworthy information than has hitherto been supplied about the area expected to be irrigable, by the wells where a useful supply has been struck.

"RESOLUTION.—The Collector should be informed that the money should be recovered as soon as possible from people who have not used it at all for the purpose for which it was granted or who without good cause abandoned the work before expending on it the money advanced. Those who deliberately misappropriated the money are entitled to no concession, but in order to avoid the risk of causing distress the Collector may exercise his discretion in deferring action until the harvest is reaped when he considers that course desirable. Generally however advances which are misappropriated should be recovered with promptitude, as it is of the utmost importance to show that no practice of misapplication will be tolerated."

It is to be observed that the information as to work done was given only up to 31st May, and it is probable that much was done after that date, as little rain fell in the greater part of the district before September. It is also beyond doubt that in the past year the water-level was much lower than usual, and in some of the wells in which water was not reached it may be found in ordinary years. Some of the cultivators who got advances are said to have supplemented them to the extent of Rs. 79,220 out of their own capital, and doubtless many of the wells will be completed hereafter either from the occupants' own resources or with the help of further advances. But there is always a considerable element of speculation in well sinking, and the business seems to have been carried on in Ahmednagar in the past year without sufficient caution as to the sites. It will be seen that very much more money was advanced for this purpose in Ahmednagar than in any other district and nearly as much private capital was devoted to that object, and the defect was about equal in the two cases. It will probably be necessary in future to institute some system of making inquiries as to the probability of success before large advances are made, but the matter is surrounded with difficulties. The people have much more confidence in their own water-finders than in official advisers, and it will not be easy to supply a sufficient expert establishment to examine without delay the sites of all wells which it is desired to construct in a year of drought. It cannot but be a matter of regret that so much money should have been lost in the unsuccessful sinking of wells as appears to have been in Ahmednagar in the past year, but apparently the people fully recognize that the responsibility rests entirely with them, and they are content to take the chance of success which yields large profit.

78. The periods fixed for repayment of these advances, which as shown above were not generally of large amounts, are stated below :—

District.	Maximum period fixed for re-payment.	Minimum period fixed for re-payment.	Average period fixed for re-payment.
	Years.	Years.	Years.
Sholapur	10	2	6
Ahmednagar	10	4	7
Poona	12	2	7
Sátara	10	4	7
Násik	6	4	5
Khandesh	10	1	5½
Bijapur	10	2	6
Belgaum	10	2	6
Dhárwar	10	3	6½

It is of course impossible to predict with any certainty how far recovery within the periods fixed will be possible, and some allowance must be made for a second unfavourable season in the eastern parts of the Deccan. But the security is believed to be good in all cases, and past experience indicates that the whole of these advances with interest will eventually be recovered. Even however if it is necessary to remit a considerable proportion, it is clear that the

money will have been spent with much more profit to the community and much less loss to the State than if it had been devoted to ordinary relief works, the utility of many of which is only remote and on which it is scarcely possible to exact a sufficient return for the wages given.

74. The only large loan granted by Government under the Land Improvement Loans Act XIX of 1883 was one of Rs. 50,000 to the Sir Desái of Shirsangi, who holds in personal inám ten villages in the Parasgad Taluka of Belgaum. The loan was granted for the construction of a tank for irrigational purposes, a work which was expected to improve the estate, at the same time providing employment for about 2,000 unskilled labourers for several months during the famine. The loan was sanctioned at the usual rate of interest—5 per cent.—without making the preparation of plan and estimate a condition, but the Sir Desái was advised to obtain the aid of a competent Surveyor or Overseer to prepare plans. It is feared that the scheme has not so far been very successful.

75. At the approach of the monsoon of 1897 the Collectors of the districts affected by famine were authorized to grant loans not exceeding Rs. 50 in each case for the purchase of seed, cattle or fodder free of interest when it seemed to them advisable to do so, and they were desired to see that agricultural operations were not impeded through insufficiency of aid in this matter. It will be seen from Appendix M that advantage was freely taken of these loans by the agriculturists. The amount advanced in 1896-97 was only Rs. 93,478, and it is presumed was paid before the monsoon of 1896, for the premature grant of such advances was discouraged, but in 1897-98 the advances amounted to the large sum of Rs. 12,57,390, making a total for both years of Rs. 13,50,868. Of this sum Rs. 4,16,323 were given for seed, Rs. 5,36,971 for cattle, and the greater part of the remainder (Rs. 3,97,574) for fodder, much being supplied in kind out of the grass made over to the Collectors by Mr. Shuttleworth as already explained. Advances for seed were directed to be recovered as far as possible from the crop grown from the seed, and advances for the purchase of cattle and fodder should be recovered within two years. Owing to the unfortunate failure of the early rains of 1897 in the eastern Deccan much seed was lost and the supply of fodder for the preservation of cattle became more and more inadequate. Advances of this class had therefore to be made to a larger extent than would otherwise have been necessary and their comparative utility was less. As already explained, they were given to people who had security to offer, while those who had not got free grants from the Indian Charitable Relief Fund for the same purposes. It is entirely due to the assistance rendered in these two ways that no material decrease of cultivation is reported from any district except Poona and Ahmednagar.

76. The figures given in the preceding paragraph are exclusive of advances given for subsistence under Section 143 (2) of the Famine Code. A proposal having been made in December 1896 that distressed occupants of land generally should be relieved in this manner the following instructions were issued :—

"The intention is that an advance should be made if necessary for the subsistence of small occupants while they are engaged in preparing their land for sowing. It would be carrying the provision to an extent which would be in the highest degree inexpedient to make advances sufficient for the subsistence of these persons for the whole period which must elapse until they can dispose of crops. If they require relief while they are not engaged on their fields they must give labour in return for it. It is not for their own advantage that they should be supported in idleness on the chance of eventually recovering the advances from them by the sale of their lands, for such advances could never be expected to be realized from surplus produce."

Excepting Kolába, where a small amount of Rs. 2,772 was advanced for this purpose, the only districts in which loans of this class were given were Poona, Sátara and Ahmednagar, and in these districts the distribution was confined to occupants of land in the hill tracts. The circumstances of these people as already shown are exceptional. The occupancies are very small, the people live from hand to mouth, the agricultural operations continue throughout the greater part of the year, and the rains are so heavy that it is not possible to keep

relief works open in the monsoon within easy reach of the great majority of villages. Relief under Section 143 (2) was therefore peculiarly suited to the circumstances of the case, and it with assistance from the Charitable Fund to such as had no security to offer saved many from starvation. It was ordered that these loans should be granted free of interest or at such low rate of interest as the Collector might deem fit to charge. The total amount advanced for this purpose in the three districts was Rs. 1,63,863.

77. A special loan of Rs. 2,25,000 was granted to the Native State of Jath in the Southern Marátha Country Agency, which is under the administration of a British Officer during the minority of the Chief, for the purpose of carrying out relief measures. Besides ordinary relief works and gratuitous relief the objects for which this money was utilized were stated to be—

"(1). Tagái advances, which, as a matter of fact, do not impose any real burden upon the State and will be secured on rayatwár lands, the lands remaining as security.

"(2). Sinking of wells for irrigation purposes, which, with the Jath soil (while it gives work and keeps people at home), secures a certain return for the money expended, and thus secures the future payment of revenue.

"(3). A large tank project at Chikalgí which will also increase the area of garden lands."

The works carried out with the help of this loan served to check the influx of famine-stricken people from the Jath State to works in the neighbouring British District of Belgaum.

G.—Public Works.

78. In previous parts of this report it has been necessary to describe measures connected with the management of public works because they were introduced largely with the view of testing the intensity of distress and reducing the extent of relief to what was really required.

These measures need not be dealt with again in detail, though it may be convenient to refer to them in a review of the general method of employing people in need of assistance from the State.

79. The test-works which were opened in every district to gauge the necessity of measures of relief were in almost all cases Local Board works, though many of them were eventually converted into regular relief works carried out at the cost of the State. As far as possible the test-works, on which the strictest exaction of tasks was enjoined, were carried out under the supervision of officers of the Public Works Department, but in some districts that Department was not ready to undertake the duty wherever necessity arose and Civil agency had in such cases to be employed. In the district of Khándesh the method was adopted of starting all test-works under Civil agency and handing them over to the charge of the Public Works Department when the number of persons demanding employment became too large for effective control by the officers of the Revenue Department. The system of the Famine Relief Code was applied on all test-works.

80. Small works were started for the relief of persons whom it is not expedient to draft to works at a distance from their homes in all districts except Násik, Sátára and Dhárwár, but it was impossible to find any efficient supervision for them, and they were soon closed except in Khándesh, Sholápur and Bijápur. These works consisted mainly of the clearance of village tanks or wells and the removal of prickly pear, but amongst them were the measures for temporary improvement of the water-supply which have already been described. They were generally in the charge of village officers. But in a few places works of a more important character were carried out by Civil agency to relieve the strain on the Public Works Department, and in the hill tracts of the Poona district considerable numbers of people who could not go far from their fields were employed on small roads and tanks supervised by officers of the Revenue Department. The daily average numbers employed on Civil agency works in each month were as follows :—

Month.	No.
November	14,187
December	15,870
January	7,979
February	9,005
March	14,727
April	15,261
May	8,878
June	6,693
July	4,010
August	3,246
September	1,685
October	599
Total	102,140

The total units thus relieved and the expenditure on this account are given below :—

District.	Units.	Expenditure.	Incidence per head.
	No.	Rs.	As. p.
Sholápur	723,779	1,07,174	2 4
Ahmednagar	12,453	*1,630	2 1
Poona	201,096	51,807	4 1
Khándesh	2,048,109	1,69,306	1 4
Bijápur	706,391	55,997	1 3
Belgaum	63,672	5,265	1 4
Total	3,755,500	3,91,179	1 8

81. These figures are exclusive of those for the erection of forest boundary marks and other works undertaken by the Forest Department for the employment of famine labour, and especially, as already mentioned, for the relief of people in the hill tracts. The numbers thus employed and the expenditure incurred for this purpose are given below :—

District.	Total units relieved.	Expenditure.	Incidence per head.
	No.	Rs.	As. p.
Poona	20,943	2,459	1 10
Sátára	37,464	5,980	2 6
Násik	10,518	1,743	2 8
Ahmednagar	1,338	541	6 6
Bijápur	21,791	12,034	8 10
Total	92,054	22,757	3 11

The incidence of cost per head in Bijápur and Ahmednagar is very high. But the work in these districts as elsewhere was paid for by the piece and the actual number of persons employed was probably much larger than that reported.

82. In view however of the experience of 1877 the Governor in Council decided that except for such special reasons as are above indicated the able-bodied persons in need of relief should be employed on large works managed by officers of the Public Works Department. Every effort was accordingly made to strengthen the establishment of that Department employed in the famine districts. All officers who could be spared from districts free from distress were transferred and applications, which owing to the

* This amount is exclusive of the expenditure incurred on works for the temporary improvement of water-supply, the numbers employed on which have not been reported. The amount of expenditure shown against Ahmednagar in the accounts under "33 Famine Relief—Relief Works in charge of Civil Officers" is Rs. 62,967.

wide extent of the scarcity could be but to a small extent complied with, were made for assistance from other parts of India. Advertisements for subordinates of various classes were freely published, and it was necessary to employ all applicants who gave promise of moderate efficiency. But throughout the earlier months the establishment was not sufficient and at other times, especially when the early rains of 1897 failed, the numbers became too large to be effectively dealt with. There was in particular great need of more members of the upper subordinate class. The provision of an adequate supply of tools was also a matter of great difficulty. They were indented for from all parts of India, but could not be always made available at the places where and the times when they were needed. The increases in the numbers of applicants for relief did not always proceed gradually but often came in sudden rushes, and no doubt they were encouraged by the inadequacy of the establishment. When it was found that payments had to be made for little or no work, people in no need of assistance from the State flocked to the works. When by gradual improvement of the organization and the concentration of labour on large works it became possible to exact tasks, the numbers of persons employed declined materially. By the month of February the arrangements were generally in good order, and in some districts at a considerably earlier date, but throughout the period of famine the supervision of the road making and metal breaking works on which the labourers were scattered over long distances could never be made altogether efficient.

83. The system of management prescribed in the Famine Relief Code was followed almost entirely, and in the case of earth-work it was generally found to work well. In the case of metal breaking the result was less satisfactory. In earth-work the several members of a gang are more or less dependent on each other, particularly where the baskets are handed along a line, and the idling of any would reduce the work of all. In metal breaking each person virtually works independently, and the fining of those who labour honestly merely because they are associated with persons who do not is a patent injustice which often had the effect of making all do as little work as possible. In many cases there were adopted devices under which individual tasking could be carried out, such as giving tickets for each basket of metal, marking out tasks by pegs, and training subordinates to estimate by the eye the quantity of metal broken by each person, and they were generally successful in producing a better outturn; on small works with an adequate establishment they were entirely so. But individual tasking throws so much power into the hands of subordinates that it is not judicious to apply it on a large scale. The conclusion seems inevitable that metal breaking, while owing to its convenience and deterrent nature most suitable for test-works and in all cases where the numbers employed are so small that individual tasks can be rigidly exacted by the establishment available, is very badly adapted for the employment of large crowds of people without an entirely adequate establishment. The transfer of the workers as far as possible from metal breaking works to the railway and irrigation works which has already been described thus became essential for the exaction of labour in reasonable proportion to the wages paid.

84. The introduction of a limited piece-work system was from time to time considered. That system did not seem to the Governor in Council to be suitable for general adoption in the circumstances of acute distress prevailing in this Presidency, and it would have been in the highest degree injudicious to try on a large scale an experiment which would dislocate the fairly satisfactory arrangements which had been made and probably have the effect which a radical change had in 1877 of inducing people without other resources to leave the works and wander about until they were forced into poor-houses or died of starvation. It was recognized however that it might with advantage be adopted where the people in actual need of relief were not very numerous and were accustomed to earn their livelihood by rough manual labour, and at an early stage of the famine it had been tried with success in such circumstances on a small work in Násik. The Commissioners and Superintending Engineers were authorized to introduce it when these conditions prevailed provided the scale of payment was such as to prevent competition with private employment and the establishment was sufficient for the close supervision required. It was accordingly adopted on a work in Sholápur, but as other works

were not at a great distance the result was not very satisfactory. It was however held that towards the close of the famine most of the people left on the works would probably be professional labourers or would have become by practice equally fit for manual labour and the introduction of the system of limited piece-work after agricultural operations had drawn away the great bulk of the labourers was directed. It has been found that more work has been done under this system and that a smaller establishment suffices for supervision than under the system of task work, and doubtless it is less attractive. But the experience gained under the conditions in which it was carried out throws little or no light on the question of the expediency of attempting to employ famine labourers generally on piece-work. In Dhárwár, both on Local Fund works under the Collector and on the works (with one exception) carried out by professional agency, wages somewhat higher than those prescribed in the Code were paid without any allowance for dependants and without provision of camps or hospitals, and the plan seems to have worked satisfactorily, but although the failure of crops in the North-East corner of that district was complete the surrounding conditions were more favourable than elsewhere, and the numbers never got beyond the capability of the establishment to exact proper tasks.

85. Civil Officers were appointed for all large works, but they were not except in one or two instances of the class contemplated in the Code and had not magisterial powers. They were however generally found fit for the duties required of them although complaints made by them against Public Works officers of a higher status occasionally gave rise to some resentment, and the employment of officers of much higher rank would have been an unnecessary expense. The classification of applicants for employment was made by them in the first instance, but generally it was modified by the Public Works officers according to the proved capability of the labourers. On the introduction of the system of kitchens the attention of the Civil officers was mainly devoted to these institutions. The cash allowances for young children continued to be paid by the Public Works officers, who also constructed the camps, made provision for the supply and protection of drinking water, the sources of which as already stated were carefully disinfected and guarded, and made the necessary sanitary arrangements. Great difficulty was experienced in inducing the people to use the trench latrines. Every effort was made to supply sufficient huts in the camps in which residence was enforced, all available material of suitable kinds including coarse cloth which weavers in need of relief were employed to make being utilized, but it was impossible to have accommodation ready for all applicants for employment and the difficulty was enhanced on the road works where camps had constantly to be shifted. It is prescribed in the Code that relief workers shall in the beginning be paid daily, but this provision could be carried out only where accessions were gradual. It was impracticable when there came sudden rushes on the works, particularly as a sufficient supply of small coin could not always be made available, and it is feared that in some instances there was considerable delay in payments, but generally in such cases small advances were made and all that was possible was done to reduce the hardship to a minimum. With the approval of the Government of India weekly payments were authorized for persons who had been for some time on the works, and as they were made before market days, they were found suitable and acceptable to the people.

86. The accompanying maps (Appendix N) show the position of all the works opened, and Appendix O gives details supplied by the Executive Engineers of the reasons for selecting each, of the system of management and of the cost as compared with what it probably would have been if the labour had been employed in ordinary circumstances. An abstract of the appendix showing for each district the expenditure on works of the several classes as compared with the estimated value at usual rates of the work done is given below :—

District.	Improvements to existing roads, including the collection of reserve supplies of metal.			Construction of new roads.			Railway earth-works.			Construction of new Irrigation works.			Improvement of existing Irrigation works.			Works for the supply of (drinking) water.			Total.					
	Famine Expenditure.	Value at ordinary rates.	Percent- age of Column 2 on Column 2.	Famine Expenditure.	Value at ordinary rates.	Percent- age of Column 6 on Column 6.	Famine Expenditure.	Value at ordinary rates.	Percent- age of Column 8 on Column 8.	Famine Expenditure.	Value at ordinary rates.	Percent- age of Column 11 on Column 11.	Famine Expenditure.	Value at ordinary rates.	Percent- age of Column 15 on Column 15.	Famine Expenditure.	Value at ordinary rates.	Percent- age of Column 17 on Column 17.	Famine Expenditure exclusive of gratuitous relief.	Gratuitous relief.	Famine Expenditure exclusive of gratuitous relief.	Value at ordinary rates.	Percent- age of Column 23 on Column 23.	
																								Rs.
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
Sholapur	13,95,893	5,10,618	37	30,569	14,849	53	7,96,698	4,50,000	56	2,97,443	1,40,098	28	79,401	32,109	40	...	...	...	28,09,899	5,29,833	22,80,066	11,48,614	41	50
Ahmednagar	13,27,284	3,66,681	27	4,01,181	1,30,879	30	...	...	...	34,083	10,174	30	16,628	13,550	77	1,03,485	36,271	35	18,83,594	1,34,919	17,47,665	5,36,964	29	31
Poona	3,14,228	92,748	29	88,081	44,151	53	...	...	...	3,15,380	1,46,303	46	...	...	...	...	...	...	7,12,698	17,231	6,95,367	2,83,264	40	41
Nasik	4,44,093	88,142	20	80,195	22,296	26	...	...	...	...	...	...	...	...	...	...	...	...	6,24,277	26,303	4,97,974	1,11,438	21	22
Belgaum	4,18,093	2,55,171	61	...	...	...	...	...	...	1,08,007	49,361	30	26,494	11,873	45	19,172	11,916	63	6,52,298	64,811	5,87,485	3,28,821	53	53
Khândesh	2,27,083	90,256	40	10,071	...	...	43,167	25,115	58	367	...	...	26,108	21,868	87	3,709	1,457	39	3,09,504	23,312	2,87,182	1,38,676	46	48
Sholapur	10,46,096	6,18,598	51	6,63,249	3,26,694	40	...	...	...	51,370	4,809	9	...	...	...	...	...	...	22,80,205	1,67,666	21,12,549	7,48,801	33	34
Bilgaum	69,114	40,403	59	83,982	44,079	45	...	...	...	2,38,130	89,762	26	...	...	...	...	...	...	3,82,098	14,769	3,77,327	1,76,474	46	47
Nasik	22,076	16,483	75	8,336	6,344	75	...	...	...	402	300	76	...	...	...	...	...	...	30,804	...	30,804	23,026	75	75
Belgaum	2,732	1,022	37	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,732	...	2,732	1,022	37	37
Total	58,86,670	19,70,401	33	12,59,484	4,83,192	28	8,39,760	4,75,115	57	13,17,186	4,41,279	34	1,47,559	78,709	53	1,26,336	49,644	39	95,76,996	9,67,624	86,09,371	34,96,940	37	41

The figures have been supplied by the Superintending Engineers and will probably need modification when the final accounts are made up. The cost of relieving the dependants on the works is given separately, and the proportion of the value of the work at ordinary rates is shown both in relation to the expenditure inclusive of that cost and to the expenditure exclusive of it. Although ordinary wages should cover the maintenance of such people, many were relieved in the works who would not usually be supported by the labourers and a considerable proportion of the children had only one parent employed on relief wages. The expenditure was also very materially increased by the supply of huts, the moving of camps, the building and removal of hospitals, and conservancy arrangements, all of which are unnecessary in ordinary circumstances. When these acts and others mentioned in the course of this report are taken into consideration, the value of the outturn of the relief labour is perhaps as great as could have been expected.

87. The following estimate of the present and prospective utility of the work done has been made by the Chief Engineer and Secretary to Government in the Public Works Department:—

“It is somewhat difficult to fairly estimate what the country has to show in the way of durable improvements and new works of unquestioned value for the large expenditure incurred. Collection of metal should, it is thought, be looked upon as a work of permanent utility when the collection has not been for a larger amount of metal than can be used up in six or seven years. In the case of new roads constructed during the famine, most of them will be of permanent utility, especially in the case of Railway feeder roads. There is another point in connection with road work which requires to be kept in mind. In order to give suitable employment the embankment has often been made much higher than would otherwise have been necessary, and the earthwork is thus on a more extravagant scale and the gradients better than would have been the case if the works had been carried out without reference to the necessity for employing large bodies of labourers. With regard to tank works, a large part of the expenditure has been upon the puddle trenches; this will all be of permanent use when the tanks are undertaken for completion, but until each tank is completed the country has nothing to show as present benefit for the expenditure incurred. The excavation of the trench being a preliminary work before the embankment can be begun, and also being from its nature not well suited for famine labour, Government will in the next famine be in a much better position with regard to these works than they were on the present occasion, as the greatest part of the most difficult work connected with the tanks commenced having now been done, the number of labourers that can in the future be employed in completing the dams will be largely increased as compared with the number it was possible to employ on the same works during the late famine. This will be such a great benefit that, it is thought, that all the expenditure incurred on tank work should be looked upon as of permanent utility.

The proportion of the famine expenditure which may, it is considered, fairly be held to be of distinct public utility is briefly as follows:—

(i) On improvements to existing roads, including the collection of reserve supplies of metal:—

Central Division.	Famine Expenditure.	Useful Expenditure.
	Rs.	Rs.
Sholapur ...	13,95,893	5,10,618
Poona ...	3,14,228	92,748
Ahmednagar ...	13,27,284	3,56,681
Nasik ...	4,18,093	2,55,171
Khândesh ...	2,27,082	90,286

<i>Southern Division.</i>	Famine Expenditure.	Useful Expenditure.
	Rs.	Rs.
Bijápur	16,66,086	5,18,258
Sátára	4,44,082	88,142
Belgaum	69,114	40,603
Dhárwár	22,076	16,482
Kolába	2,732	1,022
Total ...	58,86,670	19,70,001

(ii) On the construction of new roads :—

<i>Central Division.</i>	Famine Expenditure.	Useful Expenditure.
	Rs.	Rs.
Sholápur	30,569	15,849
Poona	83,081	44,151
Ahmednagar	4,01,181	1,20,879
Násik	Nil.	Nil.
Khándesh	10,071	Nil.
<i>Southern Division.</i>		
Bijápur	5,62,249	2,25,694
Sátára	80,195	23,296
Belgaum	88,862	46,079
Dhárwár	8,326	6,244
Total ...	12,59,484	4,82,192

There may be some doubt as to the correctness of these figures with regard to Bijápur and Sátára, as it may be impossible to complete and keep up the Bijápur new roads, and at least Rs. 70,000 should be deducted from the Rs. 2,25,694 shown. In the case of Sátára the ordinary rates given are below those at which it is ever possible to work in that district, and about Rs. 9,000 should be added to the figure Rs. 23,296.

(iii) On Railway works :—

<i>Central Division.</i>	Famine Expenditure.	Useful Expenditure.
	Rs.	Rs.
Sholápur	7,96,593	2,70,000
Khándesh	43,167	25,115
Total ...	8,39,760	2,95,115

In Sholápur it is questionable if the cost of the earthwork at ordinary rates for the Pandharpur-Sángola extension should be counted as useful work. It is understood to be very doubtful if this line will ever be made, or in any case till much of the work done has deteriorated. The value of the work done on this extension is Rs. 1,80,000, and if this line is likely to be completed in the

next four or five years, then this sum should be added to the Rs. 2,70,000, and the total useful work would be Rs. 4,50,000 against the expenditure of Rs. 7,96,593.

(iv) On constructing irrigation works :—

<i>Central Division.</i>	Famine Expenditure.	Useful Expenditure.
	Rs.	Rs.
Sholápur	5,07,443	1,40,038
Poona	3,15,339	1,46,305
Ahmednagar	34,038	10,174
Násik	1,68,607	49,861
Khándesh	367	.....
<i>Southern Division.</i>		
Bijápur	51,870	4,809
Belgaum	2,89,120	89,792
Dhárwár	402	300
Total ...	13,17,186	4,41,279

(v) On improving existing irrigation works :—

<i>Central Division.</i>	Famine Expenditure.	Useful Expenditure.
	Rs.	Rs.
Sholápur	79,401	32,109
Ahmednagar	16,626	12,859
Násik	26,424	11,878
Khándesh	25,108	21,868
Total ...	1,47,559	78,709

(vi) On water-supply :—

<i>Central Division.</i>	Famine Expenditure.	Useful Expenditure.
	Rs.	Rs.
Ahmednagar	1,03,455	36,271
Násik	19,172	11,916
Khándesh	3,709	1,457
Total ...	1,26,336	49,644

The variation in the proportion of useful to famine expenditure on road improvements is very noticeable. In all districts where famine was severe and the numbers of labourers large for the works opened, the famine expenditure appears excessive. This is principally due to two causes :—

(i) Where famine was severe, the people came on to the work in rushes, overpowering the establishment and much increasing the difficulty of exacting tasks. The supply of tools was soon exhausted, not only in the districts, but in the markets of Bombay, Madras and Calcutta, and during the early months of 1897 there were absolutely no tools to be had in India. The

people had, therefore, to be employed without the full proportion of tools required, which necessarily largely increased the cost of the work turned out.

(ii) On many of the metal-breaking works the numbers of people were so large that to have employed them all on breaking would have involved the accumulation of supplies of metal sufficient for 15 or 20 years. The excess of labourers had, therefore, to be employed in carrying and stacking the metal at the road side, an expensive expedient, but under the circumstances the only one possible.

The apparent excessive cost of the new irrigation works constructed also needs explanation. The embankment and filling in of the puddle trench are the works most suited to famine labour, but before these can be commenced the puddle trench has to be excavated, a slow and troublesome work, the difficulties of which are aggravated by having large numbers of unskilled labourers to deal with. In addition to this there is the expensive item of pumping out water from the deeper portions of the trench to be considered. There is no doubt but that so much of this work having been done during the present famine has much improved the position with regard to providing useful famine work in the future as even if the puddle trenches fill in with soil and silt, as is most probable, the excavation of this soft material will be a matter of small amount, now that the hard rock and murum has been cut out.

With regard to the expenditure incurred on improvements to existing roads, it is probable that when the masonry works are completed and the surfacing material spread and consolidated, the improvement to many roads will be such as to warrant the establishment of tolls which will at least bring in enough to maintain roads which, before the famine, were a constant drain on the yearly expenditure for maintenance.

The result of the famine works may be briefly summed up as follows :—

The value of the work done which can be considered as representing durable improvements is Rs. 34,96,940. Many roads have been so much improved as to warrant the establishment of new tolls which should maintain the roads, and the reserved stock of metal collected should reduce the maintenance charges during the next ten years. The most difficult and expensive work connected with several irrigation projects has been carried out, and the position with regard to providing suitable famine work in the future much improved."

Numbers employed and rate of expenditure.

88. The following statement shows the daily average numbers employed in each month on the different classes of public works :—

Months.		Roads.	Irrigation works.	Railways.	Total.
November	...	17,805	...	...	17,805
December	...	79,648	365	...	80,013
January	...	176,330	908	...	177,238
February	...	245,703	2,905	...	248,608
March	...	268,788	7,238	2,081	278,107
April	...	259,970	18,401	11,605	289,976
May	...	199,573	32,509	25,744	257,826
June	...	154,217	41,950	27,077	223,244
July	...	166,347	52,479	36,145	254,971
August	...	174,674	64,172	40,000	278,846
September	...	183,816	79,336	37,904	301,056
October	...	53,598	48,069	16,929	118,596
November	...	2,920	17,099	2,655	22,674
December	...	...	15,429	...	15,429
Total		1,978,389	380,860	200,140	2,559 in th.

The total units including dependants relieved gratuitously and expenditure incurred up to the end of December 1897 in each district are shown below :—

District.	Units.	Expenditure.	Incidence per head	
		Rs.	As.	p.
Sholapur ...	28,267,491	30,43,057	1	9
Ahmednagar ...	19,175,506	20,86,198	1	8
Poona ...	5,879,671	7,23,399	2	0
Satara ...	5,368,293	5,70,865	1	8
Nasik ...	5,987,205	6,28,102	1	8
Khândesh ...	3,233,167	3,66,139	1	10
Bijapur ...	22,491,847	23,93,226	1	9
Belgaum ...	2,865,674	3,99,900	2	3
Dhârwar ...	273,322	34,915	2	0
Kolaba ...	13,013	2,724	3	4
Total ...	93,555,189	1,01,98,525	1	9

The respective numbers of men, women and children among relief workers in the last week of each month are shown in Appendix P.

H.—Special Establishment.

89. Measures were taken in accordance with Section 19 of the Famine Code to strengthen the District staff to the extent required to carry out efficiently the village inspection and other duties prescribed in Chapter IV. It was not found necessary to appoint special Relief Officers in any district. Relief Mâmlatdârs or Mahâlkâris were appointed in the districts of Bijapur, Sholapur, Ahmednagar and Belgaum and Relief Circle Inspectors in all the affected districts except Khândesh. Special Civil Officers were, as already mentioned, also appointed for all large relief works to supervise the kitchen arrangements and to perform the other duties assigned to them by the Code. The pay of the Special Civil Officers generally ranged from Rs. 40 to Rs. 100 and that of the temporary Circle Inspectors from Rs. 12 to Rs. 15, the latter also receiving travelling allowance varying from Rs. 7 to Rs. 15. The numbers of such officers and of Relief Mâmlatdârs or Mahâlkâris employed in each district are stated below :—

District.	Relief Mâmlatdârs.	Relief Mahâlkâris.	Special Civil Officers.	Circle Inspectors.
Sholapur ...	6	...	14	38
Ahmednagar ...	11	...	28	66
Poona ...	...	...	12	22
Satara ...	...	...	8	16
Nasik ...	...	...	14	4
Khândesh ...	...	...	13	...
Bijapur ...	8	1	19	112
Belgaum ...	1	...	3	2
Dhârwar ...	...	...	...	8
Kolaba ...	...	...	...	4

Twelve temporary Village Accountants were appointed in the Akola taluka of the Ahmednagar district under Section 52 (e) of the Code. Establishments of clerks and peons were given to the Relief Mâmlatdârs and Mahâlkâris and to the Special Civil Officers, and the Relief Circle Inspectors were allowed peons wherever necessary. Special establishments were also employed in poor-houses and kitchens in accordance with Section 122 of the Code. The staff of the Public Works Department in the affected districts was as above shown strengthened by transfers from the unaffected districts of the Presidency and from other Provinces as well as by temporary appointments.

90. The following expenditure chargeable to "33 Famine Relief" was incurred up to the end of December 1897 on account of the establishments mentioned in the preceding paragraph :—

District.	EXPENDITURE.		
	Public Works.	Civil.	Total.
	Rs.	Rs.	Rs.
Sholapur ...	62,077	31,468	93,543
Ahmednagar ...	46,384	47,217	93,601
Poona ...	19,941	8,471	28,412
Sátara ...	16,408	5,622	22,030
Násik ...	12,453	3,048	15,501
Khándesh ...	10,047	3,378	13,425
Bijápur ...	46,188	43,718	89,906
Belgaum ...	12,477	8,392	20,869
Dhárwár ...	56	178	234
Kolába ...	85	92	177
Total ...	2,26,116	1,51,582	3,77,698

91. Besides the special agency described above, which was employed exclusively in the administration of relief, the ordinary establishments of the different departments of the public service had to be strengthened to enable them to cope with the additional work devolving on them in consequence of the famine. In the districts of Bijápur, Sholapur and Ahmednagar, where the distress was most severe, Personal Assistants were attached to the Collectors and District Medical Officers were appointed under Sections 32 and 48 respectively of the Code. Additional Assistant or Deputy Collectors were posted wherever necessary, the ordinary sub-divisional charges being split up to ensure more effective supervision. In order to enable the Sub-divisional officers and Mámlatdárs to dispose of applications for tagái advances as speedily as possible, a large staff of temporary kárkuns was employed in each district whose duty was to make the necessary inquiries regarding each application and to see that the money advanced was properly utilized. In Bijápur, where a large sum was allotted for takávi advances, a District Deputy Collector was placed for a time on special duty to secure the proper distribution of it. In the early part of the monsoon of 1897, when distress was severe in the hill talukas of Ahmednagar and Poona, two Mámlatdárs in the former and one in the latter district were specially deputed to deal with applications for advances for subsistence. The office establishments of the District, Sub-divisional and Taluka officers were strengthened and a special famine branch under the control of the Chief Secretary to Government was attached to the Revenue Department of the Secretariat. To enable the Police to perform the duties specified in Chapter XIII of the Code and to guard relief works such additional force as was necessary was enlisted in each affected district. A large staff of Assistant Surgeons and Hospital Assistants was placed under the control of the Sanitary Commissioner to carry out the duties assigned to the Medical Department under Chapter XIV of the Code.

Expenditure on account of additions to ordinary establishments. 92. The expenditure incurred on account of the additional establishments mentioned in the preceding paragraph is shown in Appendix Q.

93. The conduct of the members of all the establishments both special and permanent appears to have been remarkably good. In Bijápur alone was there such evidence adduced of dishonesty as to justify a prosecution, and in 4 out of the 5 cases tried the accused were acquitted. Five persons however were

punished departmentally. In Ahmednagar there were allegations of fraud in all branches of relief work. It was stated that mukádams and kárkúns obtained money for admission to works; that cashiers made fictitious entries in their accounts, and that village officers drew money for dole bills which they misappropriated, took a share of the grain dole, accepted bribes for entering names in dole registers and exacted commission on tagái advances. But it does not appear that any evidence was adduced in support of the allegations, and they must therefore be discarded. When accusations are common there is a tendency to suspect that there must be some foundation for them, but the method of giving vent to disappointment which is most common amongst the lower classes of this Presidency is to make charges of corruption. People eligible for advances from Government might be able to pay commissions, but bribery on the part of people seeking admission to relief works or eligible for the dole could not have been extensive. In Poona there were only anonymous accusations and from the other districts none at all are reported.

I.—Relief Measures undertaken by Local Boards and Municipalities.

Enlistment of aid of local bodies. 94. The following Circular was addressed to the Commissioners, Central and Southern Divisions, on the 15th November 1896 :—

"I am desired to invite your attention to the expediency of using for purposes of relief as far as is practicable the agency of the District and Municipal Boards and similar local Committees as referred to in Section 31 of the Famine Code. I am to point out that the great difficulty of providing adequate supervision for Government relief works makes it very desirable to lose no time in utilizing that agency. It is probable also that Municipalities will be able to provide some appropriate work for persons, such as weavers, who could not be persuaded to leave the towns and for infirm persons and others whom it is not expedient to move away from their homes.

"2. On the condition that a large proportion of the labour should be of a simple character likely to give suitable employment to famine labourers, Government would be prepared to give the District and Municipal Boards such assistance as may appear reasonable in each case. In the case of the larger Municipalities and of the District Boards the grant of loans on favourable terms—at reduced interest or without interest in special cases—would probably be found most appropriate. Government would also be prepared to consider the expediency of extending the principle which has been applied with great success to the improvement of the water-supply by Local Boards—that of a grant-in-aid. It is possible that by subsidies on similar terms Municipalities might undertake works at once useful and appropriate for famine relief which otherwise would be beyond their existing means, and in some cases popular contributions for such works might be forthcoming. The principle might also be applied to works under Local Boards other than those for improvement of water-supply. A condition of such aid would be that the works should be carried out strictly under the rules of the Famine Code.

"3. In the case of all such works, whether assisted by loans or by subsidies, the Boards and Municipalities would have to make their own arrangements for supervision, as indeed one of the great advantages of the scheme will be to relieve the strain on the establishment which is available in the Public Works Department. But Executive Engineers will give advice and personal assistance and all projects must be subject to the approval of the Commissioners and Superintending Engineers.

"4. I am to request that you will arrange to have the District and Municipal Boards in the affected districts consulted in this matter with the least possible delay, and submit with your remarks any definite proposals any of them may make."

95. The response to this offer was not so great as was anticipated, but few Municipalities are in a position to undertake works of considerable magnitude, and in the only case in which application was made for a loan for a large work—that of the Jalgaon Municipality—it was considered that it would be better to carry out the project if needed for relief by State agency and hereafter charge the Municipality with the cost. Three* other large works will if completed supply municipal populations with water, and in that case part at least of the expenditure will be recoverable from the local bodies. With the exception of a small loan to the Bijápur Municipality partly to cover famine and partly to cover plague expenditure the only loans given for the purpose above described were those for the relief

*Kapurvadi Tank, Pathri Tank and Wasali Tank.

of weavers which have already been dealt with. Some other applications were made, but they were refused because the expenditure contemplated was not for the purpose of relief or was not needed for that purpose.

96. The Pandharpur Municipality in the Sholapur District maintained a poor-house throughout the famine—at its own expense till the end of July 1897 and after that date with the aid of a grant from Government equal to half the expenditure. The Bijapur Municipality also opened a poor-house early in December 1896 and maintained it till July 1897 besides affording relief in other ways, *e.g.*, by opening a small relief work and distributing doles to destitute persons for a considerable period. The Municipalities of Bagalkot and Guledgud in the Bijapur District carried out small relief works within the limits of their jurisdiction and also gave gratuitous relief to poor people. The Ilkal Municipality in the same district incurred some expenditure on doles to the needy.

97. The following statement shows the amounts of expenditure reported to have been incurred on famine relief by Municipalities in the several affected districts:—

District.	On test or relief works.	On poor-houses.	On gratuitous relief.	On special relief to weavers.	Total.	REMARKS.
	Rs.	Rs.	Rs.	Rs.	Rs.	
Sholapur ...	...	2,105	824	*5,708	8,632	* Against this expenditure there is a set-off of the following:— Recoveries made by sale of cloth. Value of stock in hand. Rs. Rs. 3,299 2,513 11,097 7,669 5,250 8,942 (+ Rs. 531 advances made to weavers to be recovered).
Nasik ...	...	...	...	*18,667	18,667	
Bijapur ...	9,643	1,156	2,953	...	18,752	
Belgaum ...	1,535	...	1,096	*14,628	17,259	
Dhárwar ...	4,172	...	...	...	4,172	
Total ...	15,350	3,261	4,873	38,998	62,482	

98. None of the Local Boards applied for loans under the offer above described, but the Dhárwar Board took up the balance of a loan which had been sanctioned for a scheme of roads and devoted the money to work in the affected area. The expenditure on test or relief works including those for the improvement of water-supply incurred by the Boards of the several distressed districts was as shown below:—

	Rs.
Sholapur ...	13,308
Ahmednagar ...	19,936
Poona ...	14,643
Nasik ...	19,105
Khándesh ...	25,556
Bijapur ...	11,635
Belgaum ...	5,384
Dhárwar ...	239,207
Kolaba ...	3,152
Ratnágiri ...	2,964
Total ...	354,890

The question of charging the Boards with part of the expenditure which has been debited to Government is under consideration.

J.—Relief Measures in Native States.

99. The Native States which were affected were those of the Southern Marátha Country and Akalkot, Aundh, Phaltan, Bho and Surgana. The extent of relief given in these States is shown in Appendix R. The following state

ment gives the total as well as affected area and population, the units relieved and expenditure incurred, so far as information is available:—

State.	Total area.	Affected area.	Total population.	Affected population.	Units relieved.	Expenditure.
	Sq. m.	Sq. m.				Rs.
Southern Marátha Country States.	...	...	...	...	11,688,509	...
Akalkot ...	...	...	...	...	203,112	...
Bhor ...	1,491	1,491	155,669	155,669	217,469	61,857
Aundh ...	492	335	65,146	31,730	166,684	15,314
Phaltan ...	397	39	63,552	4,794	30,968	7,597
Surgana ...	...	...	...	...	32,102	3,512

IX.—Final Remarks.

100. Appendix S shows the expenditure on famine relief incurred by Government up to the end of January 1898 under the different heads of account as reported by the Accountant General, the expenditure by Local Boards and Municipalities and from the Indian Famine Charitable Relief Fund and the amounts of advances under the Land Improvement and Agriculturists' Loans Acts. It will be seen that the total expenditure on relief charged to Government amounts to Rs. 1,28,30,709. The cost of the former famine up to end of December 1877 was Rs. 1,14,00,000. But the population affected in the past year was materially larger, and the cost per head of that population was only Rs. 1·7 as compared with Rs. 2·3 in 1876-77, while the period of distress was longer. In view of these facts it may fairly be claimed that the relief of the famine to which this report relates has been conducted with economy. The effects in the saving of life and the mitigation of suffering in the preservation of cattle and in the supply of means to cultivate their occupation have already been sufficiently described. It may be asserted without hesitation that no previous failure of crops of equal magnitude has left so little mark on the agricultural community. There is much testimony that the mass of the people have highly appreciated the efforts made for their benefit, which have begotten a strong feeling of gratitude and confidence in Government. The Collector of Sholapur is of opinion that there has been on the other hand in that district some loss of self-reliance and self-respect, and possibly such a result could not be altogether avoided, but gratuitous relief was kept as completely as was possible within legitimate bounds and those on works who did not give an honest return for their wages had not much self-respect to lose. Never before has so much been done as on this occasion by the aid of advances to enable people to pass through the period of distress without any feeling of being dependent on charity, and the fullest advantage has been taken of this form of assistance, which confers the highest benefit on the community with little or no loss to the State. One of the principal reasons for the success which has been attained was that the method of procedure had been settled beforehand and formulated in the Famine Relief Code, in consequence of which there was no delay in offering relief as soon as it was anywhere needed and the people with isolated exceptions never lost strength. It has been found impracticable to carry out a few of the original provisions of the Code and they have already been altered, and experience has shown the expediency of some other amendments, which in accordance with the desire of the Government of India will be separately proposed. The general procedure however prescribed in the Code has been strictly followed, and has been found suitable, and the Governor in Council considered that it would be most undesirable while the operations were proceeding to run the risk of

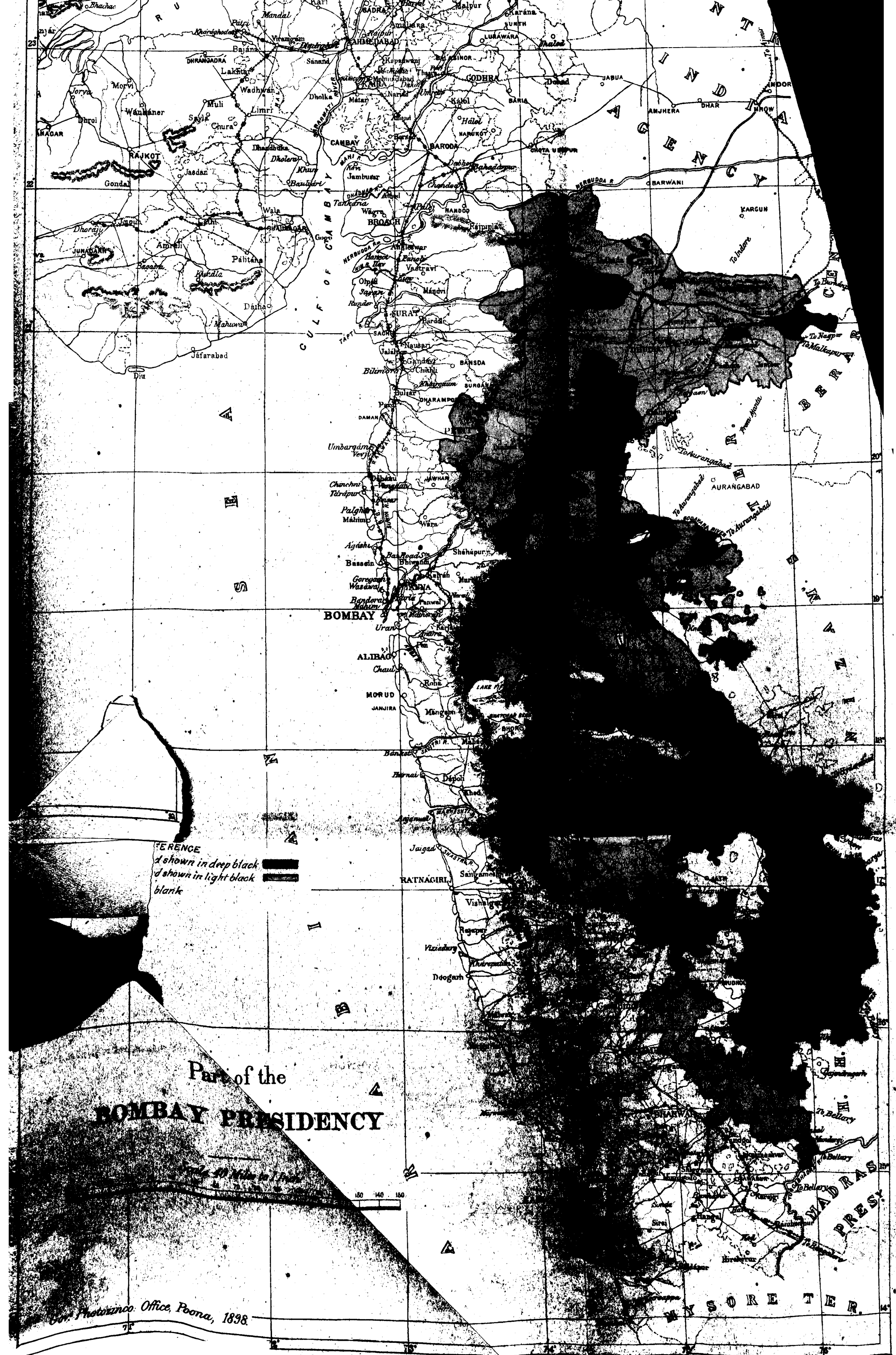
dislocating them by any radical changes. But the main cause of so satisfactory results has been the single-minded zeal with which officers of all departments and of all grades—in some cases in addition to their proper work—have devoted themselves to the duty of making relief effective and co-operated with each other, while assistance, which has been separately acknowledged, rendered by various non-official gentlemen has materially contributed to success.

I have the honour to be,
Sir,
Your most obedient servant,
J. MONTEATH,
Chief Secretary to Government.

APPENDIX A.

MAP SHOWING THE AREAS AFFECTED BY
FAMINE IN 1896-97.





APPENDIX B.

Statement showing the Rainfall of the seasons of 1896 and 1876.

District.	April.	May.	June.	July.	August.	September.	October.	November.	December.
<i>Sholdapur.</i>									
holapur ...	1896 ...	0.05	1.16	3.19	4.38	2.33	0.09	0.44	6.76
	1876 ...	0.24	...	2.05	2.36	3.60	0.54	0.26	...
	Average.	0.61	0.86	5.24	3.80	6.69	8.32	4.83	1.27
arsi ...	1896 ...	...	0.82	6.12	6.80	2.65	0.10	1.40	1.08
	1876 ...	...	...	6.02	1.98	0.97	1.94	0.10	...
	Average.	0.46	1.11	5.75	4.90	5.80	9.69	4.87	1.54
angola ...	1896 ...	0.78	1.47	6.22	2.06	1.40	0.62	0.06	0.65
	1876 ...	...	...	...	0.11	1.07	1.07	0.08	...
	Average.	0.29	0.93	3.23	1.48	4.08	6.95	4.09	1.32
alsiras ...	1896 ...	...	1.78	4.79	3.64	0.90	...	0.38	1.77
	1876 ...	...	...	...	0.34	0.29	2.94	...	0.74
	Average.	0.37	0.75	3.24	1.69	3.34	6.68	4.63	1.51
<i>Ahmednagar.</i>									
ahmednagar ...	1896 ...	0.43	0.74	8.82	5.76	1.06	0.45	0.18	1.30
	1876 ...	...	...	3.24	2.30	1.28	1.32	0.09	0.26
	Average.	0.22	0.79	4.47	2.50	3.99	7.25	4.82	1.38
arner ...	1896 ...	0.11	0.92	14.17	6.95	2.63	0.30	0.59	1.20
	1876 ...	...	...	5.18	1.88	1.05	0.17	...	0.18
	Average.	0.1	0.85	5.02	3.16	3.27	7.02	4.72	1.49
at ...	1896 ...	0.73	0.58	5.35	3.75	1.52	0.89	...	4.30
	1876 ...	...	...	6.15	...	...	0.55	...	...
	Average.	0.14	0.81	4.14	2.35	4.27	7.06	3.91	0.67
akhed ...	1896 ...	...	0.37	6.52	4.58	1.86	1.48	0.05	2.09
	1876 ...	...	0.15	2.89	1.67	3.22	0.84	0.04	...
	Average.	0.33	1.02	5.74	4.15	6.09	8.40	3.92	0.94
ola ...	1896 ...	1.06	0.27	11.91	11.45	4.32	0.18	1.07	0.05
	1876 ...	...	...	2.48	5.07	1.42	0.01	...	...
	Average.	0.14	0.44	3.51	6.59	3.34	6.11	3.71	0.68
<i>Poona.</i>									
ona (Have- r).	1896 ...	2.57	4.66	8.86	16.78	9.19	0.42	0.15	0.78
	1876 ...	...	0.10	5.02	5.79	2.79	0.68	0.52	...
	Average.	0.79	1.61	5.52	9.21	2.90	7.01	6.95	1.36
adgaon (Má- val).	1896 ...	0.06	0.46	9.89	24.29	15.99	0.50	1.29	0.21
	1876 ...	...	0.09	6.13	45.12	22.00	3.45	...	...
	Average.	0.08	0.63	8.70	23.77	9.56	8.21	5.09	1.16
ar ...	1896 ...	1.01	0.67	6.89	18.67	8.70	0.12	1.16	0.54
	1876 ...	...	...	2.58	7.33	6.98	0.20	...	...
	Average.	0.17	0.64	4.64	10.19	4.62	7.14	4.62	1.47
adgaon (Si- val).	1896 ...	...	1.57	10.79	5.60	1.34	0.47	...	1.55
	1876 ...	...	...	7.28	3.16	0.50	...	...	...
	Average.	0.09	1.17	3.84	2.51	2.22	7.63	4.94	1.17
ar ...	1896 ...	0.64	0.02	5.71	1.79	1.82	1.32	0.01	0.06
	1876 ...	...	...	3.17	0.60	0.23	0.44	0.06	...
	Average.	0.40	0.81	4.49	2.26	3.55	7.76	4.81	1.23

APPENDIX D.

Statement showing the Classes of people on relief works.

Class.	Percentage of each Class on total number of relief workers.			Percentage of workers of each Class on total population of the Class.		
	January.	May.	September.	January.	May.	September.
<i>Khândesh.</i>						
Cultivators ...	...	7.00	2.05	...	0.22	.006
Labourers ...	...	75.00	83.10	...	7.97	.90
Weavers ...	...	3.5	2.51	...	2.19	.18
Others ...	...	14.5	12.32	...	0.85	.072
<i>Nâsik.</i>						
Cultivators ...	8.23	10.32	7.18	0.4	0.5	.03
Labourers ...	81.24	79.20	67.16	8.0	7.0	0.6
Weavers ...	4.34	3.93	22.26	4.0	3.0	2.0
Others ...	6.19	6.55	3.40	...	...	...
<i>Poonâ.</i>						
Cultivators ...	36.9	41.8	47.3	1.5	2.3	3.4
Labourers ...	56.1	51.4	39.0	5.2	6.2	6.2
Weavers ...	0.1	0.3	0.3	0.4	1.0	1.4
Others ...	6.9	6.5	13.4	1.1	1.4	3.8
<i>Sâtâra.</i>						
Cultivators ...	24.07	19.82	33.23	1.99	.68	1.85
Labourers ...	71.77	77.43	58.45	55.58	16.11	19.58
Weavers ...	0.33	0.42	0.04	1.67	.84	.15
Others ...	3.83	2.33	8.28	1.70	.44	2.51
<i>Ahmednagar.</i>						
Cultivators ...	36.3	37.1	35.59	...	2.8	...
Labourers ...	54.4	51.3	58.52	...	16.5	...
Weavers ...	1.0	3.1	.23	...	2.5	...
Others ...	8.3	5.5	5.66	...	1.1	...
<i>Sholâpur.</i>						
Cultivators ...	29.8	42.4	...	11.8	10.8	...
Labourers ...	59.3	43.7	...	55.0	36.9	...
Weavers ...	3.4	3.2	...	14.1	5.2	...
Others ...	7.5	10.7	...	4.3	4.8	...
<i>Bijâpur.</i>						
Cultivators ...	29.1	45.6	40.0	11.9	6.0	...
Labourers ...	62.6	27.4	43.0	43.8	13.2	...
Weavers ...	1.3	14.8	14.0	3.9	7.6	...
Others ...	7.0	12.2	3.0	3.1	2.4	...
<i>Belgaum.</i>						
Cultivators ...	7.15	8.9	14.1	...	...	...
Labourers ...	3.1	3.2	65.5	...	...	...
Weavers ...	14.7	.1	2.9	...	...	...
Others ...	...	14.8	15.5	...	...	...
<i>Dhârwar.</i>						
Cultivators ...	...	28	27	...	...	...
Labourers and low castes ...	...	72	69	...	...	...
Weavers ...	...	...	3	...	...	...
Others ...	...	...	1	...	...	...

APPENDIX E.

REPORTS OF THE OPERATIONS FOR THE RELIEF OF WEAVERS BY EMPLOYMENT IN THEIR OWN CRAFT.

Extract from a letter of the Collector of Sholâpur, No. D-78, dated 5th January 1898.

The provisions of section 151 of the Famine Code as regards the grant of semi-gratuitous relief were applied to this district, and a grant of Rs. 2,000 sanctioned in Government Resolution No. 9039, dated 14th November 1896. But except in Sholâpur City, where there is a large weaving colony, it was not thought necessary to initiate this form of relief. A relief weaving-shed was started in Sholâpur in December 1896 under the supervision of a Committee appointed for the purpose by the Sholâpur Municipality, who sanctioned an allotment of Rs. 2,000 in this behalf.

The Collector, Mr. Deshmukh, who started the weaving shed, agreed that half the net cost of the operations would be borne by Government. This arrangement has already been reported to Government in detail, and was approved by them in their Resolution No. 1651—Fam., dated 7th September 1897. I give below a statement showing the financial results of the operations which continued for nearly 12 months:—

Expenditure.	Amounts.	Total.
	Rs. a. p.	Rs. a. p.
Expenditure from 8th December 1896 to 31st December 1897 ...	4,768 15 2	
Amount due for the purchase of yarn up to 31st December 1897 ...	933 14 0	5,702 13 2
<i>Deduct.</i>		
Amount realized from the sale of cloth ...	2,677 15 9	
Do. from the sale of yarn ...	620 11 6	3,298 11 3
Net expenditure ...		2,404 1 11
Half the contribution of Government ...		1,202 0 11
Amount received as Government contribution ...		1,104 14 10
Balance due Rs. ...		97 2 1
<i>Value of cloth in hand ...</i>		
Value of yarn in stock ...	2,296 2 9	
	216 9 0	
	2,512 11 9	

From the above it will be observed that the net cost, including charges of establishment, rent of building, &c., still to be recovered, is Rs. 2,404-1-11. But against this is the stock of cloth and yarn of the value of Rs. 2,512-11-9, which shows a net profit of over Rs. 100. The Government contribution paid to the Municipality up to date amounts to Rs. 1,104-14-10, which will be refunded on sale of the goods and yarn. These are now held in stock, as owing to the prevalence of plague and consequent dislocation of trade there is no demand for them at present.

The total number of persons relieved in the weaving shed is 12,423 and consisted of the following:—

Males ...	6,831
Females ...	4,537
Children ...	1,005
	12,423

This gives an average of over 40 persons on every working day. The payment was made on the piece-work system, a fixed rate being given for a certain length of each kind of cloth woven. The following average daily wages were earned:—

Men ...	From 2 6 to 3 6
Women ...	" 1 3 to 1 9
Children ...	" 0 9

Admissions to the weaving shed were made after careful enquiry into the circumstances of each applicant, and only such as were found really destitute and physically incapable of doing out-door relief work were taken on. The rest of the applicants of this class were sent to work on the Ekruk Canal clearance, a relief work close to Sholâpur, which was specially reserved for the weavers, because the work consisted only of excavation in soft ground and was near their houses.

Extracts from a report by the District Deputy Collector, Belgaum, No. 1481, dated 17th December 1897.

68. The artizans and weavers, whose number is very limited in Athni, could get enough work to maintain them. There are about 800 families engaged in the weaving industry in the town of Gokak and the needy of them were provided for by the Municipality of Gokak by giving them advances of money and buying the fabrics turned out by them. The relief was commenced on 15th April 1897, and will be continued till the end of December as until the harvests are in and taken to market the manufactures will have no demand.

69. Acting on the advice contained in paragraph 6 of Government Resolution No. 242—Fam., dated 23rd January 1897, the Municipality of Gokak resolved to do their best to provide such of the weavers as were unfit for other employment with work in their own craft. After some correspondence with the Collector who sympathised with the movement, it was arranged that a scheme should be started with the sum of Rs. 5,000, which the District Committee of the Indian Famine Charitable Relief Fund kindly promised to advance, and by raising a loan from Government. A loan of Rs. 5,000 was sanctioned in Government Resolution No. 3717, dated 28th August 1897 (Financial). The Municipality appointed a committee of five persons to carry out the scheme. The duties and powers of that body and the details of the scheme were as follows:—

(1). Such of the weavers as had no means of their own, who were unfit to go on the relief works and whose manufactures found no sale, should be furnished by the Committee with a certificate that they are entitled to the special relief.

(2). A permanent advance of Rs. 4 or 5 per loom may be granted to enable the certificated weavers to buy material. Bonds should be obtained from them for the amount.

(3). The Municipality should purchase the following kind of manufactures if brought for sale at their shop:—

(a) Saris from 1½ to 4 rupees each.

(b) Panchas and Dhotis from annas 7 to rupee 1 each.

(c) Sūsi Thāns from Rs. 1½ to 2½ rupees each.

(d) Dungry do. do.

(4). A Cash-book, a Day-book of purchases and sales and a Store-book should be kept and signed by the Karkun and Agent daily and by the Chairman weekly. One week's requirements of money should remain with the Chairman, who should recoup his advance every week by drawing cheques on the Municipality.

(5). The shop should be worked under the control and supervision of the Committee.

(6). All the goods should remain in the shop.

(7). No goods to be sold on credit.

(8). The establishment and contingencies should be as follows:—

(a) One agent on a salary of Rs. 16 per month with a bonus equal to 25 per cent. of the net profits, if any, accruing to the Municipality.

(b) One Karkun on Rs. 12 per month.

(c) One peon on Rs. 5 to 6 per month.

(d) Contingencies Rs. 2 per month.

(9). The goods should be sold immediately if there was a demand or should be kept in store until there was a fair market for them. Such profit should be charged as the Committee would determine from time to time.

70. Up to the end of November 1897, the above relief was granted to 357 families representing 1,785 souls (for a period of 6½ months).

71. The following table exhibits the details of the financial working of the scheme:—

No.	2	Receipts.	April.	May.	June.	July.	August.	September.	October.	November.	Total.	Remarks.
1		Amount received from the Charitable Relief Fund	5,000 0 0	.....	.....	.....	.....	.....	.....	.....	5,000 0 0	Rs. a. p.
2		Loans received from Government	.....	.....	.....	.....	.....	.....	.....	.....	5,000 0 0	Rs. a. p.
3		Loans received from the Charitable Relief Fund at the disposal of the Huzur Deputy Collector, Belgaum	.....	.....	.....	.....	.....	.....	.....	.....	2,000 0 0	Rs. a. p.
4		Loans received from the Mamlatdar of Gokak	.....	.....	.....	.....	.....	.....	.....	.....	600 0 0	Rs. a. p.
5		Amount received from Municipal Funds	.....	.....	.....	.....	.....	.....	.....	.....	1,913 0 6	Rs. a. p.
6		Sale-proceeds of cloth	33 7 0	722 14 6	435 10 3	743 11 3	1,279 11 9	570 0 0	243 0 6	.....	4,872 12 9	Rs. a. p.
7		Profit on the cost price of cloth sold	2 1 3	45 1 3	27 3 9	46 7 9	79 15 3	21 7 0	28 3 6	53 9 9	304 1 6	Rs. a. p.
8		Discount on the price of cloth purchased at one pie per rupee	3 5 5	15 0 5	12 8 10	12 11 4	7 12 9	7 2 1	6 11 2	7 15 2	73 3 2	Rs. a. p.
		Total	5,038 13 8	783 0 2	475 6 10	3,327 14 4	2,542 7 9	942 4 7	5,732 5 2	920 13 5	19,763 1 11	Rs. a. p.
1		Advance to 106 weavers	171 0 0	350 0 0	10 0 0	.....	.....	.....	.....	.....	531 0 0	Rs. a. p.
2		Value of cloth purchased	474 3 3	2,837 1 6	2,382 9 3	2,444 15 3	1,507 11 6	1,365 9 6	1,250 15 6	1,521 14 0	13,815 2 9	Rs. a. p.
3		Repayment of loan to the Huzur Deputy Collector, Belgaum	.....	.....	.....	.....	.....	.....	.....	.....	1,000 0 0	Rs. a. p.
4		Pay of Establishment	.....	14 14 10	34 0 0	34 0 0	34 0 0	34 0 0	34 0 0	34 0 0	218 14 10	Rs. a. p.
5		Contingent expenses	.....	.....	8 12 1	3 1 0	6 13 6	.....	3 0 6	3 1 6	24 12 7	Rs. a. p.
6		Rent of the shop for 7 months at Rs. 65 a year	.....	.....	.....	.....	.....	.....	.....	37 14 8	37 14 8	Rs. a. p.
7		Repayment of loan to the Mamlatdar of Gokak	.....	.....	.....	50 0 0	200 0 0	.....	.....	360 0 0	600 0 0	Rs. a. p.
		Total	645 3 3	3,202 3 4	2,435 5 4	2,532 0 3	2,732 6 3	1,415 12 3	1,318 0 0	1,946 14 2	16,227 12 10	Rs. a. p.
		Balance on the 30th November 1897.	.....	.....	.....	.....	.....	.....	.....	.....	3,535 5 1	Rs. a. p.
		Total	.....	.....	.....	.....	.....	.....	.....	.....	19,763 1 11	Rs. a. p.

Extracts from a report by the District Deputy Collector, Belgaum, No. 1481, dated 17th December 1897.

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(b) One Karkun on Rs. 12 per month.

(c) One peon on Rs. 5 to 6 per month.

(d) Contingencies Rs. 2 per month.

(9). The goods should be sold immediately if there was a demand or should be kept in store until there was a fair market for them. Such profit should be charged as the Committee would determine from time to time.

70. Up to the end of November 1897, the above relief was granted to 357 families representing 1,785 souls (for a period of 6½ months).

71. The following table exhibits the details of the financial working of the scheme:—

No.	Remarks.	Total.											
		April.	May.	June.	July.	August.	September.	October.	November.	11	12	Rs. a. p.	
1	Receipts.												
1	Amount received from the Charitable Relief Fund	5,000 0 0								5,000 0 0		5,000 0 0	13,815 2 9
2	Loans received from Government											5,000 0 0	4,872 12 9
3	Loans received from the Charitable Relief Fund at the disposal of the Huzur Deputy Collector, Belgaum.												
4	Loans received from the Mamlatdar of Gokák												
5	Amount received from Municipal Funds												
6	Sale-proceeds of cloth	33 7 0	722 14 6	435 10 3	925 0 0	175 0 0	570 0 0	213 0 6		1,913 0 6		2,000 0 0	8,942 6 0
7	Profit on the cost price of cloth sold at one anna per rupee	2 1 3	45 1 3	27 3 9	46 7 9	79 15 3	343 11 6	454 6 0	859 4 6	4,872 12 9		600 0 0	531 0 0
8	Discount on the price of cloth purchased at one pie per rupee	3 5 5	15 0 5	12 8 10	12 11 4	7 12 9	7 2 1	6 11 2	7 15 2	304 1 6		9,473 6 0	
	Total	5,038 13 8	783 0 2	475 6 10	3,327 14 4	2,542 7 9	942 4 7	5,732 5 2	990 13 5	19,763 1 11			
1	Disbursements.												
1	Advance to 106 weavers	171 0 0	350 0 0	10 0 0						531 0 0			
2	Value of cloth purchased	474 3 3	2,837 1 6	2,382 9 3	2,444 15 3	1,507 11 6	1,365 9 6	1,250 15 6	1,521 14 0	13,815 2 9			
3	Repayment of loan to the Huzur Deputy Collector, Belgaum												
4	Pay of Establishment		14 14 10	34 0 0	34 0 0	933 13 3	16 2 9			1,000 0 0			
5	Contingent expenses			8 12 1	3 1 0	34 0 0	34 0 0	34 0 0	34 0 0	218 14 10			
6	Rent of the shop for 7 months at Rs. 65 a year					6 13 6		3 0 6	3 1 6	24 12 7			
7	Repayment of loan to the Mamlatdar of Gokák												
	Total	645 3 3	3,202 3 4	2,435 5 4	2,532 0 3	2,732 6 3	1,415 12 3	1,318 0 0	1,946 14 2	16,227 12 10			
	Balance on the 30th November 1897.									3,535 5 1			
	Total									19,763 1 11			

72. It is expected that the whole quantity of cloth on hand will be disposed of within six months and that not only is there no risk of loss but that it would pay more than the working expenses.

73. This relief has proved a great boon to the weaving class which forms nearly half of the population of the town of Gokák.

Letter from the COLLECTOR of Násik, No. 13056, dated 22nd December 1897.

With reference to your endorsement No. R-6154, dated the 13th September 1897, and No. 7167, dated the 1st November 1897, forwarding Government memoranda calling for a report on the relief of weavers in their own craft by the Municipalities in this district, I have the honour to report that excepting in Yeola relief of this nature was not found necessary in municipal towns in this district.

2. The weaving population of Yeola is returned at 10,705, of whom 7,000 are Mahomedans, mostly employed in turban weaving. With the setting in of the Sinhasht in August 1896, a sudden decline took place in this industry, and as many of the weavers were unfitted physically for out-door work, it was arranged to employ them on the work to which they were accustomed. The scheme however was strictly confined to the assistance of such of the weavers as were incapable of the kind of labour which was provided on relief works. I append copies of the report and its appendices submitted by the Vice-President of the Municipality giving the details of the expenditure, the sales, the stock on hand, &c., as required by Government.

3. With reference to the suggestion made by the Vice-President in paragraph 18 of his report, I have requested all officers under me to indent on the Municipality for khádís whenever required for Government purposes, and have asked the Executive Engineers, N. D. and for Irrigation, K. D., the Divisional Forest Officer, the Deputy Sanitary Commissioner, W. R. D., and the Civil Surgeon to get their supply of khádís when required for Government purposes from the Yeola Municipality, and I have no doubt but in the course of a few months most of the cloth will be disposed of.

Letter No. 225, dated 15th November 1897, from the VICE-PRESIDENT, Yeola Municipality, to the 1st Assistant Collector, Násik.

With reference to your No. 3161 of 20th September 1897, and subsequent reminders I have the honour to report as follows.

2. Owing to famine the weavers at Yeola did not get work in their own craft from merchants from October 1896. They were therefore badly in need of work. Those that came and asked for work were at first employed on Municipal and Local Board road repairs.

3. As required by the amended Section 151 (a) of the Famine Code, semi-gratuitous relief by employment in their own craft was given to such weavers as were deemed incapable of gaining a livelihood on the ordinary relief works.

4. Being directed by you and the Collector to collect statistics about weavers requiring help from Municipality, I set to work in my capacity as Mámlatdár to collect information, and I submitted detailed reports on the subject as noted in the margin and a cut and dry scheme was sent by you to Government with your No. 2275 of 17th November 1896, which resulted in Government Resolution No. 9624 of 30th idem, Revenue Department (Famine).

5. As the funds at the disposal of the Municipality were not enough for the purpose, applications for loans were submitted, and Government, in their Resolution No. 2819 of 29th June 1897, Financial Department, were pleased to sanction a loan of Rs. 50,000. Out of this the Municipality have received Rs. 10,000, vide Government Resolution No. 4115 of 27th September 1897, Financial Department.

6. I append to this Extract from the Proceedings of the General Committee Meetings held on the 8th and 24th November 1896 and 26th January 1897. These will show what action the Municipality took on receipt of the orders of Government.

7. It took nearly a month for the weavers to prepare themselves for the work which was started on the 1st January 1897; in the meanwhile arrangements were made to bring yarn from Bombay. For some time the Bombay merchants supplied us with yarn, but owing to plague at Bombay they could not send us any later on, and we had to get yarn from Messrs. Mulji Jetha & Co. of Jalgaon in Khándesh.

8. Yarn was advanced to such of the weavers as were unable to purchase it on solvent securities being furnished, and I may mention that the advances thus made have all been recovered; and in cases where they were able to purchase it, it was sold to them.

9. Appended to this is a statement showing the financial condition of the weaving work undertaken by the Municipality.

10. The following table will show the number of looms, men, women and children and the wages paid to them for work done from January to the end of October 1897 when the work was stopped as the rain bettered the prospects:—

Months.	Number of looms.	Number of labourers.	Wages paid.
			Rs. a. p.
January ...	56	498	197 6 0
February ...	128	1,105	348 4 0
March ...	111	987	394 5 0
April ...	114	1,212	524 13 0
May ...	114	1,038	466 5 0
June ...	95	840	311 1 0
July ...	95	612	185 10 0
August ...	63	801	315 9 0
September ...	45	330	151 2 0
October ...	6	66	23 5 0
Total ...	...	7,489	*2,917 12 0

* This item is included in items Nos. 3, 4, 5 of Statement A, Dr. side.

11. It was intended at first to weave khádís and sáris, but as the Committee thought that there would be no demand for sáris they gave up that attempt and only a sample of sári was prepared, and the yarn purchased for sáris had to be partly sold and partly utilised in making chints.

12. The total outturn is as given below:—

	No.	Rs. a. p.
Khádís ...	4,805	9,401 1 7
Sári ...	1	2 4 0
Chints ...	216	746 8 3
Total ...	5,022	10,149 13 10

13. It may be noted here that each khádi is about 33 feet long 2½ feet wide, and it was sold at 2 lbs. per rupee.

14. The total number of pieces of cloth sold is as detailed below:—

	No.	Rs. a. p.
Khádís ...	1,241	2,335 0 1
Sári ...	1	2 4 0
Chints ...	67	250 7 0
Total ...	1,309	2,587 11 1

leaving a balance of—

	No.	Rs. a. p.
Khádís ...	3,564	7,069 14 1
Chints ...	149	514 3 10
Total ...	3,713	7,584 1 11

15. The cost price of the best khádi is Rs. 2-8-0 and that of the lowest kind is Rs. 1-8-0. The maximum and minimum price of a piece of chints 13 yards x 2½ feet is Rs. 4 and Rs. 3 respectively.

16. The details of the khádís sold are as under:—

For Government purposes.

Pilgrim camp at Násik ...	...	...	400
Khirdi-Sathe Relief Work ...	...	...	200
Lasalgaon Relief Work ...	...	...	100
For distribution out of the Indian Famine Charitable Fund ...	...	...	201
			901
By Government servants for their private use ...	...	...	138
Others ...	...	...	202
Grand Total ...			1,241

17. The weavers employed by the Municipality were all of the Momin class. The Sális and Koshtis did not ask for work as some got work in silk and sáris of better class and some of them found it more suitable to go to the relief works.

18. I am afraid that the stock remaining on hand will not be sold soon, as the plague has affected the trade. I am unable to say off-hand how much time it will take to get rid of the stock, but it is believed that it will take one year unless Government are pleased to order the purchase of khádís from the Municipality for office use of every department.

19. I cannot conclude this report without expressing a sense of gratitude on behalf of the Municipality towards H. F. Silcock, Esquire, Collector, R. B. Stewart, Esquire, First Assistant Collector, J. N. Kabraji, Esquire, First Assistant Collector, for the advice and the cordial support they gave in connection with the weaving work. I am at the same time bound to thank Ráo Bahádúr Pandit and Azam Khan Mustekhan, Shabudin Balabhai and Subhanji Kamal, Municipal members, for the interest they took in the matter and the supervision they exercised.

P. S.—Since writing the above 500 khádís have been sent under instructions from R. B. Stewart, Esquire, Chief Plague Authority, in connection with the plague operations at Manmád.

ACCOMPANIMENTS TO THE ABOVE.

Extract from the Proceedings of the Special General Meeting of the Yeola Municipality held on the 8th November 1896.

Present:

- | | |
|---|------------------------------|
| 1. Ráo Sáheb S. S. Bhide, Vice-President. | 6. Mr. Laxman Kushaba Patil. |
| 2. Mr. Azamkhan Mustekhan. | 7. „ Shabudin Balabhai. |
| 3. „ Shankar Narhar Dhonde. | 8. „ Subhanji Kamal. |
| 4. „ Chunilal Jagjiwan. | 9. „ Balmukund Nanabhai. |
| 5. „ Ahmedulla Mowlavi. | 10. „ Rupchand Govindram. |
| 11. Mr. Gangaram Jairamsa. | |

Resolved unanimously that a Committee of the following members should be appointed for the purpose of supervising the looms of coarse cloth, i.e., khádi. These members will be responsible for the amount or amounts they will receive from time to time for purchasing cotton yarn. They will distribute work according to the necessity, receive the cloth prepared by the weavers and pay their wages. A final resolution cannot be passed at this moment as to what this Committee should exactly do. They will be guided by the rules and orders that may be issued by the Collector from time to time:—

- | | |
|-------------------------------|---------------------------|
| 1. Mr. Azamkhan Mustekhan. | 4. Mr. Chunilal Jagjiwan. |
| 2. „ Shabudin Balabhai. | 5. „ Balmukund Nanabhai. |
| 3. „ Subhanji Kamal. | 6. „ Rupchand Govindram. |
| 7. Mr. Shankar Narhar Dhonde. | |

Proceedings of the Special General Meeting held on 24th November 1896.

Present:

- | | |
|---|----------------------------|
| 1. Mr. J. K. N. Kabraji, President, in the Chair. | 6. Mr. Rupchand Govindram. |
| 2. Ráo Bahádúr R. N. Pandit. | 7. „ Chunilal Jagjiwan. |
| 3. Ráo Sáheb S. S. Bhide. | 8. „ Ahmedulla Mowlavi. |
| 4. Mr. Gangaram Jairamsa. | 9. „ Balmukund Nanabhai. |
| 5. „ Ganesh Venkatesh, Overseer, Public Works Department. | 10. „ Shabudin Balabhai. |
| | 11. „ Azamkhan Mustekhan. |
| | 12. „ Subhanji Kamal. |

Business.

1. Consideration of Government Resolution No. 9093 of 17th November 1896, Revenue Department, with the Second Assistant Collector of Násik's No. 2377, dated 23rd idem, on the subject of giving employment to the local weavers.

Resolved unanimously that this Municipality agrees to undertake the duty of giving employment to the local weavers in their own trade so far as they may need it.

Provided (1) the Municipality will supplement the action of Government in this direction so far as may be needed only; (2) that Government will be pleased to advance the necessary funds to the Municipality as may be needed from time to time without interest, and the Municipality agrees to repay the loan as soon as the cloths produced can be disposed of; (3) that the Committee already appointed at the meeting held on 8th November 1896 be empowered to make all necessary arrangements for the employment of weavers, to administer the funds, to fix the rates of wages, to make the sales, and generally to carry out all the work connected with the present proposal. The Committee should be empowered to add to its members other gentlemen, subject to the approval of the Municipality.

Resolved further that if the above proposals are approved, Government be asked to give a loan of Rs. 18,000 to the Municipality to start with, the amount being estimated to last for the first two months during which large sales are not expected.

Proceedings of the Special General Meeting held on 2nd January 1897.

Present:

- | | |
|---|----------------------------|
| 1. Ráo Sáheb S. S. Bhide, Vice-President. | 7. Mr. Azamkhan Mustekhan. |
| 2. Ráo Bahádúr R. N. Pandit. | 8. „ Shabudin Balabhai. |
| 3. A'zam Shankar Narhar Dhonde. | 9. „ Chunilal Jagjiwan. |
| 4. Mr. Gangaram Jairamsa. | 10. „ Balmukund Nanabhai. |
| 5. „ Damodar Shaligram. | 11. „ Rupchand Govindram. |
| 6. „ Ahmedulla Mowlavi. | 12. „ Kashiram Chandisa. |

Read Government Resolution No. 10447 of 19th December 1896, Revenue Department, Famine.

Resolved unanimously that a loan of Rs. 50,000 should be borrowed from Government for the purpose of employing weavers during the present distress on the terms of the Resolution.

Resolved unanimously that the following gentlemen should be added to the Committee appointed on the 8th November 1896:—

- Ráo Bahádúr R. N. Pandit.
A'zam Eknath Khemchand.
„ Kashiram Chandisa.
The Assistant Collector and the Mámlatdár.

Statement A showing the financial condition of the weaving work started by the Yeola Municipality in connection with the famine.

Cr.		Dr.	
Item.	Amount.	Item.	Amount.
	Rs. a. p.		Rs. a. p.
1. Cash taken from time to time from the General Municipal Fund ...	8,700 0 0	1. Amount refunded to the Municipality	1,054 9 0
2. Sale and advance of yarn to weavers—		2. Purchase of yarn of different colours.	8,454 11 8
White yarn for khádís ...	8,454 11 8	3. Purchase of khádís—4,805 ...	9,401 1 7
Yarn of different colours ...		4. „ sári ...	2 4 0
Profit on the above sale ...	41 12 1	5. „ chints—216 ...	746 8 3
3. Sale of 1,241 khádís ...	2,331 3 6	6. „ wrappers ...	18 14 9
Profit on the above sale ...	5 12 7	7. Cloth sold on credit ...	69 10 0
4. Sale-proceeds of a sári ...	2 4 0	8. Contingencies on account of advertisements, &c. ...	43 5 0
5. Sale-proceeds of 67 pieces of chints ...	232 4 5		
Profit on the above sale ...	18 2 7	Total, Expenditure ...	19,791 0 3
6. Sale-proceeds of packing materials which were received from Bombay, &c., wrapped to bales of yarn ...	3 4 3	Balance on hand ...	6 5 6
Profit on the above sale ...	9 14 8		
Total ...	19,797 5 9	Total, including Balance ...	19,797 5 9

Abstract.

	Rs. a. p.		Rs. a. p.
1. Amount due to the Municipality ...	7,645 7 0	Balance on hand—	
2. Total profit realized in the transaction	73 9 11	Khádís—3,564 ...	7,069 14 1
		Chints—149 ...	514 3 10
	7,719 0 11	Packing materials ...	15 10 6
<i>Note.</i> —This account is from the beginning to the end of October. The transactions for November have not been included in this.		Add—	7,599 12 5
		Amount to be recovered for cloth sold on credit ...	69 10 0
		Contingencies ...	43 5 0
		Cash balance on hand ...	6 5 6
			7,719 0 11

APPENDIX L—continued.

District.	Last week of March 1897.				Last week of April 1897.				Last week of May 1897.			
	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.
Sholapur ...	3,550	1,951	1,165	6,666 <i>8.47</i>	4,403	2,493	1,316	8,212 <i>8.91</i>	4,239	2,548	1,289	8,076 <i>9.73</i>
Ahmednagar ...	1,592	673	211	2,476 <i>4.21</i>	3,335	1,172	416	4,923 <i>8.68</i>	4,017	1,410	527	5,954 <i>13.41</i>
Poona ...	2,094	1,956	2,378	6,428 <i>58.79</i>	2,879	1,553	1,355	5,787 <i>28.98</i>	3,695	2,436	1,671	7,802 <i>34.90</i>
Násik ...	55	65	18	138 <i>0.63</i>	79	78	42	199 <i>1.00</i>	345	195	89	629 <i>3.51</i>
Sátára ...	14	6	3	23 <i>0.08</i>	31	45	11	87 <i>0.42</i>	59	115	21	195 <i>2.03</i>
Khándesh ...	...	...	...	...	...	...	...	...	...	...	...	...
Bijápur ...	5,212	2,216	980	8,408 <i>15.44</i>	5,901	2,352	1,311	9,564 <i>17.84</i>	6,198	2,794	1,780	10,772 <i>23.48</i>
Belgaum ...	391	132	81	604 <i>11.79</i>	348	119	50	517 <i>5.47</i>	348	157	85	590 <i>6.10</i>
Dhárwár ...	1,042	56	...	1,098 <i>17.97</i>	817	72	4	893 <i>32.71</i>	907	84	6	997 <i>162.90</i>
Kolába...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	13,950	7,055	4,836	25,841 <i>8.97</i>	17,793	7,884	4,505	30,182 <i>10.25</i>	19,808	9,739	5,468	35,015 <i>13.94</i>

NOTE.—The figures in italics show the percentage ratio to relief workers.

APPENDIX I—continued.

District.	Last week of June 1897.				Last week of July 1897.				Last week of August 1897.			
	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.
Sholapur ...	4,519	2,709	1,408	8,636 <i>11.44</i>	5,032	3,639	2,226	10,957 <i>13.55</i>	5,602	4,623	2,999	13,224 <i>16.26</i>
Ahmednagar ...	4,748	2,110	1,017	7,875 <i>24.30</i>	6,589	4,429	2,992	14,010 <i>23.42</i>	7,901	6,386	4,741	19,028 <i>38.50</i>
Poona ...	4,342	3,265	2,565	10,172 <i>64.31</i>	4,719	4,090	3,639	12,448 <i>114.02</i>	5,159	4,721	4,969	14,849 <i>110.9</i>
Násik ...	529	378	215	1,122 <i>10.58</i>	963	297	113	1,373 <i>20.08</i>	583	370	172	1,125 <i>30.73</i>
Sátára ...	218	198	88	504 <i>6.47</i>	859	692	401	1,952 <i>18.34</i>	1,330	1,677	1,229	4,236 <i>60.27</i>
Khándesh ...	...	...	...	...	111	...	...	111 <i>1.23</i>	525	...	...	525 <i>23.09</i>
Bijápur ...	6,078	2,816	2,742	11,636 <i>19.88</i>	6,238	3,245	3,088	12,571 <i>13.64</i>	7,268	3,718	3,606	14,592 <i>12.28</i>
Belgaum ...	500	170	102	772 <i>12.44</i>	482	171	117	770 <i>5.79</i>	549	195	177	921 <i>5.40</i>
Dhárwár ...	900	110	8	1,018 <i>1,241.4</i>	837	152	17	1,006 <i>47.56</i>	885	161	20	1,066 <i>30.98</i>
Kolába ...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	21,834	11,756	8,145	41,735 <i>19.29</i>	25,890	16,715	12,593	55,198 <i>19.32</i>	29,802	21,851	17,913	69,566 <i>23.49</i>

NOTE.—The figures in italics show the percentage ratio to relief workers.

(xxiv)

District.	Last week of September 1897.				Last week of October 1897.				Last week of November 1897.				Last week of December 1897.			
	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.
Sholapur ...	6,291	5,534	3,449	15,274 21-31	3,553	2,796	1,482	7,831 33-31	702	1,018	402	2,122 27-29	607	918	356	1,881 21-28
Ahmednagar ...	8,661	7,077	4,391	20,129 26-30	6,782	4,395	2,121	13,298 16-30	...	...	...	...	...	...	...	...
Poona ...	9,396	11,383	12,718	33,497 22-2	3,621	4,111	4,195	11,927 12-6	1,124	868	1,124	3,116 6-86	81	69	87	237 3-88
Nasik ...	342	279	136	757 27-24	51	52	28	131	...	...	...	...	...	...	...	...
Satara ...	1,641	2,105	1,574	5,320 50-67	406	534	463	1,403 27-33	...	...	...	...	...	...	...	...
Khandesh ...	652	...	...	652 54-47	...	...	...	...	...	...	...	...	...	...	...	...
Bijapur ...	7,340	3,812	3,518	14,670 20-64	3,449	1,438	1,955	6,842 150-4	...	...	...	...	...	...	...	...
Belgaum ...	682	209	211	1,102 7-38	259	61	50	370 18-80	129	10	...	139 17-77	...	...	...	...
Dharwar ...	746	155	22	923 36-93	1,291	261	30	1,582 457-2	...	...	...	...	...	...	...	...
Kolaba ...	...	...	...	...	49	117	226	392	...	...	...	...	...	...	...	...
Total ...	35,751	30,554	26,019	92,324 34-76	19,461	13,765	10,550	43,776 83-68	1,955	1,896	1,526	5,377 38-09	688	987	443	2,118 12-95

NOTE.—The figures in italics show the percentage ratio to relief workers.

(xxv)

APPENDIX J.

Statement showing the daily average numbers relieved in poor-houses in the last week of each month.

District.	Last week of December 1896.				Last week of January 1897.				Last week of February 1897.				Last week of March 1897.			
	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.
Sholapur ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ahmednagar ...	...	...	...	...	...	...	...	...	...	...	...	...	15	22	35	72
Nasik ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Satara ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bijapur ...	...	...	...	...	...	...	...	...	14	16	19	49	30	39	58	127
Total ...	...	...	...	...	...	...	...	...	14	16	19	49	45	61	93	199

District.	Last week of April 1897.				Last week of May 1897.				Last week of June 1897.			
	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.
Sholapur ...	24	17	18	59	35	22	19	76	58	36	19	113
Ahmednagar ...	63	81	108	252	53	79	108	240	69	92	120	281
Nasik ...	...	...	...	...	...	...	...	...	...	...	...	...
Satara ...	...	...	...	...	...	...	...	...	...	...	...	...
Bijapur ...	27	81	65	123	48	51	103	202	91	183	265	539
Total ...	114	129	191	434	136	152	230	518	218	311	404	933

District.	Last week of July 1897.				Last week of August 1897.				Last week of September 1897.			
	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.
Sholapur ...	69	62	30	161	85	74	40	208	65	52	62	179
Ahmednagar ...	281	321	425	1,007	291	425	605	1,321	314	416	607	1,336
Nasik ...	61	82	73	216	65	97	122	284	95	108	164	367
Satara ...	35	75	96	206	49	108	126	283	39	101	109	249
Bijapur ...	164	335	327	826	229	383	360	972	395	712	974	2,081
Total ...	590	875	950	2,415	719	1,087	1,262	3,068	908	1,388	1,916	4,212

District.	Last week of October 1897.				Last week of November 1897.				Last week of December 1897.			
	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.
Sholapur ...	53	43	19	115	39	37	18	94	27	15	6	47
Ahmednagar ...	19	28	35	82	...	...	...	...	...	...	...	...
Nasik ...	...	...	...	...	...	...	...	...	...	...	...	...
Satara ...	...	...	...	...	...	...	...	...	...	...	...	...
Bijapur ...	225	425	705	1,355	...	...	...	...	...	...	...	...
Total ...	297	496	759	1,552	39	37	18	94	27	15	6	47

APPENDIX K.

Statement showing the daily average numbers of dependants on relief workers in the last week of each month.

District.	Last week of December 1896.				Last week of January 1897.				Last week of February 1897.			
	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.
Sholapur ...	...	245	15,440	15,685 <i>33.86</i>	...	901	26,716	27,617 <i>49.43</i>	...	1,714	33,192	34,906 <i>49.76</i>
Ahmednagar ...	...	142	6,509	6,651 <i>41.00</i>	...	350	16,033	16,383 <i>51.40</i>	...	970	29,438	30,408 <i>51.88</i>
Poona ...	...	254	5,101	5,355 <i>52.23</i>	...	401	7,557	7,958 <i>46.60</i>	...	349	4,735	5,084 <i>32.77</i>
Násik ...	21	193	5,613	5,827 <i>46.96</i>	...	474	10,247	10,721 <i>55.58</i>	...	328	11,358	11,686 <i>51.11</i>
Sátára ...	...	...	2,571	2,571 <i>22.77</i>	...	1,395	3,759	5,154 <i>28.31</i>	...	110	4,332	4,442 <i>17.63</i>
Khándesh ...	...	...	...	367 <i>41.8</i>	...	131	5,916	6,047 <i>36.83</i>	...	391	9,734	10,125 <i>43.77</i>
Bijápur ...	...	88	11,500	11,588 <i>30.24</i>	...	433	17,792	18,225 <i>31.27</i>	...	683	19,224	19,907 <i>35.75</i>
Belgaum ...	...	...	578	578 <i>32.07</i>	...	9	566	575 <i>30.02</i>	...	48	836	884 <i>28.97</i>
Dhárwár ...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	21	922	47,312	48,622 <i>35.04</i>	...	4,094	88,586	92,680 <i>42.00</i>	...	4,593	112,849	117,442 <i>42.83</i>

NOTE.—The figures in italics show the percentage ratio to relief workers.

APPENDIX K—continued.

District.	Last week of March 1897.				Last week of April 1897.				Last week of May 1897.			
	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.
Sholapur ...	74	2,907	34,466	37,447 <i>47.62</i>	17	1,935	29,648	31,600 <i>34.32</i>	22	1,014	24,335	25,371 <i>30.57</i>
Ahmednagar ...	...	1,057	30,471	31,528 <i>53.59</i>	36	417	11,223	11,676 <i>21.06</i>	42	364	11,351	11,757 <i>26.49</i>
Poona ...	...	191	2,176	2,367 <i>21.65</i>	9	193	2,557	2,759 <i>13.82</i>	180	236	2,853	3,269 <i>14.63</i>
Násik ...	522	1,071	10,830	12,423 <i>56.97</i>	83	359	6,042	6,484 <i>32.85</i>	304	525	6,758	7,587 <i>42.38</i>
Sátára ...	33	616	3,703	4,352 <i>15.13</i>	...	349	2,246	2,595 <i>12.57</i>	37	161	1,626	1,818 <i>19.18</i>
Khándesh ...	126	610	8,007	8,743 <i>30.24</i>	117	335	5,535	5,987 <i>26.86</i>	50	269	5,217	5,536 <i>31.38</i>
Bijápur ...	42	876	16,047	16,965 <i>31.16</i>	10	811	15,122	15,943 <i>29.74</i>	14	723	6,238	6,975 <i>15.20</i>
Belgaum ...	...	16	1,248	1,264 <i>24.68</i>	2	217	2,369	2,588 <i>27.38</i>	19	209	2,506	2,734 <i>28.28</i>
Dhárwár ...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	797	7,344	106,948	115,089 <i>39.95</i>	274	4,616	74,742	79,632 <i>27.13</i>	668	3,501	60,878	65,047 <i>25.89</i>

NOTE.—The figures in italics show the percentage ratio to relief workers.

APPENDIX K—continued.

District.	Last week of June 1897.				Last week of July 1897.				Last week of August 1897.			
	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.
Sholapur ...	38	707	21,773	22,518 <i>29.84</i>	78	570	25,822	26,470 <i>32.74</i>	123	888	23,669	24,680 <i>30.36</i>
Ahmednagar ...	65	419	10,514	10,998 <i>33.94</i>	122	518	15,884	16,524 <i>27.63</i>	156	485	14,602	15,243 <i>30.85</i>
Poona ...	64	314	2,751	3,129 <i>19.78</i>	23	295	2,253	2,571 <i>23.55</i>	22	342	2,875	3,239 <i>24.19</i>
Násik ...	79	369	4,349	4,797 <i>45.23</i>	69	180	2,531	2,780 <i>40.66</i>	35	117	1,273	1,425 <i>38.92</i>
Sátára ...	8	145	1,152	1,305 <i>16.76</i>	24	172	1,227	1,423 <i>13.37</i>	12	42	405	459 <i>6.53</i>
Khándesh ...	31	156	2,483	2,670 <i>28.48</i>	49	238	2,447	2,734 <i>30.43</i>	29	71	797	897 <i>44.55</i>
Bijápur ...	23	1,488	5,886	7,397 <i>12.64</i>	50	3,280	8,993	12,323 <i>13.37</i>	41	4,671	13,716	18,428 <i>15.51</i>
Belgaum ...	19	97	954	1,070 <i>17.24</i>	109	174	1,684	1,967 <i>14.79</i>	69	277	2,185	2,531 <i>14.89</i>
Dhárwár ...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	327	3,695	49,862	53,884 <i>24.91</i>	524	5,427	60,841	66,792 <i>23.39</i>	487	6,893	59,522	66,902 <i>22.59</i>

NOTE.—The figures in italics show the percentage ratio to relief workers.

APPENDIX K—concluded.

District.	Last week of September 1897.				Last week of October 1897.				Last week of November 1897.				Last week of December 1897.			
	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.
Sholapur ...	135	851	21,773	22,759 <i>31.76</i>	37	222	5,680	5,939 <i>25.72</i>	2	2	85	89 <i>1.15</i>	24	41	637	702 <i>8.02</i>
Ahmednagar ...	258	861	21,346	22,465 <i>29.69</i>	51	88	1,686	1,825 <i>22.50</i>	...	...	...	...	...	...	...	...
Poona ...	16	417	2,519	2,952 <i>19.49</i>	21	267	1,721	2,009 <i>21.16</i>	9	247	934	1,190 <i>25.54</i>	...	...	...	...
Násik ...	30	84	998	1,112 <i>40.01</i>	...	...	...	...	...	...	...	...	...	...	...	...
Sátára ...	59	137	1,497	1,693 <i>16.12</i>	34	66	558	658 <i>12.81</i>	...	...	...	...	...	...	...	...
Khándesh ...	29	66	452	547 <i>45.69</i>	...	...	...	...	...	...	...	...	...	...	...	...
Bijápur ...	52	821	7,774	8,647 <i>12.17</i>	2	23	624	649 <i>14.27</i>	...	6	63	69 <i>7.66</i>	4	23	174	201 <i>25.77</i>
Belgaum ...	53	102	1,750	1,905 <i>12.77</i>	27	7	211	245 <i>12.45</i>	...	...	...	...	...	...	...	...
Dhárwár ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	682	3,339	58,109	62,080 <i>23.36</i>	172	673	10,480	11,325 <i>21.49</i>	11	255	1,082	1,348 <i>9.55</i>	28	64	811	903 <i>5.52</i>

NOTE.—The figures in italics show the percentage ratio to relief workers.

APPENDIX L.

REPORT ON FAMINE GRASS OPERATIONS.

No. Fam.
2771 of 1897-98.

From

A. T. SHUTTLEWORTH, Esquire,

Conservator of Forests, 1st Grade,
on Special Famine Duty;

To

THE CHIEF SECRETARY TO GOVERNMENT,
Revenue Department, Bombay.*Camp Visapur, Ahmednagar District,
dated 12th March 1898.*

SIR,

In obedience to the request contained in paragraph 5 of Government Resolution No. 1805—FAM., dated 14th October 1897, in the Revenue Department (Famine), I have the honour to submit the following detailed account of the measures adopted by me for the preservation of agricultural cattle in the famine-affected districts in the Presidency proper.

2. By an order contained in paragraph 8 of Government Resolution No. 8939, dated 11th November 1896, in the Revenue Department, I was appointed on special duty for directing the facilitation of the supply of forage and was furnished with the following general instructions for my guidance:—

I.—To ascertain where grazing is available and to take measures for the distribution of the animals entitled to admission to the forests in the manner most suitable in consideration of comparative convenience, and the supply available.

II.—To arrange with the Railway Companies for the conveyance of such cattle as may be carried by rail to places where forage is available.

III.—To facilitate as far as possible the supply of fodder by private agency, by, amongst other provisions, offering free of charge to contractors to cut and exploit any grass fit for the purpose in forest or waste lands: provided arrangements can be made to secure that it will be supplied at a moderate profit in the famine-affected districts.

IV.—To afford assistance to officers employed on duty in the famine districts who may ask for aid in procuring fodder for their own animals employed for the purpose of their travelling.

V.—To cut on forest or waste lands where necessary, or to purchase where it is available, grass, and to send it to places where it is needed at a charge which will be sufficient to cover all costs of its supply.

3. But before the receipt of this Resolution of Government I had already entered upon inquiries regarding available supplies of fodder, consequent to a telegram from the Private Secretary to His Excellency the Governor, which was put into my hand very fortuitously on the morning of the 9th November, while on the way to the Commissariat Transport lines at Poona, where I had been invited to witness the trial of a steam hay-baling press, a recent invention of the manufacturers Messrs. Jessop and Company of Calcutta. This telegram read—

“You are to be placed on special duty to enquire and make suggestions to Government regarding the supply and distribution of fodder grass for famine districts, and supply of grazing and removal of cattle to places where grazing is available. Orders will follow. You may begin your inquiries at once.”

4. The trial of the Phoenix steam hay-baling press was conducted in the presence of General Hobday, Chief Commissary General for India, Colonel Burlton Bennett, the Commissary General, Bombay Command, and other high officers of the Bombay Commissariat Department, by a member of the firm of its manufacturers; and the result seemed to be highly satisfactory in the production of a very tightly compressed and substantially fastened bale of hay, of comparatively small dimensions, viz., 2'6" x 2'8" x 1'3", containing about 80 lbs. of fodder grass of convenient shape, size and weight, to be carried by mules or pack bullocks, and likewise to economize railway freight, inasmuch as the largest possible number of bales with the maximum possible quantity of compressed grass can be stowed into a railway wagon, which is an important financial consideration, when railway freight is charged by a mileage rate on the wagon.

5. Apprehending how very serviceable this Phoenix press might be in a place where grass was available for compressing and baling it for transmission to the famine-affected area, I asked General Hobday, Chief Commissary General, on the spot, whether in the event of his department not requiring to use the press in the immediate future for baling hay for Military

purposes, it could be placed at the disposal of the Bombay Government in connection with famine grass operations; General Hobday replied that the press was not wanted to be worked during the current season, as grass was scarce, and therefore he would gladly hand it over to the Bombay Government, on the understanding that it would be replaced at the end of the season; and in a subsequent interview he very kindly informed me that he had instructed his office at Simla to report to the above effect in the event of an application for the press arriving through the Government of India. I then reported my proceedings in the matter to Government, and suggested that the loan of the press should be obtained; and within a very few days the Commissary General, Bombay Command, received an order by wire, consequent to the Government of India's Resolution in the Military Department, No. 5539, dated 13th November 1896, to hand over this Phoenix steam baling press to me. Colonel Burlton Bennett, at the same time, supplied me with 57,044 wire binders and 57,044 iron links, for fastening the compressed bales outturned by the press.

6. The Commissary General, Bombay Command, likewise favoured me at my request with the loan of a Dederick's patent full circle lever horse-power hay-baling press, of American manufacture, a pattern which had taken the chief prize at the Chicago Columbian World's Fair, after having kindly arranged to allow me to see it at work by bullock-power, compressing and baling hay, so that I might understand its mechanism; this press had been obtained for baling hay for the Suakin Expedition, and was then lying idle in the Commissariat Stores at Poona.

7. And the Chief Commissariat Officer, Poona, Lieutenant-Colonel Reilly, was equally kind in giving me, on my asking him for the loan thereof, 5 Conder's patent hay-baling hand presses, which he had then in his godown; and he had them worked in my presence, so that I might know how to use them.

8. Before proceeding further with my report I must in this connection add here that—

(i) a few weeks later on, when my operations had developed, and I was in need of more baling presses, Colonel Reilly caused 4 Conder's hand presses to be built for me, and a second-hand one which he purchased from a contractor, to be put into serviceable order for me, in the Commissariat Workshops at Poona;

(ii) that subsequently in the month of March 1897, when Messrs. Jessop & Co. of Calcutta had completed the manufacture of a second Phoenix steam hay-baling press for the Commissariat Department, Bombay Command, which was intended to be sent to Mhow, this press also was placed at my disposal by sanction of General Hobday, on the recommendation of Colonel Burlton Bennett, to whom I had applied for its loan, and it was sent from Howrah by the Commissariat Store-keeper, Calcutta, direct to Khardi Station, G. I. P. Railway, in the Thana districts, consigned to one of my officers, together with 130,000 galvanized wire binders and the same number of iron links;

(iii) that through the kind offices of Captain G. M. Westropp Commissary Grass Officer, Poona, I obtained the loan of yet another press from the Chief Commissariat Officer at Bombay, viz., “K. B. Bezouje's pattern screw press,” which was sent by him to Wasing Station, G. I. P. Railway, where it was erected;

(iv) and that later on in the month of June 1897, when the stock of galvanized wire binders and links which had been supplied originally with the No. 1 Phoenix steam hay-baling press was nearly exhausted, on wiring to Captain Westropp to assist me with a fresh supply of 20,000 binders and 10,000 links, Colonel Burlton Bennett kindly empowered this officer to comply with my requisition, and they were sent off at once by railway, and arrived in the nick of time to keep the compressing and baling operations going, and the despatch of baled hay to the famine districts in continuous flow.

9. It will be seen from the above account that through the cordial sympathetic co-operation of the officers of the Commissariat Department Government in the Famine Department were furnished, on loan, for their famine grass operations, with

- 2 brand new steam baling presses,
- 1 horse-power press of the 1st class, and
- 6 hand-power presses:

and were supplied, promptly, on payment, with 5 hand power presses, and with a very large number of galvanized wire binders and iron links for fastening the steam-pressed bales: and I would venture to submit that the thanks of Government in the Famine Department for this very welcome and valuable assistance are deserved by—

General Hobday, Chief Commissary General to the Government of India,
Colonel Burlton Bennett, Commissary General, Bombay Command,
Lieutenant-Colonel T. Reilly, Chief Commissariat Officer, Poona,
Captain G. M. Westropp, Commissary Grass Officer, Poona;

for without the agency of these presses it would have been impossible to have baled all the grass that had been collected during the months of November and December 1896 and January and February 1897, to have sent the enormous quantity of fodder, the particulars of which I will show further on, into the famine-affected districts, save at ruinous cost, if at all.

10. I am happy to be able to say that one opportunity was given me of making a small return to the Commissariat Department at Poona during the hot season, 1896, when their stock

of stacked fodder for consumption by the Transport cattle at Poona and the Artillery horses at Kirkee during the rains of 1896 had run very low, and they were put to straits to complete their requirements by furnishing them with—

	Bales.	Pounds.
From the Thána Pressing Depôts ...	7,675 =	604,435
„ the Khándesh „ ...	8,701 =	523,486
„ the Poona „ ...	361 =	29,910
Total ...	16,737 =	1,157,831

11. A quantity of this grass, I am told, came of very opportune service for despatch to the Frontier with Transport cattle and Military horses for the Tochi or Malakhand forces.

12. On the 9th November I addressed a circular letter to all Divisional Forest Officers requiring them to report—

I.—The name of forest areas in which fodder is to be had in fairly large quantities so as to justify the erection of hay-baling presses in the neighbourhood for the despatch of grass by railway to the famine-affected areas.

II.—The name of forest areas to which cattle might be sent from the more famine-stricken parts to graze and at the same time to state the maximum number of cattle which can be fed on particular areas.

III.—To make suggestions regarding the supply and distribution of fodder for famine districts, the supply of grazing and the removal of cattle to areas where grazing is available.

13. And on the 14th November I addressed a circular letter to the Collectors of Khándesh, Násik, Ahmednagar, Poona, Sátára, Sholápur, Bijápur, Belgaum, Dhárwár and Kánara, asking them to favour me with opinion on the following points:—

(a) The supply of grass and its distribution in their districts.

(b) The removal of cattle from their district to places where grazing is available elsewhere.

14. At the same time I informed these officers—

(i) That hay-baling presses were about to be erected and that bales of hay can be delivered at any railway station according to the requisitions of the Collectors.

(ii) That for the cattle of the Khándesh, Násik, Ahmednagar, Poona, Sátára, Belgaum and Dhárwár districts sufficient grazing may possibly be found for all local cattle of each district within the boundaries of that district in the talukas bordering the Sayhádri Mountains, but that the cattle from the Sholápur and Bijápur districts may possibly have to be sent by railway or otherwise into other districts for grazing, and possibly the western portion of the Belgaum and Kánara districts offers the best grazing areas for cattle which cannot be fed locally on imported fodder, &c.

15. Orders were issued early in November by the Commissioner, C. D., under Sections 155 to 157 of the Famine Code to open to the free grazing of all cattle reserved forest areas throughout the Central Circle, except those specially under reforestry: and similar orders were issued in the southern and northern revenue divisions.

16. Finally by order of Government Resolution No. 9006, dated 13th November 1896, in the Revenue Department, I was placed on special duty, for a period of six months, to be under the orders of Government in the Revenue Department, and to make inquiries regarding grazing and fodder for the cattle of the districts affected by scarcity, and was granted a special deputation allowance of Rs. 10 a day while so employed: and Mr. W. G. Betham was ordered to hold administrative charge of the Central Circle during my absence.

17. An office establishment of the following strength was sanctioned for me which I recruited from the Forest Department of the Central Circle:—

- 1 Head Clerk on Rs. 80 per mensem.
- 1 Chitnis on Rs. 60 per mensem.
- 2 Clerks at Rs. 40 each per mensem.
- 2 Clerks at Rs. 30 do.
- 1 Havildár on Rs. 10 per mensem.
- 4 Peons at Rs. 8 each do.

18. And the Accountant General was empowered to issue Letters of Credit in my favour on different treasuries, in order to provide funds for meeting the cost of famine grass operations. These funds were drawn by means of cheques issued by me, in Forest Department cheque-books, against my Letters of Credit, and it was arranged that I should keep a cash-book and render a monthly cash account, and submit accounts to the Accountant General monthly in the form of Conservator of Forests' accounts under the prescriptions of the Forest Department Code.

19. In the meanwhile the Collector of Khándesh had reported on the 6th November that though grass is very scanty in the plains of Khándesh and in the Deccan generally, it is plentiful in the hill tracts of Khándesh, and is being removed thence in considerable quantities for the use of cattle in the plains, and its quicker removal was necessary, if it is to be saved from destruction in the annual forest fires, and the Collector suggested that arrangements be made for getting the grass in the hill tracts of Edlabad and Sánda cut by labourers, to be pressed and sent off by rail to places where it may be most needed; and he asked for a sum of money to be advanced to the Divisional Forest Officer of East Khándesh to carry out these arrangements, which will, he said, provide employment for a large number of poor people in the extreme east of the Khándesh District and will result in saving the lives of cattle in the plains of Nagar and Sholápur. The Commissioner approved of and recommended for sanction the Collector's proposals, and they were sanctioned by Government in Resolution No. 9007, dated 13th November 1896, in the Revenue Department, with the orders: "Arrangements should be made, if possible, with contractors to cut and carry off some of the grass available; that it will not be expedient to attempt the distribution of the grass through State agency, that the stacks of grass should be sold, if possible, *in situ*, to traders who will themselves arrange for pressing the grass. If, however, traders will not buy it where stacked, the best arrangements feasible should be made for pressing it and moving it down to railway stations, where it can be sold to dealers or cultivators at the price it will fetch; not less than the cost should be taken, unless there is no prospect of getting so much. Care should be taken that only grass suitable for fodder is collected."

20. A sum of Rs. 5,000 was accordingly advanced to the Divisional Forest Officer, East Khándesh, for cutting and stacking grass in the Trans-Purna forests of the Edlabad range and in the Sánda-Satpuda forests; and the Commissary General of Bombay, at my request, very kindly caused the Jessop's Phoenix steam baling press and the Dederick bullock-power press, which had been placed at my disposal by his Department, as mentioned in paragraphs 5 and 6 above, to be loaded in railway wagons at the Poona Station and despatched by rail to Bhusáwal in the East Khándesh Division. Government approved of these proceedings in Government Resolution No. 9192, dated 20th November 1896, in the Revenue Department, Famine; and they directed me to make inquiries with regard to other presses, and to bring them ~~to~~ use in other parts of the Presidency where this could be done with advantage; and they added that no effort should be spared to secure as much grass, fit for fodder, as possible: but every endeavour should be made to induce private enterprise to take the place of departmental operations, as far as may be found possible; and all Forest officers were directed to use every effort to prevent the destruction by fire of grass fit for fodder. Fire-traces were to be made without delay wherever useful, and special guards were to be employed where they may be necessary for fire protection.

21. On the 14th November I had reported to Government that it would probably be unnecessary to move cattle of the Khándesh, Násik, Ahmednagar, Poona and Sátára districts outside the boundaries of their own districts, or at the furthest beyond the western slopes of the gháts bordering the different districts; and I mentioned the various places in the districts named above to which cattle can be removed for grazing; and observed that even if the situation should become very much worse than it then foreshadowed, the cattle of the Central Circle need not be taken south to Kánara; that cattle from Sholápur might be railed to the western gháts and then marched north through forests of Mokháda, Peint and Dánga, &c., and I urged that special orders should be issued by Government impressing upon officers the supreme importance of protecting the forests against fire, and directing that the Revenue officers should give all possible assistance in this duty.

22. Government in their Resolution No. 9270, dated 21st November 1896, in the Revenue Department, Famine, directed all Collectors to do their utmost to have village officers and the people generally made aware of the immense importance, in the current year, of saving the grass. "It should be impressed upon them that every fire will destroy the means of preserving the lives of many cattle and any one responsible by act or neglect for such a result will prove himself a public enemy."

23. On the 14th November I wrote to the Collectors of Khándesh, Násik, Ahmednagar, Poona, Sátára, Sholápur, Bijápur, Dhárwár and Belgaum, requesting them to favour me with such requisitions as they may have to make:

(i) for moving cattle from their districts—

- (a) by road,
- (b) by railway;

(ii) for the supply of fodder—

- (a) for cattle,
- (b) for district officers.

24. I entered into communication with the Conservators of Forests, N. C. and S. C. and arranged with them that the cutting and stacking of grass should be undertaken at different centres of available grass areas in the Thána, Belgaum and Dhárwár districts:—

(i) In the Northern Circle Mr. Wroughton kindly provided that grass should be stored at the Wangni, Badlápúr, Tityala, Khadavli, Váśind, Asangaon, Khardi and Kassára Stations on the G. I. P. Railway in the Thána District; and he personally superintended these operations with the help of Mr. Edie, Divisional Forest Officer, North Thána, and Mr. Krishnaji Babaji Phadke, Extra Assistant Conservator. The *modus operandi* was the same as had been adopted by me at the Thána Railway Stations during the famine of 1878. A Forest Dépôt Officer at each railway station was provided with a Salter's weighing scale and an advance of money, and notifications were published in all the surrounding villages stating that the Forest Department was prepared to buy grass by weight at the different railway stations at the rate of Rs. 2-8-0 per 1,000 lbs. or 4 annas per 100 lbs.; villagers, men, women and boys readily and cheerfully accepted the invitation, and grass was cut by them in the forest lands and waste lands and warkas lands and was brought to the railway station dépôt where it was weighed; a note was given to each person of this weight of grass, and payment was made to them on the spot for the quantity.

(ii) In the Southern Circle Mr. MacGregor, the Conservator, caused grass to be obtained and stacked in the same way, save that it was not weighed, but was received and paid for by the pulla or bundle, a measure of varying and indefinite weight:

(a) In the Belgaum District the Divisional Forest Officer Mr. H. Murray conducted the business.

(b) In the Dhárwár Division Mr. G. K. Betham started the work; and on his departure for Sind Mr. W. R. Woodrow took it up and carried it on vigorously.

(c) In the Northern Division of Kánara Mr. E. G. Oliver, Divisional Forest Officer, directed the grass collections.

(d) In the Central Division Mr. Haselden, the Divisional Forest Officer, undertook the operations.

(iii) In the Central Circle I had already arranged for cutting and stacking as under:—

(a) In the East Khándesh Division,—in the Edlabad and Trans-Purna forests, in the Sátputa forests of Ráver, Sáwda, Yával and Chopda ranges under the immediate direction of Mr. R. H. Madan, Extra Deputy Conservator and Divisional Forest Officer, assisted by Mr. Abdul Rasul Khajbaksh, Forest Ranger, 1st Grade, who was placed on special duty from the 21st November 1896, to look after the grass operations. It was arranged that grass from Chopda should be brought to a dépôt at the Jalgaon Railway Station for being baled.

(b) In the Poona Division under Mr. L. S. Osmaston, the Divisional Forest Officer,—in the ranges of Junnar, Khed, Mával and Mulshi bordering the Sayhádri mountains.

(c) In the Sátára Division,—in the Wái and Pátan ranges under the direction and control of Mr. A. D. Wilkins, the Divisional Forest Officer.

(d) In the Násik District,—in the ghát talukas of Násik, Igatpuri, Sinnar, Dindori, Báglan and Kalvan, Mr. G. R. Duxbury, the Divisional Forest Officer, ordering and directing.

25. Owing to a bad rainfall, which had been specially heavy during a part of the month of July, followed by a long break of rainless dry weather, the growth of grass was below the normal yield almost everywhere, even in the hilly talukas, and a great scarcity of fodder made itself felt in the champaign country in the Central Division during September and October; consequently by the beginning of November no grass was left in the forests of the plain talukas in the Central Division, save in a few closed forest areas; and grass had been very heavily removed from all the accessible localities, and had been grazed down in the hilly talukas neighbouring the western gháts of the Sátára, Poona, Ahmednagar and Násik districts generally, and even the parts of the Sátputa hills of Khándesh open to carts had been heavily denuded of grass, so that when orders were issued to collect grass departmentally, about the middle of November, it was too late, in so far as the country above the gháts was concerned, for a large supply to be obtained. In the Central Division there remained but two forest areas in Khándesh which had been untapped, and these were the only reservoirs of grass left—

(a) about 40 square miles in the Trans-Purna forests of the Edlabad range; and

(b) about 70 square miles in an inaccessible forest region in the north of the Sátputas of the Sáwda and Yával ranges.

26. In the Southern Circle the Belgaum District had been practically cleared of grass, and so had the Southern Division of Kánara.

27. After having arranged for the cutting and storing of grass, as reported above, and for the supply of funds to all officers to pay its cost; I looked around for baling presses to compress the hay preparatory to its despatch to the famine-affected districts. On the 18th

November I advertized in the leading newspapers of Bombay, Poona and Gujarát, English and Vernacular, inviting offers to supply baling presses; and I addressed the Public Works Department with a view to ascertain whether a number of hay presses which had been made over to that department for preservation after the famine of 1877 by order of paragraph 2 of Government Resolution No. 1096—P. 593 of 1878, dated 20th November 1878, in the Public Works Department, could be made available; but no trace of them could be discovered. However two old presses which had been used in the last famine were found subsequently by the Forest Department in the Kánara District, and were used by Mr. Haselden, Divisional Forest Officer, Southern Division, Kánara, later on, for baling hay.

28. In response to my advertisement—

(i) The Bombay Tramway Company, Limited, offered a press worked by coolie or bullock power for Rs. 750, which was purchased, and sent to the Badlápúr Station of the Thána District, where it was erected and started by Mr. Wroughton, the Conservator, personally.

(ii) Messrs. Richardson and Cruddas of Bombay offered me a hand-press for Rs. 350 capable of turning out bales measuring 48" x 29" x 25".

(iii) Messrs. Geo. Gahagan and Company of Bombay offered me a hand-press for the same price outturning bales 48" x 28" x 28".

29. Both these presses were bought and were sent also to dépôts in the Thána District, one to Khadavli and the other to Badlápúr. These two firms also offered to build and supply me with a new press weekly; but unfortunately the Plague, which declared itself in the city of Bombay about this time, dispersed a large number of their factory hands, so that they could not outturn new presses as rapidly as they anticipated; and as a matter of fact I was able only to purchase, up to the end of March 1897, 3 more hand-presses from Messrs. Geo. Gahagan and Company, and 2 more hand-presses of an improved type from Messrs. Richardson and Cruddas, 1 hand-press from a Pársi manufacturer Mr. Jehangirji Ratanji Patel of Mhow; and in the month of April 1897 one English-made hand-press from Messrs. Macbeth Brothers and Company of Bombay, which was sent into the Sátára District, and worked there until the famine grass operations were completed.

30. Government in the meanwhile provided me with a reserved carriage, both on the G. I. P. Railway line and on the Southern Marátha Railway line, which was hauled at the cost of Government, and which proved of great convenience, enabling me to visit forest grass dépôts, those at which grass was collected and baled or "depôts of despatch," and those at which baled grass was received for distribution or "depôts of supply."

31. Having started the famine grass operations, or having arranged preliminaries for an immediate start in all directions where it was possible to obtain good grass of sufficient quantity to be moved into the famine-affected districts, and having handed over, on the 25th November 1896, to Mr. W. G. Betham, Deputy Conservator of Forests, First Grade, the officer appointed by Government to relieve me, the administrative charge of the Central Forest Circle, I started from Poona in my reserved carriage for Bhusával Station in the East Khándesh District on the 28th idem, in order to arrange about the erection of the Jessop's Phoenix steam baling press, and the Dederick's bullock-power press in suitable localities for baling the hay for the cutting and stacking of which funds had already been provided to the Divisional Forest Officer, East Khándesh, as stated in paragraph 20 above. The Collector of Khándesh was at Bhusával when I arrived there and from him I learnt that no grass had been cut in the Sátputa hill tracts of Sáwda and Yával, because the Tádvi Bhils who inhabit the villages placed along the lower boundary of the Sátputa hills in this part of the district had for the present other means of subsistence and they would do no grass-cutting so long as they had sufficient food for the day, and moreover it had been represented to him that these Bhils would resent any attempt to send outside or foreign labour into the Sáwda and Yával Sátputas to cut and exploit the grass, which they would not cut, and that they would probably create a disturbance and proceed to violence; and therefore he suggested that I should remove the Phoenix steam baling press to some other district. This was a heavy blow at the very outset of my operations, for it closed against my efforts to supply fodder grass to the famine districts the only large area, 70 square miles, in the Deccan in which there was practically any substantial quantity of available grass, and which had not been touched by exploiters for local supply. However, I did not give it up as a bad job, but leaving the Phoenix press with its accessories in the three railway wagons in which they had come from Poona in charge of the railway authorities at Bhusával, I sent the Dederick Press to the Nargaon Station, and followed it there, and saw it unloaded and erected on a plot of waste land immediately outside the railway premises, and I started it at work compressing and baling the grass which had been cut and stacked in the Trans-Purna forests of Edlabad.

32. At the same time I looked round to see in what other district a sufficiently large stretch of country containing grass available for exportation within a reasonable distance of a railway line could be found, to admit of such a continued undertaking as would justify the moving to it, and the use there, of the Phoenix steam baling press lying idle at

Bhusával: about this time I received Government Resolution No. 9618, dated 30th November 1896, in the Revenue Department, Famine, which sanctioned my proposal to collect grass in the Thána District for being baled and sent to the famine districts, "on the understanding that I had satisfied myself, as far as is practicable, that the Deccan (including Southern Marátha Country) cattle are likely to eat the grass proposed to be collected below the gháts and that private traders will not undertake the supply of it."

33. In their Resolution No. 9158, dated 18th November 1896, in the Revenue Department, Famine, paragraph 7, Government had remarked as follows:—

"Government believe that in the famine of 1876-77 the Deccan cattle, even when dying of starvation, refused to eat grass from Kánara."

and the same belief prevailed in the Revenue Department to a large extent as regards the grass of the Thána Collectorate; and there was good ground for this belief as it was told me by several high officers in the Revenue and Public Works Departments that in the preceding famine the cattle of the Sholápur and Bijápur Districts would not eat Thána grass on any terms, and that the main portion of the grass which had in 1877 been sent up to the Deccan from the Thána District had been burnt as useless after the famine had disappeared, for no one would take it, even free of charge. But I knew that grass from the Thána District is sent into the City of Bombay largely every year and is eaten there by horses, cart-bullocks and milch cattle, and that the cart-bullocks which I had often taken all over the Konkan from the Poona District with me on my tours of forest inspection, ate the grass of the country below the gháts without any hesitation and with much advantage to themselves; and further that the removal of timber and other forest produce in the Thána Districts, an exceedingly heavy traffic, is carried on mainly by carts drawn by bullocks and buffaloes fed chiefly, and kept in hard working condition, on Thána grass. Anyhow there was no time for hesitation or for experiments as the grass crop was drying in the forests and in the waste lands of Thána every day it was left cut and unharvested; and I was confident that so long as the grass was not quite dry and lignified it was edible, and would be eaten readily by the Deccan, or any other cattle, and that the reason why the Konkan and the Kánara grasses were rejected by the Deccan cattle during the famine of 1877 was to be found in the fact that grass cutting was not commenced at that time until the end of January, and it was carried on throughout the hot weather to the end of May, when the blades of grass had become brittle sticks and had no succulence or nutritive property left in them.

34. The only expansive grass-bearing area close to railway carriage, and with no prohibitively long railway distance from the famine districts, that now remained open was the Tánsa Lake Catchment in the Thána District; and dealers had already been offering to cut and stack grass for Government up to a limited quantity on the Tánsa Catchment at a cost of from Rs. 5-8-0 to Rs. 6-8-0 per 1,000 lbs., so I entered into communication with the Forest Officers of the Northern Circle for grass to be cut and stacked, on the same terms as were obtaining elsewhere, at suitable centres or depôts, upon the Tánsa Lake Catchment for subsequent pressing and baling; and finally on the 22nd December 1896 I had a conference with the Local Forest Officers at the Atgaon Railway Station, when grass-cutting arrangements were started on such an extensive scale as to warrant the introduction of a Phoenix steam-baling press. Mr. Ardashir Nasarwanji Master, Extra Assistant Conservator 3rd Grade, was placed in immediate superintendence; local villagers and imported labour collected and stacked the grass, and payment was made by weight, at Rs. 2-8-0 per 1,000 lbs.

35. At the end of December 1896 Mr. Wroughton, Conservator, N. C., took himself, and his European Officers, off the grass operations, in order that the Forest Conservancy and work of the Thána District might not be interrupted, and from the 1st January 1897 he placed

(i) Mr. Krishnaji Babaji Phadke, Extra Assistant Conservator of Forests, in charge of all the grass operations at the different railway station grass depôts in the district, viz Wangni, Badlápúr, Khadavli, Titvála, Vássind, Asangaon, Khardi and Kasára; and

(ii) Mr. Ardashir Nasarwanji Master, Extra Assistant Conservator, in charge of the grass operations upon the Tánsa Lake Catchment having the Atgaon railway station as its base and from which the bales were to be exported. Both officers were directed to report to me direct.

36. In the meanwhile the Divisional Forest Officer of East Khándesh Mr. R. H. Madar with Mr. Abdul Rasul Khajbaksh, Ranger, 1st Grade, had, in the month of December 1896 proceeded into the Sápuda high lands, at the back of the Tádvi Bhil country, in endeavours to open this portion of the Sápudas to communication by carts, there being no way of access to it or of egress by carts; and two Foresters had taken a party of grass-cutters from the west into the Yával Sápuda forests, and had commenced to cut and stack grass there; and soon afterwards the Tádvi Bhils having eaten all their stored food, and being forced to move in quest of subsistence, began to apply to the Forest Officers for work in grass-cutting; and after a few of the tribe had come into the hills the greater portion of the remainder flocked there also with their families, and worked peacefully and industriously at cutting and stacking grass so that 35 lakhs of pounds were harvested ready for removal up to the middle of February 1897, when I ordered the operations to be stopped, as the grass was then become brittle and lignified, and later cuttings would, probably, have been refused by the cattle in the plains.

37. With a view to test whether private traders would at that time undertake the supply of grass to the famine districts I inserted an advertisement in the leading English and Vernacular newspapers of the Deccan and of Bombay, consequent to a letter to my address from the Collector of Ahmednagar, requesting that I would establish depôts of grass in each taluka containing at least 50,000 pullis for the use of local officers, and that I would stock three depôts between the Jámkhed Taluka and the Pimpri Railway Station, with about the same quantity for feeding village cattle, in case that cattle were to be marched in thousands to Pimpri Station from the Jámkhed Taluka to be entrained for the Khandála Gháts or Khándesh. The advertisement ran thus:—

"Tenders are invited for the supply of fodder grass at the following places in the Ahmednagar District:—

				Lbs.
Jámkhed...	...	...	...	75,000
Karjat ...	...	...	...	75,000
Shrigonda	...	...	...	75,000
Pimpri Station	...	...	...	50,000

The rate at which the grass can be supplied and on what date delivery will commence and by what date it will be completed should be stated."

38. And the tenders I received were the following:—

1. Hari Moreswar of Talegaon Dabháda in the Poona District to supply grass—quantity not stated—at the Pimpri Railway Station only at Rs. 35 per 1,000 lbs.

2. Raoji Janoji Gokhale of Dhairi in the Haveli Taluka of Poona District to supply 200,000 lbs.

(i) On a cart-road 3 or 4 miles from the Poona Station at Rs. 17 per 1,000 lbs.

(ii) At the Poona Railway Station at Rs. 22 per 1,000 lbs.

N.B.—If the grass was to be baled then Government were to supply hand-baling presses and there would be an additional charge of Rs. 4 per 1,000 lbs. grass.

3. Ananta Laxuman Thorate of Pulachiwadi, Poona City, to supply 275,000 lbs. of grass at the Poona Railway Station at Rs. 19 per 1,000 lbs.

4. Ramchandra Dhondu Thákar of Dhairi, Taluka Haveli, to supply 300,000 lbs. of grass.

(i) At the village of Dhairi at Rs. 20 per 1,000 lbs.

(ii) At the Poona Railway Station at Rs. 25 per 1,000 lbs.

N.B.—If the grass is to be baled then Government are to supply hand-baling presses and there will be an additional charge of Rs. 3 per 1,000 lbs. on the grass.

5. Peroshaw Viccaji Bhiladvala of Bhilad in the Dáhanu Taluka of the Thána District to supply 200,000 lbs. of grass, baled by hand presses, loaded in wagons at the Bhilad Station, B. B. & C. L. Railway, at Rs. 11 per 1,000 lbs.

39. These tenders showed clearly that no grass dealer or trader would undertake to deliver grass at any place in the famine districts at a distance from a railway station, that only one trader offered to deliver grass at a railway station in the famine district, and in that case the price charged for it was, at the time, prohibitive, being Rs. 35 per 1,000 lbs.: and seeing that such a high price was demanded for grass to be supplied on immediate payment, it followed, inferentially, that on no terms would grass be sent into the famine districts on speculation, or trade venture. I reported to Government in the matter, and stated my conviction that no dealers will buy grass of Government, or from other sources, in the Khándesh or Thána Collectorates, or elsewhere, in order to trade with it at Bijápur, or Sholápur, or in the eastern parts of the Ahmednagar or Poona Districts, unless he has secured a purchaser beforehand—a very improbable chance if the transaction is to be any way approaching in magnitude the actual want and demand, or unless Government will buy the grass at its destination: and I proposed—

(1) that the grass baled and to be baled by me in the Khándesh and Thána Districts should be railed to the famine districts;

(2) that this grass should be sold by retail at railway station depôts in the famine districts to village cattle owners for annas 12 per 80 lbs.

40. In their Resolution No. 10201, dated 12th December 1896, Revenue Department, Famine, Government gave me full authority to despatch the grass by rail to the larger railway stations in the affected districts if suitable offers are not made to buy it at an earlier stage. "He should make the best arrangements he can to dispose of grass sent to those places at a fair price, such as, if possible, will cover all charges: there should be no attempt to exclude dealers who, on the contrary, should be encouraged to take part, as far as possible, in the distribution of the grass;" and Government added "as before pointed out however the great bulk

of the cattle can be saved only by being taken to the grazing grounds, and to this point special attention should be paid. Importation of grass is intended only for those which must be kept in the district."

41. I proceeded to Bijápúr on the 11th December 1896, where the Commissioner, S. D., kindly arranged for me to meet the local Grass Committee, and he presided at the meeting and the discussion that took place, and I submitted a report to Government who passed a Resolution No. 10603, dated 24th December 1896, in the Revenue Department, Famine, thereupon, which stated that it was neither practicable nor expedient to sell grass at fixed rates to particular individuals, and also that the only equitable arrangement is to sell the grass at the stations, either by auction or under some other system of free competition; and they added "there is no objection to advances being made in grass in lieu of cash subject to the general rules for Tagái advances. The amount of the loan should be calculated on the price of the grass at the railway stations, if there is competition for it; otherwise on the actual cost of the grass delivered at the railway stations."

42. From Bijápúr I proceeded to Dhárwár, and saw the Divisional Forest Officer, Mr. G. K. Betham, about grass cutting and collecting in his district. Mr. Betham had called all his Range Forest Officers to meet me, and we thoroughly discussed the question; and the operations were thenceforward carried on with great vigour, particularly in the Dhárwár Táluka; then I proceeded to Nagargali in the Kánara forests, and met the Conservator, Southern Circle, and arranged with him generally about the famine grass operations to be carried on in the Southern Circle. Mr. MacGregor issued orders to the Divisional Forest Officers of Belgaum, Dhárwár, N. D. and S. D. Kánara, in the matter.

43. One wagon load of Kánara grass was sent from the Belgaum and one from the Kánara forests, consigned to the District Board at Bijápúr, who had asked for it, and had agreed to pay its cost, in order to test not only whether the cattle of the Bijápúr District would eat the grass, regarding which some doubts had been raised, so that I had been requested by Government, *vide* paragraph 4 of Government Resolution No. 10603 of 24th December 1896, Revenue Department, Famine, "to undertake no importation on a large scale without satisfying myself that the grass imported is likely to be suitable for fodder," but also whether it would find sufficient favor with the local traders and professional stock farmers to induce them to import grass for local supply from the Belgaum and Kánara Districts. Although this grass, and all the grass which was sent by my directions subsequently, to the city of Bijápúr, and to the Bijápúr District, was eaten readily and without any hesitation by the cattle of that part of the country, and was bought for the purpose when sent to depôts at railway stations on the Gadag-Hotgi section of the Southern Marátha Railway, no trader would embark in the speculative enterprise of importing grass from the Kánara, Dhárwár, or Belgaum Districts. The Collector of Bijápúr in his letter No. 7 of the 4th January 1897 informed me that the Bijápúr cattle eat greedily the grass imported from Belgaum and Kánara. "I saw samples of all the grasses sent given to some fifteen head of cattle, and it was consumed by them without a moment's hesitation." I may here mention that although attempts were made, in obedience to the orders of Government, to sell the grass which had been cut and stacked departmentally, at the centres of available grass supply, to traders and dealers, so that they might undertake its transmission to, and distribution in, the famine districts: all such efforts failed. An European merchant of Hubli negotiated with Mr. MacGregor, the Conservator, Southern Circle, for the purchase of the whole of the grass cut and stacked in the Dhárwár District, but after proceeding to Bijápúr to prospect as to the possibilities of selling the grass in that city and district at profit, he withdrew.

44. Some merchants in the Thána District had offered to the Collector to deliver grass at certain railway stations in that district, at rates varying from Rs. 8 to 10; and the Collector had forwarded these tenders to me for early disposal; and I submitted them to Government, who, in their Resolution No. 10202 Famine, dated 12th December 1896, stated "that Government do not approve of his purchasing fodder from dealers in the district where it is grown. They will make their own arrangements to sell it to consumers, and it is likely to find its way into affected districts if it can be sold there with profit. The purchase of grass in small quantities from villagers is equivalent to a departmental cutting and is not open to objection."

45. I had addressed Government regarding the rates of freight to be charged by the Railway Companies upon the conveyance of grass, baled and loose, and of cattle into the famine districts; and it was finally decided, under the approval and sanction of Government, that the following rates should be introduced from the 1st December 1896:—

I.—The Great Indian Peninsula Railway.

(a) For fodder conveyed into the famine districts whether by Government or by private enterprise per wagon, irrespective of weight and without any terminal charges—

			Rs.	a.	p.
1st 100 miles	...	...	0	2	9 per truck.
100 to 200	...	...	0	2	6 do.
Over 200 miles	...	...	0	2	3 do.

(b) For cattle—3 annas per wagon per mile with 2 attendants free in each wagon.

II.—The Southern Marátha Railway.

(a) For fodder—

(i) Maund rate—

For pressed grass.

1 to 400 miles	...	...	$\frac{1}{5}$ pie per maund per mile.
401 miles and above	...	...	$\frac{1}{8}$ pie per maund without terminals.

For loose grass.

$\frac{1}{5}$ pie per maund per mile with terminals.

(ii) Wagon rates—

One anna per 4-wheeled wagon per mile without terminals.

(b) Cattle rates—

4 animals or less in a wagon	...	...	1½ annas per mile per wagon equivalent to 4½ pies per head per mile
More than 4 in one wagon	...	...	3 pies for each animal in excess of 4 per mile.
Single buffalo or bullock or single cow	...	...	4 pies per head per mile.

III.—Bombay, Baroda and Central India Railway.

For pressed or loose hay.

			Pie per maund.	
First 50 miles	...	...	0·25	} Plus a terminal of 6 pies per maund.
Next 50 do.	...	...	0·23	
„ 50 do.	...	...	0·23	
„ 50 do.	...	...	0·18	
Over 200 do.	...	...	0·15	

Subject to a maximum charge of 3 annas per B. G. truck per mile and 2 annas 3 pies per M. G. truck per mile.

For cattle.

3 annas per vehicle mile for as many cattle as can be safely loaded.

December 1896.

46. On the 8th December I paid a brief visit to the Budlápúr Railway Station, G. I. P. Railway, in the Thána District, where the hay press purchased from the Bombay Tramway Company, Limited, *vide* paragraph 28 *ante*, had been erected by Mr. Wroughton, Conservator of Forests, N. C., and was being worked under his personal direction, assisted by Mr. A. G. Edie, Divisional Forest Officer, North Thána. This press was said to be worked either by bullock or coolie power, preferably the former, and if properly worked, to be able to turn out 40 bales daily of the average weight of 250 lbs. each; but subsequent experience in working this press by bullocks throughout the season showed the daily outturn of bales to be much less, and the weight of bale to be 50 per cent. lower than the above figures, owing probably to the grass being drier; a sample bale weighing only 120 lbs. was sent to Sholápúr; and one wagon-load of 52 bales containing 6,240 lbs. of grass was despatched to Bijápúr from the Budlápúr Station. On the 20th December 1896, I again visited the Budlápúr Station, and also the grass depôts at Wángni, Titwála, Khadaoli, Wásind, Asangan, Atgaon, Khardi and Kassára. During this month a "K. B. Bezonjee's Pattern Screw Press" received on loan from the Commissariat Department in Bombay had been erected at the Wásind Station, and one wagon-load of 53 bales of its bales, containing 4,125 lbs. of grass, was despatched from Wásind to the Yeola Railway Station in the Násik District as a pilot consignment to feel the way. Two hand-baling presses obtained from Messrs. Richardson and Cruddas and Geo. Gahagan and Company, respectively, of Bombay, were erected at the Budlápúr and Khadaoli Stations in the Thána District, and were started at compressing and baling.

47. The Dederick Baling Press worked by bullock power had been manufacturing bales steadily at the Nargaon Railway Station in East Khándesh throughout December, but it came to grief on the 29th, the cogwheel pin having broken, which was sent to the Railway Workshop at Bhusáwal to be renewed; and of the five hand-baling presses constructed by Messrs. Richardson and Cruddas, of Bombay, which had very generously been put at my disposal, free

charge, by Messrs. Sorabji and Cowasji Dubash, A'bkari contractors of Khándesh, four were sent to the Jalgaon Railway Station, 261 miles from Bombay, and set up there to bale grass carted 60 miles to the depôt from the Chopda-Sátputa forests, while the remaining one was placed at the Ráver Railway Station, 298 miles from Bombay, and was worked, turning out 18 bales daily of an average weight of 1,000 lbs. grass.

48. It was found that villagers wet the grass which they brought to the depôts for sale so as to make it weigh heavier and that when compressing and baling was given out to piece-work and paid according to a sliding scale regulated by the weight of the bale the village labourers, when not closely watched, put earth and stones inside the bales to make them weigh heavier.

49. The exportation of bales of hay to the famine districts during the month of December 1896 was as under :—

From the Nargaon Press Depôt in Khándesh 7 railway trucks containing 518 Dederick bales to—

1	Kopargaon Station of Ahmednagar.
2	Bijápur " of Bijápur.
3	Sholápur " of Sholápur.
4	Bársi Road " do.
5	Jeur " do.
6	Kem " do.
7	Madha " do.

and from the Budlápúr Press depôt in the Thána District 2 railway wagons of bales, viz., one to the Sholápur Station of Sholápur and the other to Bijápur Station of Bijápur and a third wagon load was sent to the Yeola Station of the Násik District as pilot consignments and feelers.

50. Four hand presses had likewise been started in the Poona District and one had been sent to Kambarganvi in the Dhárwár District.

51. This was not a bad beginning, seeing that this business was an entirely new departure, and that baling presses had to be discovered and obtained and unskilled village labour had to be taught how to handle and work them. But the sales of grass sent to the famine districts, save at Bijápur, were not very encouraging at this time. One wagon-load of 60 bales containing 5,240 lbs. of grass, the railway freight on which from Nargaon to Kopargaon had amounted to Rs. 25-3-0, was put up to auction sale by the Mámlatdár who reported that Rs. 27-6-0 was the highest bid made; but the actual cost price of the grass had amounted to Rs. 72-15-0 including the railway freight for the journey of 161 miles, so I directed the Mámlatdár to have the auction reheld on the 23rd December; and I proceeded to Kopargaon in person on that date to be present. Mr. R. B. Stewart, 1st Assistant Collector of Násik, and the Mámlatdár of Yeola accompanying me from the Yeola Station, the sale was held, the attendance not being very large, and the grass knocked down to a bid of Rs. 78 made in behalf of the Yeola District Board: this was the first auction sale of famine grass.

January 1897.

52. The Jessop's Phoenix steam-baling press, with accessories, which had been left in the Bhusáwal Station Yard on the railway trucks in which they had been brought from Poona, was moved by rail to the Ráver Station, early in January 1897, as a considerable quantity of grass had been cut and stacked in the Sátputa forests of Sávida and Yával ranges, and a cart-road had been made practicable for the removal of grass from these forests to the Ráver Station: the Press was unloaded and moved to a field adjoining the station premises where it was erected; and it started baling on 18th January 1897, and outturned 128 bales during that day. The G. I. P. Railway authorities preferred a bill for demurrage and wharfage charges for the 3 trucks upon which the steam press and plant were detained at the Bhusáwal Railway Station, while attempt was being made to have the grass in the Sávida and Yával Sátputas cut and stacked and the country made accessible to carts. The bill amounted to Rs. 1,040, but on representing the facts of the case to the Agent of the Company, through the General Traffic Manager, the charge was remitted. A hand-baling press was likewise in employment, throughout the month at Ráver.

53. During the month of January the baling operations were carried on at the Nargaon, Jalgaon and Ráver depôts in the Khándesh District; at 4 depôts in the Junnar, Khed, Mulshi and Mával ranges of the Poona District; at the Budlápúr Depôt a bullock power and a hand press were at work, while at the Khadaoli and Wásind depôts in the Thána District hand presses worked all the month; and at Hozgoli in the Belgaum District, by means of a Conder's Press, sent from Poona, a considerable quantity of baling was done. The bullock power press having finished up the grass at the Budlápúr Depôt was moved by me to Wángui at the middle of the month and was started at work there.

54. The exports of grass to the famine districts were conveyed in 49 railway wagons as under :—

From Station.	To Station.	Number of wagons.
Budlápúr	Jeur	6
"	Kem	6
"	Bársi Road	3
"	Madha	3
"	Sholápur	1
"	Mohol	1
"	Diksal	2
"	Bijápur	5
"	Teloji	5
"	Yeot	1
"	Pomalwádi	1
Jalgaon	Pantambe	1
"	Kopargaon	2
"	Yeola	2
"	Vámbari	1
Ráver	Yeola	5
"	Lákh	1
"	Bolápur	1
"	Chitali	1
"	Bársi Road	1
		49

and in addition thereto 8,300 lbs. of grass was sent to Bijápur and 13,600 lbs. to Bádami from the Belgaum forests, and 108,250 pullies of grass to Bijápur and 23,120 lbs. to Bádami from the Dhárwár forests.

55. And 5461 bales containing 5,04,428 lbs. of hay remained in stock in the press depôts ready to be sent into the famine districts, where the sales had not been at all brisk, and 489 bales only had been sold up to the end of the month, as the pinch for grass had not yet come, there being balances of karbi left in many villages, and of fodder grown under well irrigation.

February 1897.

56. During the month of February 1897 the steam press at Ráver had to remain idle for some days as the valves required to be repaired, which was done at the G. I. P. Railway Workshops at Bhusáwal: and great difficulty was experienced in obtaining carts to proceed into the Sátputa forests for grass, owing to the difficulties of the road, and the wild inhospitable character of the country, so that the Ráver Depôt was very scantily provided with Sátputa grass. The hand press from Budlápúr Station was removed to the Titwála Station, as all the grass at the depôt at the former had now been compressed and baled, and the hand press was started at the Titwála Grass Depôt during the second week of the month. Two new hand-baling presses of a more powerful and improved type received from Messrs. Geo. Gahagan and Company were erected by me at Khardi Station on the 12th and were started to bale the 3 lakhs of pounds of grass available here. Four hand hay-baling presses were sent from the Jalgaon Depôt to the Atgaon Railway Station, and were carted out to Rohida upon the Tánasa lake catchment, and were set up there to bale the grass which had been collected. A screw press and 5 Conder's hand presses commenced to bale grass in the Kambarganvi Depôt in the Dhárwár District during the third week of this month; and a hand-baling press was sent from Gahagan and Company of Bombay to this depôt to assist, as the collection of grass was large. The hand press left at Jalgaon broke down; its ratchet wheels were sent to Bombay to be renewed. Grass from the Chopda-Sátputa forests was sent during the last week of February to a new steam cotton factory which had only just been erected at that town to be baled by its powerful presses. A Conder's press was sent to Londa in North Kánara for baling the grass there and commenced at the Tinaighát, and another Conder's hand press was sent to the Sátára District for use there. A new type hand-baling press obtained from Messrs. Richardson and Cruddas of Bombay was sent to Assangaon Station and also a press from Mhow; and a new improved type hand-baling press was sent to the Wángui Station in the Thána District from Messrs. Richardson and Cruddas of Bombay. The plague in the city of Bombay had delayed the receipt of these presses, as many of the workmen had deserted the factories at Bombay. In S. D. Kánara baling grass was started by aid of two screw presses.

57. The export of bales of hay to the famine districts during this month was not heavy as there was little demand, at cost price, for grass. I visited the depôts in the Sholápur District, and was present at an abortive auction sale held at Bársi Road Station, the attendance being small, and bidding unremunerative. I also went to Bijápur where grass was selling fitfully; and from there I went to Kambarganvi and inspected the baling operations in the Dhárwár District. Twenty-seven wagon-loads of bales were sent into the famine areas as under :—

To.	From.	
District.	District.	Wagons.
Sholapur ...	... Sholapur...	... Thána ...
" ...	... Hotgi ...	" ...
" ...	... Bársi Road ...	" ...
" ...	... Mádha ...	" ...
Ahmednagar	... Pimpri ...	" ...
" ...	... Belwandi ...	" ...
" ...	... Visapur ...	" ...
" ...	... Sarola ...	" ...
" ...	... Nagar ...	... Khándesh
" ...	... Ráhuri ...	" ...
" ...	... Belapur ...	" ...
" ...	... Chitali ...	" ...
" ...	... Sanvatsar...	" ...
" ...	... Kopergaon ...	" ...
Násik ...	... Nándgaon ...	" ...
" ...	... Manmád ...	" ...
		27

58. Only about 680 bales of grass were sold in the Sholapur, Ahmednagar and Poona districts during the month, no great demand having yet set in and the price at cost rates being seemingly more than the village cattle owners could afford to pay. There were nearly 12,000 bales on hand in the press depôts ready for despatch to the famine districts. All further grass cutting and collection was stopped in every district by a written order issued by me about the 14th February, as the grass had, by this time, become very dry and brittle, and it was fast arriving at the stage when cattle will not eat it, as there was no nutriment left in it.

March 1897.

59. I had been in correspondence with the Commissary General, Bombay Command, for the loan of a second Jessop's Phoenix steam hay-baling press, which was intended for Mhow, and Colonel Burlton Bennett wrote to me on the 12th March, informing that the Commissary General, Bengal Command, had despatched from Howrah the brand new steam press to the Khardi Railway Station, Thána District, on the 8th, together with a full supply of galvanized wire binders and links. The trucks containing the press-plant on arrival at Khardi were moved to the next station, Atgaon, where the engine, boiler, &c., were unloaded and were then transported to Rohida, on the Tánša lake catchment, over the road that had been made by Messrs. Glover and Company, the contractors for building the Tánša dam. The machinery was erected at Rohida, at a distance of about 7 miles from the Atgaon Railway Station. Firewood was obtained from the neighbouring forests, and coal from the G. I. P. Railway Company from Wásind, and the steam press No. 2 was started baling Tánša grass on the 31st March 1897. Hand-baling presses were moved during the month from railway station depôts in the Thána District, where the baling of grass had been completed, to other stations where large stacks of loose grass were still remaining: thus the depôts at Wángni, Budlápúr, Titwála, Khadaoli were baled out, and pressing power was concentrated at Wásind, Assangaon, Khardi and Kassára. A disastrous fire occurred on the night of the 20th during the Holi festival, at the Sashivli Depôt, on the Tánša lake catchment, when 389,339 lbs. of grass were burnt. This depôt was far away from any village, and broad fire traces had been cleared all round the stacks of grass, but the watchmen had gone, without leave, to villages near by to participate in the Holi celebration, the fire was clearly the work of an incendiary as stacks were evidently fired in several places, but all efforts made by the Mámlatdár of Sháhápúr and the police to discover the offender failed. It is very difficult to assign a cause for this fire. It could hardly have been the work of grass dealers, because there was absolutely no move on the part of private traders to send grass for sale into the famine districts, and they had no cause to regard my operations with jealousy: on the contrary they regarded my work in friendly spirit, and were always ready with any help they could give. The grass dealers are also the timber dealers of the district, and they were old friends of mine, and welcomed me whenever I appeared at the different stations. I had tried often and often to induce them to undertake the despatch of grass into the famine districts, and had even gone to the length of offering them the whole of my collected grass, at railway stations, at cost price, with the loan, free of charge, of my baling presses to compress and bale, but they had met these overtures with the replies "that it would not pay," "they had no agencies in the famine districts," "who will bring grass there to feed cattle when bullocks and cows are being sold for Rs. 9 a dozen"? the value of their hides; and the dealers had offered me their stacks of grass, at or near railway stations, at virtually cost prices, because they complained that the heavy cost of railway freight to the famine districts, as well as the uncertainty of a sale when the grass was landed there, prohibited them from exporting the grass themselves. However the orders of Government precluded me from buying this grass. I am glad to be able to add that the most, if not all of it, found its way to Ahmednagar and the Deccan country later on, in May and June, when there was a fierce demand for grass in those parts. At the Holi time there is much drinking, and a general state of drunkenness among Kolis and other villagers in the Konkan, but it is difficult to believe that the Sashivli grass depôt was burnt in a drunken freak, to make a Holi bon fire, seeing that the drunken offender would have

had to walk 4 miles from the nearest village through an uninhabited stretch of open forest to the depôt. Nearly one thousand rupees worth of grass was destroyed by this fire—grass that would have saved many head of cattle in the famine districts. I visited the scene two or three days after the fire while the ashes were still smouldering.

60. All the baling of grass had been completed in the Poona District, and the Conder's presses were sent away to other districts, Sátára and Dhárwár. A new English-made hand press was purchased this month from Messrs. Macbeth Brothers and Company of Bombay and was sent to the Karád Station, Southern Maráthā Railway, for employment in the Pátan Táluka of Sátára District where over 200,000 lbs. of grass were stored.

61. In the Khándesh District the steam press was working at Ráver by fits and starts, not in honest continuous employment, as the grass from the Sátputas was coming into this depôt very slowly, for the cartmen of the district would not be attracted to this inhospitable rough country of the Sátputas even by offers of enhanced rates, and no contractor would come forward to bring out the grass except at a cost which would have raised the price of baled grass landed in the famine district to a prohibitive price. I went to Jalgaon to the Collector's camp to ask the assistance of the Revenue officers, but the Collector expressed his inability to provide carts. The Dederick press was baling merrily and doing excellent work; having finished all the grass at Nargaon it was sent to Chinchkheda, and after a brief spell of work at that depôt it was carted on to Charthan where it was employed baling up to the end of the month. The hand press at Jalgaon had its ratchet wheels renewed, and resumed work; while at Chopda the cotton steam factory presses outturned over a thousand bales.

62. In Kánara hay-baling presses worked by manual power were in employment at Sanglikop, Wadgatta, Shingnalli and Sanwalli in the southern division, and at Tinaighát, Castle Rock and near Londa in the northern division. A hand press was baling at Hozgoli in the Belgaum District; and the screw and lever hand presses were worked steadily at Kambar-gauvi in the Dhárwár District: while a considerable quantity of grass was conveyed to Hubli to be pressed and baled at a cotton steam factory.

63. The exports of grass into the famine district during the month of March had been of greater volume than previously. The number of railway wagon loads of bales moved from the grass-supplying districts were as under:—

From	To				
	Poona.	Ahmednagar.	Násik.	Sholapur.	Bijápúr.
Thána ...	23	3	.....	44	.....
Khándesh ...	4	20	7	20	.....
Dhárwár ...	.....	.....	.....	.....	1,411
Belgaum ...	.....	.....	.....	.....	338
Total ...	27	23	7	64	1,749

64. But the sales in the famine districts were hanging fire: about 786 bales were sold in the combined Deccan districts of Poona, Násik, Ahmednagar and Sholapur, while in Bijápúr considerably over 1,000 bales were bought. A commencement was made of selling baled grass in small lots by public auction in the suburban limits of Poona, Messrs. Hajee Cassum Ladha being employed as auctioneers under my personal supervision, and the grass was brought most of it from the Thána District and some from Khándesh, and it was bought by Military officers, private residents of Poona, and by dealers also, who competed freely for it, the results showing that the character of the grass of the Konkan country below the gháts had been maligned, and that the horses and cattle living in the Deccan had not the slightest objection to eat it. The Commissariat Department at Poona having asked me to furnish them with some grass up to 25 lakhs of pounds a commencement was made during the month to supply as much as could be spared from the Tánša lake catchment in the Thána districts and from Ráver in Khándesh.

65. Government in their Resolution No. 736-Fam., dated 5th March 1897, empowered me to establish a grass depôt at every railway station in the famine-affected area, and to place a Forest officer in charge of it, and to sell bales of grass there to any person who may apply for it at a price not less than the actual cost incurred, provided traders do not come forward to buy the grass for distribution, and provided always that whenever there is competition, not necessarily public auctions, the price will be settled by it, and that it is made generally known that if private individuals engage in the trade they will not be undersold by Government.

April 1897.

66. No more presses were purchased or obtainable in the local markets; but hand presses were moved from exhausted depôts to depôts where grass remained. Thus in the Thána districts all the grass in the railway station depôts excepting at Kassára was baled and the hand presses were removed to Rohida upon the Tánša lake catchment. In Khándesh the Dederick press was moved to Rajur in the Trans-Purna reserve, and the steam presses were working at Rohida in Thána and Ráver in Khándesh. I visited all the press depôts in Thána and Khándesh and also the depôts of supply in the famine districts which had been established at the following railway stations:—

Poona.	Ahmednagar.	Násik.	Sholápur.	Bijápur.
1. Poona.	1. Pimpri.	1. Yeola.	1. Pomalvadi.	1. Bijápur.
2. Yeot.	2. Belwandi.	2. Manmád.	2. Jeúr.	2. Indi Road.
3. Kedgaon.	3. Visápur.	3. Nándgaon.	3. Kem.	3. Telgi.
4. Pátas.	4. Sarola.		4. Bársi Road.	4. Almatti.
5. Dhond.	5. Nagar.		5. Mádhá.	5. B.galkot.
6. Dikáál.	6. Vámbori.		6. Mohol.	6. Katgiri.
	7. Ráhuri.		7. Sholápur.	7. Badámi.
	8. Lakh.		8. Hotgi.	8. Mullapur.
	9. Belápur.			9. Gadag.
	10. Chitali.			
	11. Puntamba.			
	12. Sanvatsar.			
	13. Kopargaon.			

67. The movement of baled grass into the famine districts this month was heavier than during the preceding, and all the sale depôts at the different railway stations were stocked. A large number of wagons with baled grass was sent to the Kirkee Railway Station, as well as to the Poona Railway Station, from Atgaon and Assangaon stations, with Konkán grass for the Commissariat Department; and from Ráver 38 wagon-loads were sent to Poona and Kirkee for the same department; while 11 wagon-loads were sent to Ahmednagar containing Khándesh grass for the Government Remount Department from the Nargaon Station, making a railway journey of 229 miles. The Jath State having applied for assistance in grass, 187,500 lbs. were supplied to it from the Belgaum and north division of Kánara forests on payment of Rs. 1,049-4-6, at the rate of Rs. 5-9-6 per 1,000 lbs.; this grass was railed to the Miraj Station, Southern Maráthá Railway, from the Kalmani Station in the Belgaum District and from Tinaighát in Kánara.

68. Auction sales were held by me at Poona on Konkán and Khándesh grass, which was bought readily by residents of Poona and Kirkee in competition with dealers, at prices exceeding what the grass had cost up to date. The grass from the Poona gháts was brought into Poona from the Mulshi, Mával and Junnar ranges, while the grass collected and baled in the Khed range, 19,113 lbs. in 241 bales, was sold *in situ* by public auction for Rs. 178, averaging Rs. 9-5 per 1,000 lbs. The Mulshi grass, 361 bales containing 29,910 lbs., was given to the Commissariat Department for Rs. 15 per 1,000 lbs., and the grass of the two ranges—184 bales containing 16,116 lbs. of Mával and 370 bales containing 33,301 lbs. of Junnar, was sold at auction for about Rs. 12-13-3 per 1,000 lbs. A quantity of the Konkán grass from the Thána forests was purchased at auction by officers of the Durham Light Infantry, and was pronounced by them to be as good grass for feeding horses as they had ever seen. The Polo steed of this regiment is celebrated throughout India, for the officers of the Durham have won the Army Championship of Polo several years in succession, and have swept away prizes at every meeting at which they have been represented; and this testimonial to the quality of the grass from the country below the gháts should set at rest for ever all doubts as to its value for feeding cattle, including horses, in the Deccan. Local dealers were charging at this time over Rs. 20 per 1,000 lbs. for grass in Poona and Kirkee, and were forcing prices, so that the importation and sale by auction of famine grass was regarded as a measure of considerable relief.

69. Four bales of hay were burnt in the Badámi Depôt and 75 bales in the Mallápur Depôt both being in the Bijápur District, and 100 bales of hay of the Dederick press containing 7,076 lbs. of grass were burnt in the Yeola Sale Depôt; the fire occurred at midday, and its origin could not be discovered. On the 20th April a fire occurred in the pressing depôt at the Kassára Railway Station when 245 bales recently pressed containing 38,000 lbs. of grass were burnt. If the G. I. P. Railway officers at the Kassára Station had not given prompt assistance with their Manual Fire Engine the whole stock of bales and grass with the presses in the depôt might have been destroyed.

70. Outside Poona the sales of famine grass in the famine district were still very discouraging, as will be seen:—

Sholápur District	...	...	1,257	} 4,085
Ahmednagar	...	...	825	
Násik	...	...	243	
Poona	...	...	250	
Bijápur	...	...	1,510	

71. In their letter No. FAM.—148, dated 28th April 1897, Government asked me to report at once what action I "propose to take in respect of the immense accumulations of grass pressed and unpressed now in hand." And in my letter No. FAM.—1507, dated 30th idem, I gave a complete report of the situation up to date, expressing my ability to bale and send into the famine districts all the grass that could be brought to pressing depôts with the carriage obtainable by me: the only grass regarding which there was any doubt was that in the Sátputa forests and I had sent, far and wide, for carts, even over the frontier into Némár, but cartmen would not be charmed to go into the trackless hills to face dangers and risks, to bring out grass; and finally I recommended "that the selling price of grass at all the famine grass retail sale depôts in the Násik, Ahmednagar, Poona, Sholápur and Bijápur districts be reduced to eight annas the maund of 80 lbs. from the month of May. Hitherto the price charged has been not less than the actual cost. It may be assumed that all or the most of the worthless cattle in the famine-affected areas have disappeared, and *bona fide* plough cattle are now left: and to keep

"them in condition during the ploughing time, and to tide them over the last days of scarcity before the new grass appears, Government might consider it worthwhile to incur a financial loss, as they will undoubtedly do in selling grass at eight annas per maund of 80 lbs."

72. Government in paragraph 2 of their Resolution No. FAM.—1163, dated 10th May 1897, passed the following order:—"The Honourable Mr. Shuttleworth is authorized to accept the best prices he can get without any restriction as to the charges being covered by them subject, however, to a minimum of eight annas per 80 lbs. or Rs. 6½ per 1,000 lbs."

73. I received a telegram from the Chief Secretary to Government at Manmád Station on the evening of the 5th May informing me of this order which opens a new chapter in the history of the famine grass operations. Hitherto the demand for grass had been very slack, and the sales tardy, and difficult to accomplish, so that it had become a matter of very great anxiety as to what would be the fate of my enormous collection of grass, for the experience of the last famine foreshadowed a disastrous waste, with eventual destruction by fire; and croakers were predicting that there might be a similar fiasco. The days of thunderstorms were already upon us, and the rainy season was approaching rapidly, and I had been anxiously debating what to do, more particularly with the very considerable quantity of baled hay upon the Tánša lake catchment, as well as that brought to, and stored at, the Atgaon Railway Station, as this depôt was within the region of the early monsoon and of the heavy rainfall. But the lowering of the price, as soon as the news had spread over the Deccan villages, worked a magical change. A boom set in for grass, and a rush was made in all the depôts everywhere by the village cattle owners, and the depôts were cleared out as quickly as they were re-stocked; and as fast as railway trains could deliver bales, the latter were carried away by clamouring crowds, even before the bales went into the sale depôt, so that every blade of grass cut and collected in the districts of Khándesh, Násik, Poona, Sátára, Thána, Belgaum, Dhárwár and Kánara was disposed of, eaten and consumed by cattle in the Deccan; and if there had been double the quantity that was on hand and stacked in the forests on the 1st May 1897, it would all have been taken readily by the village cattle owners.

May 1897.

74. In the Thána District the last lot of loose grass remaining at a railway station depôt, Kassára, was baled during the first week of this month, and then all the hand and other presses were moved to the Borála Depôt in the Tánša lake catchment area: and the baling of the grass was finished both at Rohida and Borála before the end of the third week. The presses were then dismantled and sent to the Atgaon Railway Station and five of the hand presses were forwarded by railway to the Ráver Depôt in Khándesh. Baling of loose grass was likewise completed at all the press depôts in Sátára, Dhárwár and Kánara. The Dederick press having compressed all the grass collected in the Trans-Purna forest of Khándesh by the end of April was carted across country, and sent up into the Sávida-Sátputas, where it was worked until an order was received to stop further grass operations, and then this press was carted to Ráver, where it was fixed up and started again when the operations were resumed. During the first week of May I went from Poona to Atgaon to inspect the depôts and arrange about the despatch of bales, &c., and then returned by way of Manmád and Dhond, visiting all the sale depôts on that line. The demand was still slack and sales sluggish; 385 bales only had been sold at these depôts since the 1st. From Poona I sent out the orders for the reduced charge to be made not below eight annas per maund of 80 lbs., and during the second week of May I travelled from Poona to Ráver, examining the Kedgaon, Pátas and Dhond depôts and each depôt on the Dhond-Manmád line; the sales were much brisker, so that 994 bales were sold during the week ending the 15th and the greater number at northern depôts of Chitali, Puntambe, Wari and Kopargaon. At Ráver I found that grass was coming down from the Sátputas in very small quantities, and that carts could not be induced to go into the hills in sufficient numbers to ensure all the grass stacks remaining in the forests being brought down before the rains set in, in their ordinary course, and moreover the cost of carting the grass was high, and I felt at that time by no means sure that, even if all the grass could be brought down and baled, it would, in addition to the bales in the Thána District, and elsewhere, be absorbed by the demand at its existing temperature, and even at an increased rate in the famine districts; and it seemed to me to be a preferable measure to abandon the grass, about 2,013,994 lbs., remaining in the Sátputas, and to close the operations at Ráver and dismantle the steam press, &c., more particularly as thunderstorms might be expected at the end of May. I reported to this effect to Government on the 13th May from Ráver; and in Government Resolution No. FAM.—1217, dated 22nd May 1897, I was authorized "to close pressing operations at Ráver at once and to bring no more grass down and to let the people make what use they can of the grass collected." Orders were issued to the Ráver Depôt accordingly.

75. From Ráver I went down to Atgaon to consult about the completion of the baling up and the carting of bales from the Tánša catchment depôts to the railway station, and then returned to Poona; and on the 18th I left again for Sholápur, inspecting all the grass sale depôts between the two places; and I was delighted to find that a great rush had been made on the depôts, and that an enormous demand for grass had suddenly sprung up, so that I telegraphed from Sholápur, on the 18th May, to Mr. Ryan, Deputy Conservator of Forests and Divisional Forest Officer, South Thána, who was then supervising the famine grass operations in the Thána District, to send at once as many as possible of railway wagons loaded with bales, distributing them among the different depôts, in the Sholápur District; and I wired to the Kassára, Jálgáon and Ráver to send bales to each and every sale depôt, as quickly as could be done.

76. On the 21st May I met the Collector of Ahmednagar, by appointment, at that place, and arranged to hand over to him as many bales as could be spared of our remaining supply of grass, and all the bales that may be left unsold in the sale depôts after the 31st, for issue to ryots against tagái, and at the cost of Indian Charitable Famine Fund. From Ahmednagar I proceeded to Atgaon, inspecting depôts by the way, and seeing that the demand for grass was equally heavy on the line of sale depôts between Nagar and Manmád. I reported to Government the changed situation on the 22nd May, and proposed that the grass which had been abandoned in the Sátputa hills should now be brought out to Ráver, and baled and sent into the famine districts; and I suggested that this could be done if Government would order the Collector of Khándesh and the District Superintendent of Police to furnish carts. On the evening of the 24th May I received a telegram from the Chief Secretary to Government expressing approval of my proposals, and informing me that orders had been issued about carts: so I wired instructions to Ráver to recommence operations *at once*.

77. On the 25th May I met the Collector of Sholápur at Bársi Road Station, and arranged to hand over to him all the bales in the sale depôts in his district, and as many more as could be sent there, for issue to ryots against tagái, and at the cost of the Indian Charitable Famine Fund: and on the 26th I went to Bijápur, interviewed the Collector, and made similar arrangement with him for his district; and the next few days I passed at railway stations, seeing bales sold and handed over to the Mámlatdars: and on the 2nd June I arrived at Ráver, to which depôt I had caused all the available hand hay-baling presses to be sent; and I found in full work there the Phoenix steam-baling press, the Dederick press and 12 hand-baling presses. Government in their Resolution No. FAM.—1284 of the 7th June 1897, approved and sanctioned my proposals.

78. Mr. Ryan on receiving instructions from me to send up to the depôts in the famine districts all the bales of hay available in the Thána District invoked the assistance of the Collector and District Superintendent of Police, which was promptly given, towards obtaining carts, in order to bring in from the Rohida and Borála depôts to the Atgaon Railway Station all the bales at those places; so that the entire stock of baled grass was brought to the railway station, loaded on trucks, and despatched to the famine districts before the 28th May. The General Traffic Manager, G. I. P. Railway, had deputed an officer of the Company to Atgaon, specially, to provide railway wagons; and thus with all departments and officers working cordially together a very smart piece of work was performed: no less than 347 railway wagons were loaded with bales, which had to be carted eight miles over rough country to the railway station, and for which purpose hundreds of carts had to be collected, and were employed: seeing that 30 trucks make up generally one train, there were nearly twelve full trains carrying fodder grass from the Konkan to the relief of the plough cattle of the Deccan: on the 26th May alone 58 wagons full of bales were run to Bársi Road Station.

June 1897.

79. The whole of the grass which had been abandoned in the Sánda-Sátputas was brought down to the Ráver Depôt in carts furnished by the Collector of Khándesh, the cart hire amounting to Rs. 16,174-1-3; this was all baled, and the last consignment of bales was railed out of Ráver Station on the 27th June in 11 wagons; and this closed an eventful operation, extending over seven to eight months, in which the Divisional Forest Officer, Mr. R. H. Madan, and Mr. Abdul Rassul Khajbaksh, Ranger, 1st Grade, with Foresters—Mr. Gopal Shrikrishna, Mr. Maktum Ali Sarwar Ali, Mr. Shaik Hyder Shaik Nizam, Mr. Lakshman Vishnu, and Mr. Tukaram Lalaji—had worked with constant and untiring energy, and the greatest tact and unselfish devotion, holidays and days of rest being cheerfully given up when duty required; although the Sabbath was observed as a day of rest in the Ráver pressing depôt. Nearly 250 railway trucks were required to convey this additional supply of grass to the famine districts.

80. Pressing work had been finished last month everywhere, save at Ráver, and all the bales had been despatched from the Thána District before the end of the month; and during this month baling was completed in the Khándesh District, and all the bales remaining on hand on the 1st June in the Dhárwár, Kánara and Khándesh districts were cleared out and sent to the famine country.

81. The Bijápur Collectorate was fed from the Dhárwár and Kánara depôts under the vigorous measures adopted by Mr. Woodrow, Divisional Forest Officer, Dhárwár, and it received about 1,495 bales after the 31st May, while the undermentioned quantities were supplied to the Collectors of the two Deccan districts in the Central Circle for issue to ryots against tagái and at the cost of the Indian Charitable Famine Fund:—

		Bales.	Value. Rs.
Ahmednagar	...	20,569	16,256 1 4
Sholápur	...	27,730	20,299 15 0
Total	...	48,299	36,556 0 4

82. The rain held off in a remarkable manner so that all the grass from the Thána District was moved without having been wetted by a thunderstorm, or a monsoon shower; and at Ráver during the whole month of June there was practically no rain, but soon after the depôt had been closed heavy rain fell, about three inches on 3rd July.

83. The reduction in the selling price of the compressed fodder to a minimum of not less than eight annas the maund of 80 lbs. at the famine grass sale depôt was a very judicious as well as a liberal concession, for there was an absolute absence of fodder in many parts of, and practically all over, the Ahmednagar, Sholápur and Bijápur districts, and the cultivators everywhere were in great straits to keep their plough cattle alive, and in working condition to prepare their fields for the reception of the seed grain against the approaching rains; and at the same time the ryot cattle owners had no sufficient money to pay a high price for hay. Directly the news of the reduced prices reached distant villages a great run was made on the sale depôts: people came clamouring for bales which were carted away joyfully. The reduction was well timed, for if the prices had been lowered earlier in the season while the ryot had yet something remaining in hand for the feeding of his cattle, it is probable that dealers and speculators would have bought up the grass, and the village cattle owner would have been compelled, later on in the season, to pay the middleman's profit for the fodder of his plough oxen. All this was avoided, and the grass went into the hands, directly, of the very persons in whose behalf it had been procured, and whom it was intended to benefit by the bales being handed over to the Collectors for distribution; who then doled out the grass to cultivators in a very methodical manner; for example: in the Sholápur District the Mámlatdars of the different talukas furnished cultivators with permits or orders for grass printed on green paper against the Indian Charitable Famine Fund, and on white paper against tagái: these permits were taken by the individuals to grass supply depôt, and here they presented the permits, received the grass, and were given a receipt in printed form for the money represented by the pass; the counterfoil of the permit was retained by the Mámlatdar who issued it, and all the permits taken at each depôt were sent the same evening to the Collector of the district, while the counterfoil of the receipt was retained at the depôt.

84. On the 7th June 1897 I resumed charge of duties of Conservator of Forests in administrative control of the Central Circle, relieving Mr. W. G. Betham, but my responsibilities and work in connection with the famine grass operations have continued ever since. Bills had to be paid. Steam and other presses had to be repaired and returned, or otherwise disposed of, and accounts to be rendered and adjusted; and the latter is still in progress.

84A. The special office establishment sanctioned for me—*vide* paragraph 17—was reduced and finally abolished on the following dates:—

	Date.
1 Havildár on Rs. 10 and 2 peons at Rs. 8 each.	7th June 1897.
Head Clerk on Rs. 50, 2 clerks on Rs. 40 each, and	
1 clerk on Rs. 30	... 30th September 1897.
Chitnis and 1 clerk on Rs. 30, 1 peon on Rs. 8	... 31st October 1897.

One peon on Rs. 8 was not entertained at all and there was a consequent saving to this extent on the sanction.

85. I will now report what has been done under each of the different heads of instructions furnished me by Government which are mentioned in paragraph 2 of this report.

1.—To ascertain where grazing is available and to take measures for the distribution of the animals entitled to admission to the forests in the manner most suitable in consideration of comparative convenience and the supply available.

86. All the forest region in every district of the Presidency proper, excepting special plantations, recently exploited compartments of forest blocks necessarily closed in the process of reforestation, and areas from which grass is exploited habitually by hand for the supply of fodder to cantonments and civil stations, to large towns and cities, to the Commissariat and Agricultural Departments for feeding Government horses and cattle in the Military and Civil Departments, were, on the pronouncement of famine, opened at once to the entry of all cattle, free of charge, and villagers were invited to send their cattle, in charge of village herdsmen, from the famine-affected villages in the east, to the west towards the gháts for grazing in the forests. Wide advantage was taken by the village cattle owners of the opening of the forest areas to their cattle in their own districts, and to some extent cattle from one district went into a neighbouring one, but as a rule the cattle owners were very averse to send their cattle to distant grazing areas in other districts. Cattle from the Bijápur Collectorate went into the Belgaum and Dhárwár western forests to graze, and some few passed into the very eastern portions of Kánara, but it was repeatedly told me that the Bijápur cultivator was very averse to sending his cattle into the Kánara forests to graze, from the experience of the last famine, when not only did the cattle die in large numbers owing to the new diet of forest grass to which they were wholly unaccustomed, but also the herdsmen died through malaria and other sickness in a foreign country.

87. The Collector of Ahmednagar in his letter No. 8629, dated the 21st December 1896, informed me—

“The Revenue officers had failed to induce any one to take cattle from the Jánkhed Taluka into the Akola Taluka of the same district, and into Khándesh; and in the Shevgaon and Nevása talukas he had been frequently told that the ghát grass and water do not suit.

cattle from the plains and in one instance a man asserted that none of the cattle which had migrated in 1876 ever came back; and the general feeling of the cultivators seemed to be to let the cattle take their chance."

88. The Collector of the Panch Mahals intimated, *vide* Government Resolutions Nos. 8963, dated 12th November 1896, and 9346, dated 23rd idem, in the Revenue Department, Famine, that a very considerable area of grazing in forests and in waste lands could be provided in his district, and excellent grazing in Chotá Udepur adjoining Khándesh, and in the Rájpipla forests, for famine cattle. News was sent round to all the famine talukas, to cattle owners of the relief offering; but as far as I know not a single head of cattle went to these very distant parts, which are regarded as a foreign and unknown land to be avoided.

89. Mr. Chabildas Lallubhai offered most generously to permit cattle which Government may choose to send to graze in his forest of Magathan in the Thána District. Copies of the letter from this gentleman were sent to the Collectors of the affected districts to make it known among their villagers and intimation was sent out from this office to the famine districts. But as far as I know no famine cattle were sent to Magathan.

90. The Collector of Khándesh informed me in his letter No. 8732, dated 23rd November, in reply to my Circular No. 14 of the 14th idem, addressed to him, that it will not be necessary to move any cattle from his district, nor to import any fodder into it, and in my report No. 127 of the 5th December I suggested to the Commissioner that 250,000 head of horned cattle of the bovine species can, with every reasonable regard to the capabilities of the forests and to the grazing requirements of the local cattle, be admitted from over the border into the reserved forests of Khándesh; and I urged that the Collectors of Sholápur and Ahmednagar be informed that 100,000 head of bovine cattle from each of these districts may be driven in charge of their own herdsmen into the Sátputa forests and the western forests of the Khándesh Collectorate, and the sooner they start on their long marches the better prospect there will be of the cattle reaching their destination in life and strength. Word was sent round to the cattle owners in the Ahmednagar and Sholápur districts, but they would not rise to the occasion and would not undertake such a long unknown journey for the salvation of their cattle.

91. The Collector of Ahmednagar forwarded to me with his letter No. 1504 of the 12th 15th February 11 reports from the Mámlatdars in the district, stating that cattle owners are not willing to send their cattle to graze in the forests of the Sátputa range in Khándesh.

92. On the 28th November 1896, I furnished the Commissioner, C. D., with two lists of reserved forest areas in the Poona and Ahmednagar Collectorates, respectively, which are placed at the disposal of the Commissariat Department, yearly, for exportation by hand therefrom, of grass for stall feeding Government animals, such as oxen, mules, Cavalry and Battery horses; these areas are closed against grazing in ordinary years; and I strongly objected to their being opened to promiscuous grazing by all cattle during this famine year, and suggested that they should be held in reserve for the support of the really valuable plough cattle when the real pinch will come at the end of March. 40,000 to 50,000 of the picked cattle of the Poona District, and 25,000 head of the Ahmednagar cattle, might then be supported during April and May upon these areas in their respective districts; and in support of my proposal I pointed out that the poorer cattle of some districts have been and are suffering greatly from cattle disease, and if such infected animals were to be allowed entry upon these special fodder-grass-providing forest areas, their droppings may cause an epidemic of disease to break out among the Government cattle—transport animals and horses, next season. The Commissioner concurred with my proposal, and special measures were then taken to protect these particular forests against cattle up to the end of March 1897, when they were opened to the grazing of agricultural cattle belonging to the Poona, Ahmednagar and Sholápur districts, on the conditions—

1. That no greater number than 4 head of cattle per acre be admitted.
2. That grazing be allowed only on a special grazing permit.
3. That a grazing fee of 4 annas per head be charged.
4. That the grazing will cease on 31st May.
5. That priority of application for grazing permits to give preferential claim to grazing.
6. That oxen serviceable for the plough are only to be admitted, cows, buffaloes, sheep and goats, &c., to be strictly excluded.

93. The imposition of a fee and the above restrictions were suggested because the Managing Committee of the Pinjrapol at Poona had been hankering after these reserved forests for their cattle, and without adequate safeguards useless animals, a large proportion of which probably is infected by some contagious disease, and milch buffaloes and cows of Gowls, Dhangars and professional graziers, would be driven in to graze, to the exclusion of the agricultural cattle of the famine districts.

94. However, advantage was taken of these grazing concessions by plough cattle to a very limited extent because at that time the animals were required fortunately to drag the plough in preparing fields for sowing against the coming rains.

95. The managers of the Poona Pinjrapol applied to me on 14th January 1897, that 400 head of their cattle should be allowed to graze in these forests; and I submitted their application to Government with the report that the reserved forests of the Poona District measure 454,900 acres, the area placed at the disposal of the Commissariat Department does not exceed 11,500 acres; of the remaining 443,400 acres no less than 432,345 acres are open, free of charge, to the grazing of all cattle, which may be brought from the Sholápur District, or any other portion of the famine-affected tracts, much of this open forest is within easy reach of Poona, and there is absolutely no reason to allow the cattle of the Poona Pinjrapol or any other famine cattle entry into any of the so-called Commissariat Kurans, which I am reserving as a last resort for the really valuable plough cattle of the Poona Collectorate; and Government in their Resolution No. 300-Fam. of the 27th January 1897, expressed their concurrence in my view and directed me to communicate to the applicants the substance thereof; which was done.

96. The Mámlatdár of Kopargaon reports that some 2,000 cattle were sent out beyond the frontiers of his taluka to the Dindori and Nándgaon hill forests of the Násik District and to the Akola hill forests bordering the western gháts in the Ahmednagar District in search of grazing and that about 1,500 of these animals died and only 500 returned alive to their homes at the end of the season.

97. It would appear that the redundant cattle in the Deccan villages, animals that are habitually maintained at the minimum of cost to their owners and are generally driven out of the villages to which they belong in the early mornings to go and forage for their subsistence, trespassing in forests and upon any person's lands where they can discover anything to eat, were for the most part sold, sent out into foreign parts in search of a chance of life or handed over to the tender care of Pinjrapoles; whilst the really valuable plough and môte oxen were kept in the villages and were stall-fed by their owners.

II.—To arrange with the Railway Companies for the conveyance of such cattle as may be carried by Rail to places where forage is available.

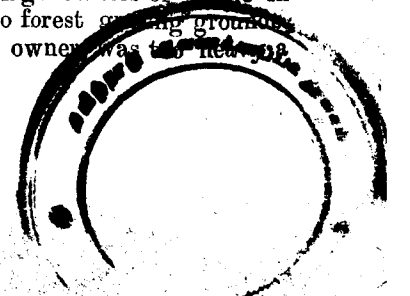
98. On the 23rd November 1896, I addressed the General Traffic Manager, G. I. P. Railway, in the matter of the rate of freight for conveyance of cattle from the famine-affected districts by rail to forest grazing grounds, and in his letter No. 601—28336, dated 30th November 1896, the General Traffic Manager informed me in reply—

- (1) That the Company would carry cattle to any grazing ground on the railway at the rate of 3 annas per truck per mile at owner's risk provided that an authorized officer of Government certifies that the cattle are despatched for famine purposes.
- (2) The number to be loaded in each wagon should be left to the despatching officer, but only such a number as the truck may reasonably hold to be loaded.
- (3) Two or three drivers or attendants per wagon to be allowed to travel free with the cattle.
- (4) This privileged rate will be extended to the public, if it be certified by a duly empowered officer that the cattle are being despatched for famine purposes.

99. With my letter No. Fam.—147, dated 9th December 1896, I submitted copies of this correspondence to Government, and urged the opinion that, even though 12 to 15 animals may be conveyed in one truck, still a rate of 3 annas per mile will, probably, be beyond what impoverished village cattle owners can afford to pay, for the conveyance of their cattle from the famine-stricken districts to places where grazing is available, for the salvation of the animals. I pointed out that the G. I. P. Railway Company, ordinarily, charges 2 annas a mile, for the first horse, or one anna additional for every additional horse, carried in a truck, or wagon, and that one horse-keeper is allowed free with each horse, and that it often happens that only one horse is carried in a truck, so that the charge of the whole wagon or truck reduces itself, as a matter of fact, to the rate of 2 annas per mile; and I submitted that in view of circumstances attending the migration of famine-stricken cattle, I am of opinion that the railway authorities might be asked to make a further reduction, and I ventured to suggest that one anna per truck, per mile, would not be considered to be too great a tax upon the liberality of the Railway Company, and too low a rate to be entertained with the assurance of safe-guarding the Company against loss.

100. However, Government in their Resolution No. 10460, dated 21st December 1896, in the Revenue Department (Famine), ordered that "the rate proposed by the Railway Company for the conveyance of cattle from famine districts to grazing grounds seems fair, and Government do not consider that there is any need to urge the Company to reduce the charge."

101. As far as I know, no cultivator took advantage of the reduced rate of railway freight for the conveyance of cattle to send his own animals to grazing grounds away from his village, although Government ordered in paragraph 4 of their Resolution No. 8939, dated 11th November 1896, that advances may be made under Act XII of 1884 to the village owners of cattle in famine districts, to assist them in transporting their cattle by railway to forest grazing grounds. The reduced rate, in the reduced circumstances of the famine cattle owner, was the main reason.



burden to be afforded for the salvation of the animals, either in prospective view of future profit or service to be obtained from them, or on religious considerations; and seeing that cattle were selling in the famine villages for the value of their hides only, it might safely be concluded that no peasant proprietor of Farm Stock would think of paying the railway freight to send his animals, necessarily a long journey of many miles, which would run up the cost to a sum far beyond his competence.

102. The Committee of the Poona Pinjrapol, and the Mahajan Sabha at Sholapur, and some other cattle preservation societies, did send a few wagon-loads of cattle by railway from the famine-affected districts to Bombay and elsewhere, but the number thus transported was a very infinitesimally small fractional part of the cattle of the famine districts, and seemingly they were not of valuable agricultural kind fit for plough.

103—106. * * * * *

107. It is reported to me by the Mámlatdár of Sholapur that 1,465 head of waif and stray cattle rescued in the Sholapur District were sent by railway from the Sholapur Station to the Dharur Station in Nizam's State, the cost of their passage, Rs. 2,993-4-0, being very generously defrayed by Mr. Dharamsey Morarji Gokuldás, a wealthy Mill-owner, but not a single animal returned, they all died in the land of milk and honey to which they had been sent.

III.—To facilitate as far as possible the supply of fodder by private Agency by, amongst other provisions, offering free of charge to contractors to cut and exploit any grass fit for the purpose in forest or waste lands, provided arrangements can be made to secure that it will be supplied at a moderate profit in the famine-affected districts.

108. Practically nothing could be done, or was done, by private enterprise towards exporting or importing into the famine districts of Sholapur and Ahmednagar until the boom in grass came in the middle of May, which was quite unexpected by the Trade; those dealers who then held stocks of grass at railway stations in the Thána District, between Kalyán and Kassára on the one side, and Kalyán and Karjat on the other, sent their grass into the Násik, Ahmednagar and Poona districts, mostly to the head-quarters stations, to complete contracts, and not for speculative sale. Talking with the grass dealers at Badlápúr, Wángni, Atgaon and other stations, I offered them all my grass, at cost price, with the loan of hand-presses to compress and bale it, provided they would send it into the famine districts; but they scouted the idea, saying that they had no trade connections in those parts, and that there was not the least likelihood of any grass they might send on speculation into the famine districts selling there at a profit, seeing that the village cattle owners were selling their animals at Rs. 9 per dozen.

109—111 * * * * *

112. The reduction in the freight charges from 3 annas to 1 anna per mile per wagon for the carriage of grass and other fodder into the famine districts made by the Southern Marátha Railway Company caused very many and considerable consignments of fodder, consisting chiefly of karbi, to be sent from the Mysore and Dhárwár districts, and other trans-frontier parts, into the Bijápúr Collectorate, and a trade was thus created, which supplied a want to the benefit of the cultivators' cattle and farm stock of the famine-wracked district; and at the same time adding to the revenues of the Railway Company. Had the G. I. P. Railway Company done likewise it is not improbable that much grass and fodder of other kinds would have been sent by private enterprise to railway stations in the Eastern Deccan from the Thána districts and other parts east and south of the Sholapur District where there were surplus stocks of grass and other fodder.

IV.—To afford assistance to officers employed on duty in the famine districts who may ask for aid in procuring fodder for their own animals employed for the purpose of their travelling.

113. The Collector of Ahmednagar having asked my assistance in the obtainment of grass for district officers I informed him, in my letter No. 129 of the 5th December, that Apparao Narayenrao Wable, Pátíl of Pimpri in the Shrigonda Táluka, possesses some stacks of grass near the railway station of Pimpri in the Ahmednagar District which were exploited by hand out of a wire fenced reserved forest at Limjangaon in the same táluka, and he informed me that he was willing to sell one lakh of pounds at from Rs. 12 to 15 per 1,000 lbs.; and I suggested to the Collector that he should purchase the grass for his district officers. But on the 16th—18th December the Collector informed me that he had ascertained through the Mámlatdár that Apparao declines to sell his grass under Rs. 15 per 1,000 lbs., and that as he had no funds at his disposal he could not buy it.

114. Later on, when the famine grass supply sale depôts were opened at all the principal railway stations, district officers obtained their requirements by sending for bales to the depôts and paying the cost price. One railway wagon-load of grass was sent by me from the Jalgaon Depôt to the Collector of Ahmednagar; it contained 15,840 lbs. and he was charged Rs. 250-0-0, which worked out to Rs. 15-12-6 per 1,000 lbs.

V.—To cut on forest or waste lands where necessary or purchase where it is available grass, and to send it to places where it is needed at a charge which will be sufficient to cover all costs of its supply.

115. By far the greater part of the operations has taken place under this heading. Grass has been cut and collected in several divisions in the three forest circles, and has been baled and sent to places in the famine affected areas where it was needed, and has been sold and distributed there; first at cost price, then later on as the season advanced at reduced rates, and finally it was issued to ryot cattle owners against tagai, and at the cost of the Indian Charitable Famine Fund, as has already been mentioned in this report.

116. The grass depôts were fixed at railway stations, or as near to railway stations as possible, so as to economise cost in moving loose grass or bales. The price paid for grass was fixed at an all-round rate of Rs. 2-8-0 per 1,000 lbs. or 4 annas per 100 lbs. and about 2 annas for an ordinary head-load. The total quantity of grass collected at the several depôts of grass collection in the three circles can only be entered in weight approximately, because in some places it was received and paid for by the pullie, or bundle, which is a measure of varying capacity and weight: but taking 2½ rupees as representing 1,000 lbs. weight, which was the rate aimed at, even when grass was paid for according to pullies the result may be given as under:—

Circle.	Division.	Grass in Lbs.		Price paid.	
				Rs.	a. p.
Central	East Khándesh	5,036,846		11,961	12 10
	Násik	231,551		519	7 0
	Poona	119,429		314	14 6
	Sátára	264,151		675	3 9
			5,651,977		
Northern	South Thána No. 1	1,690,843		8,969	6 0
	Central Thána No. 2	2,511,263		1,470	13 3
			4,202,106		
Southern	Belgaum	262,132		532	7 0
	Dhárwár	1,400,782		5,326	14 1
	Kánara, N. D.	143,150		348	11 0
	Do. S. D.	453,869		1,250	10 3
			2,259,933		
Grand Total		12,114,016		31,433	3 8

117. Some of the grass was not baled but was sold locally, either because the quantity was too small to export, or baling presses were not available, or to meet a special local demand for it, or because it was refused. Some loose grass was exported to the famine districts. The following shows such transactions in loose grass:—

Circle.	Division.	SOLD LOCALLY.		EXPORTED.	
		Grass in Lbs.	Price.	Grass in Lbs.	Price.
			Rs. a. p.		Rs. a. p.
Central	East Khándesh	137,725	716 6 1		
	Nasik	231,491	615 0 0		
	Poona				
	Satára	8,232	28 9 0		
Northern	Thána No. 1	1,926	6 0 0		
	Do. No. 2				
Southern	Belgaum				
	Dhárwar	5,440	22 7 0		
	Kánara, N. D.	4,000	26 0 0	1,600	30 12 0
	Do. S. D.				
Total		588,814	1,614 6 1	1,600	30 12 0

118. Some of the loose grass was burnt by fire breaking out in the depôt where it had been collected and the following table shows the loss incurred thereby:—

Circle.	Division.	Grass in Lbs.	Value.
			Rs. a. p.
Central	East Khándesh	46,340	58 0 0
Northern	Thána No. 2	389,581	973 15 2
Southern	Dhárwár	28,500	142 8 0
Total		464,421	1,174 7 2

119. There has been a certain percentage of loss of grass by wastage, and of its weight under dryage, and indeed the loss in weight of grass continued after it had been baled, as the

128. Railway freight was paid by the wagon load irrespective of weight, at a mileage rate on the Southern Marátha line at anna 1 per mile, and on the G. I. P. Railway on a sliding scale as under :—

First 100 miles ...	Rs.	0	2	9	per truck.
100 to 200 miles ...	„	0	2	6	do.
Over 200 miles ...	„	0	2	3	do.

129. The G. I. P. Railway sent 1,403 wagon loads of bales into the famine district, and the freight paid to them amounted to Rs. 45,911-12-0, while the freight paid to the Southern Marátha Railway Company came to Rs. 4,726-6-0.

130. One wagon load of bales was burnt while moving between the Malkápur and Nargaon Stations, G. I. P. Railway, the freight on which was remitted by the Company. Both the Railway Companies have assisted cordially in the Famine grass operations and deserve special mention. My warmest thanks are due to the G. I. P. Railway, more particularly as our transactions with them have been more frequent, and all over their two lines in the Bombay Presidency. Their help has been ungrudging and ready, even in small matters, such as the lending of tarpaulins to cover grass bales at depôts when rain threatened. The Traffic Manager placed railway carriages on the siding at Ráver Station for the accommodation of the officer directing the grass operations, and of his office during the month of June, when rain threatened. The Workshops of the Company and their skilled artificers were always available for executing repairs to, and making new parts for, machinery connected with the presses. Engineers and fitters were lent temporarily to work steam presses. Water was given free for the steam-engine at Ráver, and a pipe with tap fitted to the well; the railway fence was breached, and a gate fitted in the place, to admit of a tramway for moving bales to the railway trucks on the siding. Coals were supplied where and when required; and the greatest kindness and courtesy were exhibited to me, and to my officers. Railway trucks of the largest holding capacity were provided, and the Steam Baling Press No. 1, from Ráver, and 5 Hand Baling Presses which had been obtained on loan, were received in the Railway Workshops at Bhusával and put into good order prior to their being returned to their owners; and I venture to submit that the thanks of Government may be conveyed to the two Railway Companies for the assistance they gave the Famine grass operations.

131. I will now describe the work done in each circle separately, and in each division of that circle.

Central Circle.

132. There are seven Forest divisions in this circle, and five of them were, in a greater or lesser degree, affected by the famine of fodder grass and a dearth of grazing.

133. West Khándesh escaped scot-free, and self-supported all its cattle, but it afforded no assistance to the cattle of any outside district, because distance and heavy cost of transmission prevented it from doing so; its forests of wide stretch and great extent were capable of feeding a host of cattle, but village cattle owners in the famine-affected areas, though invited to do so, would not send their cattle to these distant forests, in what they believed to be a death march for the animals. It should be remembered in case of a future year of famine that if Phoenix Steam Hay Baling Presses are available, West Khándesh should be exploited for grass early in the season in the month of October, for it can supply crores of pounds of fodder grass.

134. East Khándesh gave relief in supplying a very large quantity of grass to famine districts, and at the same time it fed its own cattle, so that none died of starvation.

135. Násik could export no grass, but it maintained its cattle with a little assistance in baled grass given to its eastern tálukas, Sinnar, Niphád, Chándor, Nándgaon and Yeola, from the Khándesh and Thána Districts.

136. Poona and Sátára suffered in their eastern tálukas; the former division received a large quantity of grass from the Thána and Khándesh Districts, and a small quantity from the Sátára District, for distribution at Poona, and in the eastern tálukas of Indápur, Dhond and Báramati. The Sátára division sent a little grass to Poona, and it maintained its own cattle.

137. The Ahmednagar and Sholápur divisions received very large supplies of fodder grass from the Thána and Khándesh Districts, and were heavily afflicted by the grass famine with very little power or resource to help themselves.

138. Collections of grass were made in the East Khándesh, Poona, Sátára and Násik divisions: no grass was baled in the last-named division; a small quantity was baled in Poona, and a larger in Sátára, but an enormous quantity was baled and exported from the East Khándesh division. It should be borne in mind in any future famine that a considerable quantity of grass can be obtained in all these four divisions; in East Khándesh from its Sátápda, Trans-Purna and Sat Mala Forests, and in the other three divisions from the tálukas bordering the Western Gháts; provided collecting operations are commenced early, not later than the first week of October.

139. Mr. W. G. Betham, Deputy Conservator in administrative charge of the Central Circle, assisted me as much as he could in my operations; he visited the country of the Sátápudas between Ráver and Chopda Tálukas, which had been recently opened out to cart traffic, and the exploitation from it of grass, while grass-cutting and road-making operations were going on therein, and by his presence urged and stimulated these works.

140. The grass-supply depôts for the detailed distribution of famine grass by Government agency were opened in the famine districts too late to be as serviceable or as efficiently administered as they might otherwise have been; for the greater portion of the Forest establishments in all the divisions in the Central Circle were already employed on special famine works before the famine grass-supply depôts could be started, so that it was only possible to obtain the temporary services of Forest Guards on the Rs. 7 grade—men who can read and write—to be in charge of these depôts as Depôt Forest Officers.

141. The history of the famine grass operations undertaken in each division will now be given in detail.

East Khándesh Division.

142. The famine grass operations in this division were conducted throughout by Mr. R. H. Madan, Divisional Forest Officer, under the direct orders of this office. Mr. Madan devoted constant personal attention and careful supervision to the work: indeed he identified himself completely with it, and its satisfactory results are due to his untiring energy and zealous intelligent interest.

143. Operations were commenced in Khándesh rather late in the season; owing to an unseasonable and deficient rainfall, there was scarcity of fodder in the plain tálukas south of the Tápti river, and grass had consequently been very heavily removed from all the accessible localities in the Sátápda mountains, and elsewhere, before the orders issued in Government Resolution No. 9007, dated 13th November 1896, Revenue Department, (*vide* para. 1) reached the Divisional Forest Officer through the undersigned, who was at that time in administrative charge of the Central Circle.

144. Inquiries showed that there were two stretches of forest country in reserved forest containing grass which might be exploited by hand for export by railway to the famine districts, viz. :—

(1) An area of about 40 square miles in the Trans-Purna reserves which had been tapped by local demand up to date to a very small extent.

(2) An area of about 90 square miles in a very inaccessible part of the Sátápda mountains, where there were no villages and no people on the northern aspect of the slopes draining north into the Aner river, and stretching through portions of the Sávida and Yával forest ranges from Warkundia on the east to Lakria Hanuman on the west, which are names in Bhil folklore given to two sites in the Sátápda mountains whereon congeries of wigwams inhabited by the wild jungle tribes used to stand in by-gone days, a century and more ago, at present the home of the tiger, the bison and the bear. This expanse of forest country stretches about 20 miles east and west, by 3 to 5 miles north and south, and is at an elevation of 2,700 feet above the sea level, and about 1,900 feet higher than the G. I. P. Railway Station at Ráver, and it had never been entered by wheeled conveyance, but could only be reached by a stiff climb over a few mountain passes.

145. In my letter No. ^{Fam.}₆₀, dated 21st November 1896, I ordered both these areas to be closed and protected against private exploitation of grass for consumption in the Khándesh District, and to be reserved absolutely, and worked for feeding steam and other presses to be established at suitable places in their vicinities for baling hay for the famine districts; and I likewise directed that the rates to be paid for grass delivered at depôts which had already been started at Ghodasgaon, Ráver and other places at Rs. 5 per 1,000 lbs. should be reduced at once to Rs. 2-8-0, which is a very fair wage, as experience had shown previously. In the Chopda Sátápudas, in the Ráver Sátápudas, and at Ghodasgaon and other parts of the Edalabad range where some grass was still available, and practically all the grass crop of the season had not been removed for local supply; the villagers flocked to the work, for they were feeling the pinch of a bad harvest, and failure partial, and largely proportional, if not complete, of a very bad farming season. Bhils from the Chopda range flocked to the Chopda Sátápudas to cut and stack grass.

146. But the case was quite different with the Tadvi Bhils of the Tápti valley in the Yával, Sávida and Ráver ranges, who, early in the season, had stored their huts with grain looted from the fields, and not only refused absolutely to go into the Sátápudas hinterland of their country to cut grass for Government, but they expressed their determination not to permit imported labour to proceed into their hills; and were seemingly so determined in their opposition that the Collector and District Magistrate of Khándesh, whom I met at Bhusával in the last days of November 1896, and had consultations with, suggested to me the removal of the Steam Phoenix Hay Baling Press, then at the Bhusával Railway Station, from this part of the district, so as to avoid complications, lest the Bhils should give trouble by setting fire to the grass, and attacking and looting imported labourers, and harassing and stopping operations generally. However I made arrangements to attack the grass hinterland from the rear, and thereby avoid the Tadvi Bhil villages, and also to endeavour to overcome the hostility of the Tadvis by persistence, and their scruples against manual labour by force of example. Kunhis and low-caste Hindu villagers, such as Mahars from the country round Yával, were persuaded to go up into the hills on the extreme west side with Range Forest Officers and Forest Guards

who had to take supplies of food with them for all the people as there were no villages within 20 miles, and then only on the plains below; and grass cutting was thus started in a humble way early in December, by Foresters Maktum Ali Sarvar Ali, who had been brought from the Pachora range for the purpose, and Gopal Shrikrishna, Range Forest Officer of Yával, who deserve to have their names recorded for their enterprise and tact. The effect was all that could be desired: the Tadvis, having exhausted their stores of stolen grain, seeing that they were being treated as a quantity negligible, flocked up to the hills and enlisted as labourers in grass cutting; and the work went on so swimmingly that when grass cutting was stopped in the middle of February, in consequence of the grass having lignified, and being of doubtful edible quality, these very same recalcitrating Tadvi Bhils came forward with offers to go on cutting and collecting grass at half the rates, payment having been made to them by the job, *i.e.*, at 4 annas per 100 lbs. weight of grass cut and stacked.

147. During the time the grass cutting operations lasted in the East Khándesh division from the latter part of November to the middle of February 1897, employment was afforded to hundreds of villagers in what was by its own nature a famine relief work, and at the same time the predatory hill tribes were kept in honest employment in an occupation of peace, much to the relief of the cultivating classes and the inoffensive villagers living in the Tápti valley on the borders of the mountainous forest country.

148. I had ordered on the 21st November 1896 Mr. Abdul Rassul, Ranger, 1st Grade, at that time doing duty as Range Forest Officer of Edalabad, to be deputed on special duty to superintend the grass operations, as he is possessed of great influence over the wild tribes, and has an intimate knowledge of the country. And while grass cutting was being started from the west, Mr. Madan, the Divisional Forest Officer, taking Mr. Abdul Rassul with him, attacked the hinterland from the rear and the north. A cart was obtained and carried in pieces to the top of the plateau, on the heads of coolies, and at a place called Debrapani in the grass area, on its western side the cart was put together, and was thence driven and hauled towards the rising sun, and when any obstruction was encountered it was promptly attacked and removed, until a steep descent into the valley of the Suki river near Pal in the Ráver Sápudá was reached; here the wheels would go no further; and consequently road making was started, and a practicable cart track, 16 miles in length, was very soon made, considering the paucity of labour and the difficulties. This new road started from a spot known as Byramghát near a forest post, Warkundia, 6 miles west of the Pal settlement, and after a stretch of 4 miles in the lower valley, it reached the foot of Mundiacharghát where heavy cuttings and fillings in earth and soft murum were needed, and it wound up a spur of a hill making an ascent of 200 feet in about 1,205 feet, giving an average gradient of 1 in 6. After topping this ghát there were several ups and downs till Tinshimali, another known landmark, was gained, and then a bit of flat country for some miles to the Dhupghát, and some further ascents near Suparigulla and beyond, over rugged country to Langra Amba, and then a flat strip carried the road to Debrapani and its western terminus. So that communication for carts to ply and bring down the grass from the Sápudá hinterland to the Ráver Railway Station was established by the Forest officers by the end of January. Later on, when the exploitation of grass by this new route was pushed, a diversion was made from Warkundia to Tinshimali skirting the banks of the upper waters of the Suki river past the frontier forest post, Mangel. This road is 8 miles in length, and it avoids the steep rise of the Mundiacharghát, getting up to the plateau at Tinshimali at an elevation of 2,700 feet above sea level by a series of easy gradients.

149. Government in their Resolution No. ^{Fam.}₂₈₃, dated 25th January 1897, Revenue Department, were graciously pleased to express their commendation of Mr. Madan and Mr. Abdul Rassul for the energy and tact with which they had successfully opened out a new grass-producing tract, and they ordered that the Executive Engineer should be instructed through the Public Works Department to give all possible assistance in effecting such improvement of the cart track as is at once practicable. But the Public Works Department had their hands full elsewhere, and were unable to give any help whatever.

150. While grass cutting and the making of roads for its conveyance to a press baling depôt were progressing in the highlands, the Steam Phoenix Hay Baling Press which had been sent to Bhusával Station in November 1896 was moved by railway to Ráver, and was established in a field adjoining to, and outside the premises of, the railway station compound; and at this place 35 lakhs of pounds of grass brought down from the Sápudá hills were compressed and baled, and were sent off by railway for distribution in the famine-affected country of Násik, Ahmednagar, Poona, Sholápur and Bijápur. The Commissariat Department at Poona was also supplied with some baled hay from this depôt, which was the largest exporter of all the famine grass export depôts.

(B) SPECIES.

Quality of the grass.

151. The quality of grass in its service as fodder depends mainly on the time of the season when it is cut and harvested. If grass is allowed to lose all its sap and to lignify before it is cut, then, be the kind or species never so good, cattle will turn away from it. The scienti-

fic names of the Sápudá fodder grasses sent in bales into the famine districts as determined, kindly, by Professor Marshall Woodrow of the College of Science, Poona, are as under:—

Bhátád	...	...	...	...	Anthisteria ciliata.
Sheda	...	...	...	...	Ischaemum laxum.
Kunda	...	...	...	...	Ischaemum pilesum.
Phula	...	...	...	...	Polioea barbata.
Kusali	...	...	...	...	Andropogon contortus.
Poklya	...	...	...	...	Pseudanthisteria triopida.

Protection of cut grass stacks and grass-producing areas suitable for grazing.

152. When a large quantity of grass worth several thousand rupees had been cut and collected in the forests, it became necessary to take special measures for its protection against fire, and for this duty watchmen on daily wages were employed for guarding the grass, day and night, at a total expenditure of Rs. 1,239-6-6 distributed as under:—

Range.	Number of men.	Cost.
		Rs. a. p.
Chopda	3	10 8 0
Ráver	25	50 11 6
Sávida	125	282 9 0
Yával	151	564 14 0
Edalabad	79	319 8 0
Jalgaon	3	11 4 0
Total	386	1,239 6 6

153. And under the orders of Government contained in the Resolution No. 9192, dated 20th November 1896, Revenue Department, Famine, special fire conservancy watchers were entertained on daily wages to safeguard forest areas containing grazing against being burnt. The total expenditure under this head came to Rs. 816-9-0 as under:—

Range.	Number of men.	Cost.
		Rs. a. p.
Chopda	24	110 4 0
Ráver	21	90 3 0
Sávida	283	612 12 0
Yával	3	3 6 0
Total	331	816 9 0

Quantity of grass brought to Depôts.

Range.	Depôts.	Grass, weight in lbs.
Edalabad	{ Nargaon Chinchkhed Charthan }	806,325
Sávida	{ Ráver }	763,925
Ráver		96,580
Yával		2,480,573
Chopda	Chopda and Jalgaon...	889,443
		5,036,846

154. In the Chopda Sápudá Rs. 1-4-0 per 1,000 lbs. was paid for cutting and stacking, and elsewhere Rs. 2-8-0 per 1,000 lbs.; and the wages disbursed for cutting and stacking grass *in situ* amounted to Rs. 11,717.

155. It should be noted that the Yával Sápudá forests round Langra Amba in the western side contained a vast deal more grass than was cut and removed. Had there been a road through this uninhabited forest tract, had operations been commenced earlier in the latter

half of October 1896, and had there been no difficulty in the obtainment of labour in the earlier stage of this season's operations, possibly 100 lakhs of lbs. of grass could have been brought from these 70 square miles of Sâtpuda forests. But more baling presses would have been required to compress so large a quantity: at least 3 Steam Phoenix Presses would have been necessary; and, as said before, grass cutting had to be stopped when labour had become plentiful, and the Tadvi Bhils had become tame, and were begging to be retained on grass cutting at half wages, because the grass had then become dry and turned into sticks, and it would not have been edible; and judging from the results of the famine of 1877, the cattle owners of the Deccan would have refused it, no one would have bought it, and the money that would have been expended upon its cutting and stacking in the hills, its conveyance to the plains, its baling at the Râver press depôt, its carriage by railway, and its distribution in the famine-affected areas, would have been poured out to no good.

Fires.

156. A fire occurred at Handia Kundia in the Chopda forests, through the careless lighting of a fire by a cartman, when 46,340 lbs. of grass, which had cost Rs. 58 nearly, was destroyed. The man was prosecuted, convicted and punished.

157. On the 30th May 1897 railway wagon No. 4009, loaded with 100 bales containing 7,575 lbs. of compressed grass despatched from the Malkâpur Railway Station to Sanwatsar distribution depôt in the Ahmednagar District, while attached to No. 56 up goods train, caught fire, when all the bales with the exception of a small quantity of loose grass were completely destroyed. The wagon was next to the railway engine, and the fire is supposed to have been caused by a spark from the engine.

Press Depôts.

158. (a) *Nargaon in the Bhusâval Range.*—The Dederick Press, an American pattern continuous baling press, obtained on loan from the Commissariat Department at Poona, was first sent to the Nargaon Station on the G. I. P. Railway, Nagpur extension, 19 miles beyond Bhusâval, where it was fixed up and started in work on 2nd December. Grass was brought from Ghodasgaon and other grass depôts in the Trans-Purna range to feed this press; while employed at Nargaon Station it compressed into 5,673 bales 423,132 lbs. of grass, which were sent out to distributing depôts at the following railway stations:—

1 Kopargaon.	13 Lakh.
2 Bijâpur.	14 Vâmbori.
3 Sholâpur.	15 Visâpur.
4 Bârsi Road.	16 Belwandi.
5 Jeur.	17 Pimpri.
6 Kem.	18 Sarola.
7 Madhe.	19 Wari Sanwatsar.
8 Indi Road.	20 Puntâmbe.
9 Râhûri.	21 Chitali.
10 Belâpur.	22 Nagar.
11 Mohol.	23 Yeola.
12 Hotgi.	24 Diksal.

159. One of the main cogwheels of this press was in a badly worn condition when it was received and it broke to pieces after some weeks' working constantly at Nargaon, and was sent to the G. I. P. Railway Workshops at Bhusâval to be renewed, and an additional lever handle was fitted to the press, so as to make it possible to work the machine with two pairs of bullocks instead of one pair as could only be done formerly, and experience has shown that although a large strong American cart-horse might be able to walk the capstan arrangement which works the compressing ram with freedom and required speed, one pair of country bullocks was not strong enough to do so, and only contrived to make the circle in jerks and starts which delayed the outturn of bales, and also strained parts of the machinery; but with two pairs of bullocks yoked to the capstan the wheel went round merrily.

160. Then it was discovered that this press could be taken to pieces, and put together again readily, and a Forest Guard was taught the way to do this, so that after it had baled all the grass of the depôts within a distance of ten miles, the Dederick was taken to pieces and carted, in six carts, successively, to the grass depôts of Charthan, Rajur and Wadoda whereby a great saving in cart hire and in time was obtained. The bales from the two first-named grass and pressing depôts were sent to the Malkâpur Station, G. I. P. Railway, and from Wadoda to the Biswa Bridge Railway Station for conveyance to the famine districts.

161. When the Dederick had completed the baling of 8 lakhs of pounds of grass of the Trans-Purna forests in the Bhusâval and Edalabad ranges, the machine was moved by carts into the Yâval Sâtpudas, where it worked for about a week, and was then brought down to Râver as the Forest officers could obtain no carts at the time to bring down

grass or bales from the Sâtpudas to the Râver Station; and orders were issued about the middle of May (*vide* Government Resolution No. 1217, dated 22nd May 1897, Revenue Department, Famine) to abandon all cut grass remaining in the hills and to stop work for good. However, when the operations were resumed soon afterwards, the Dederick was again started at the Râver depôt, and it continued to work quietly and uncomplainingly, night and day, turning out 120 bales in the 24 hours, each measuring 3' 6" x 1' 9" x 1' 6", and weighing at the time about 60 lbs., because the grass was dry. At the opening of the operations the Dederick bale of grass full of sap weighed 90 lbs. This press converted 1,037,000 lbs. of grass into 13,328 bales, which were all sent into the famine districts with the exception of one railway wagon load of 100 bales of 7,575 lbs. grass destroyed by fire between the Malkâpur and Nargaon stations, owing to a spark from the engine igniting the grass.

162. (b) *The Jalgaon Pressing Depôt.*—Five hand lever presses which had, with great liberality and public spirit, been placed at my disposal by Messrs. Dubash and Company, A'bkâri Contractors of Khândesh, were originally brought to this depôt to bale the 183,688 lbs. of loose grass which had been carted to it from the Chopda Sâtpuda forests—a distance of nearly 60 miles, but these presses did not work satisfactorily; the teeth of the ratchet wheels of cast-iron broke off constantly under pressure, and new wheels had to be obtained from Messrs. Richardson and Cruddas and Company of Bombay, but they did not last long. Then there was a difficulty about labour at Jalgaon; and when presses were required to compress and bale the grass in the Tânsa Lake catchment area in the Thâna District, four of these presses were despatched to the Atgaon Station from Jalgaon on the 7th February 1897, and one press was left to complete the work at the Jalgaon depôt; its average daily outturn was 25 bales, measuring 4' x 2' 3" x 2' 3", weighing about 120 lbs., or 1½ railway maunds.

163. Altogether 1,367 bales containing 175,712 lbs. of grass were turned out at the Jalgaon Press depôt and were distributed in the famine areas thus:—

Station.	Bales.	Grass.
		Lbs.
<i>Nâsik District.</i>		
Yeola	145	16,960
Nândgaon	141	20,080
Manmâd..	327	44,320
<i>Ahmednagar District.</i>		
Kopargaon	143	15,600
Wari... ..	37	4,000
Puntâmbe	37	4,160
Chitali	111	19,120
Belâpur	111	15,600
Lâkh	72	9,760
Vâmbori	37	5,360
Nagar	147	19,300
<i>Sholâpur District.</i>		
Jeur	59	7,552
		1,367
		175,712

164. And when operations were closed at the Jalgaon pressing depôt, the press was sent up to Râver Station, to which press depôt the other four presses were likewise railed from Atgaon, and they continued to work during the month of June until the close of the operations, when all five presses were put into thorough good repair at the G. I. P. Railway Workshops at Bhusâval at a cost of Rs. 253.2-0 and were returned in the month of September 1897 to Messrs. Sorabji Dadabhai and Kavasji Dadabhai Dubash and Company with many thanks.

165. (c) *Chopda Pressing Depôt.*—Government having, in several communications addressed to me, urged the desirability of sending loose grass to steam cotton factories to be very lightly compressed into bales like unto fully steam-pressed cotton bales, and experiment having shown that a bale of compressed grass outturned by a cotton steam factory press at Jalgaon measured 10½ cubic feet and contained 280 lbs. of grass, and there being an insufficiency of other than hand or bullock-power hay-baling presses to bale all the grass cut and collected in the Chopda Sâtpuda forests, and at the same time as the loss by wastage in carting loose grass from the Chopda Sâtpuda forests to the Jalgaon Railway Station pressing depôt, over a distance of nearly 60 miles, was very considerable, and the hand-press working at that depôt was a very inefficient one, arrangement was entered into with the manager of a cotton steam factory newly built at Chopda to bale a quantity of grass from the Chopda Sâtpuda forests on the first starting of his press, and 652,147 lbs. of loose grass were carted departmentally a distance of nearly 2½ miles from Handia Kundia, and were delivered down in the factory yard by weight, and were compressed and tied up in the steam factory into 2,583 bales containing 652,147 lbs. of grass, averaging 251 lbs. weight each, and measuring 52" x 19" x 19", at a cost of Rs. 4,025-12-4 or about Rs. 1-9-0 per bale, including hooping iron for fastening them; so that there was a

wastage of 1,318 lbs. of grass. These bales were then carted to the Jalgaon Railway Station, a distance of about 30 miles, at a cost of Re. 0-10-0 per bale, and they were sent out by railway into the famine districts as under:—

Station.	Bales.	Grass.
<i>Nāsik District.</i>		Lbs.
Manmād	55	13,600
Yeola	180	45,860
<i>Ahmednagar District.</i>		
Kopargaoon	240	58,960
Wari	180	44,960
Puntámbe	180	44,960
Chitali	180	45,120
Belápur	184	46,240
Nagar	307	78,000
<i>Sholápur District.</i>		
Jeur	127	38,848
Mádhe	186	46,560
Bárai Road	186	46,800
Mohol	186	46,800
Kem	186	46,520
Sholápur	186	46,880
Total	2,563	649,108

166. The result was not satisfactory to this Department nor pleasing to the Company: the latter complained that grass, being less elastic than cotton, unduly strained and caused damage to the machinery, and it was found that the hooping iron fastenings became loose readily and the bale lost weight rapidly, and the cost of its manufacture was, compared with other hay-baling presses, high: the experimental bale manufactured at the cotton factory, Jalgaon, early in the season when the grass was green weighed 280 lbs., it is true, but these Chopda bales when the grass was dry weighed about 240 lbs. on being opened at the distribution depôts in the famine districts.

167. (d) *The Ráver Press Depôt.*—This was the most important of all the grass-baling depôts, as it was fed by the Sápuda hinterland forests of the Yával and Sánda ranges, from the uttermost parts of which a cart road had been made, as already reported, to bring loose grass to the presses: 3,200,000 lbs. were conveyed in carts over distances varying from 20 to 40 miles, traversing a rough hilly country and negotiating a descent of over 1,900 feet on their way. The depôt was located in a field owned by one Hari Bulakhi of Ráver, Survey Nos. 25 and 26, to whom a rent of Rs. 51 was paid for its occupancy.

168. The Jessop's Phoenix Steam Press was brought to this depôt and erected on the 18th January 1897, when it began to bale, and it remained here until all the grass which had been collected for this depôt was exhausted, viz., till the 29th June 1897.

This powerful hydraulic press was equipped with four press boxes movable on iron rails, which were filled with grass from stages erected on the sides; between the two stages two hydraulic presses were fixed, under each of which one press box could be placed at a time: thus while the grass in two fully loaded press boxes is undergoing compression and baling, the other two empty boxes are being filled with loose grass from the platforms. The engine was found to consume 18½ cwts. of coal, and to drink 225 cubic feet of water per working day of 10½ hours. It required two skilled artisans, one being a fitter and the other a fireman, with 22 unskilled labourers, he required to work it and the pressing machinery: with continuous work, day and night, the press outturned on an average 242 bales, measuring 2' 3" x 1' 8" x 1' 3", which, when the grass was green at the opening of the season, weighed about 80 lbs., but with dry grass the weight dwindled down to an average of about 70 lbs. The solidity of the bales came to about 4-7 lbs. per cubic foot, and this press manufactured 33,640 bales of grass, which all went by railway into the famine districts.

169. Before establishing the Jessop's Steam Baling Press at the Ráver Railway Station in the plains, it was considered whether it would not be preferable to send it up into the Sápuda hills to work in the centre of the grass-growing hinterland, in view of the saving in the cost of carrying to the railway station of despatch all grass compressed and baled against loose grass; but there were weighty objections to this being attempted. In the first place, the road was a mere fair way, a cart track over a very rough country, and as the ash box of the steam engine is of very little weight above the ground when the wheels are on a level surface, and as the cart track is covered in most parts with big boulders and large stones and there are pits of varying depth for the wheels to run in, it was not practicable to take the engine over such a rough and uneven line of country, save at very considerable expense and waste of time in

removing obstructions and filling up ruts, and this could not be afforded. Then the engine and plant were new, and the Forest officers had no intimate knowledge of working it, and of its nature and construction, and there was no travelling forge, fitter's bench, &c., &c., attached to the plant for making repairs, so that if any of the parts should come to grief there would have been no means of replacing or repairing on the spot in the jungles: consequently it was decided to keep the press near a railway station within reach of the G. I. P. Mechanical Workshops, where all kinds of repairs and of renewings are possible. Experience in working the press at Ráver soon demonstrated the wisdom of this decision, for it was found that the machinery and plant were liable to be disarranged very frequently, necessitating the sending of damaged parts of the machinery to the Railway Workshops at Bhusával.

170. The pump plunger and valves at one time gave much trouble, and often went out of order, until Mr. Bonner, the Assistant Locomotive Superintendent of the G. I. P. Railway Workshops at Bhusával, paid a visit to the press at Ráver, and after examining it suggested the use of spun yarn packing and soft English leather plunger caps in place of the country leather ones supplied by the manufacturers of the press: this change was most beneficial. Two Baboo artisans who came with the pressing plant from Calcutta to work the engines and presses were neither clever nor very satisfactory in the performance of their duties, and better substitutes for them were obtained from the G. I. P. Railway Workshops at Bhusával.

Carriage of loose grass from the Sápuda Forests to the Press Depôt at Ráver.

171. This was a work of very considerable difficulty as the grass country was a wild jungle, the home of beasts of prey, with no human habitations, and was consequently regarded as a dreaded infernal region by the cartmen of the villages on the peaceful plains of Khándesh, and the road to and from it was a very indifferent one. The Collector of Khándesh was kind enough at first to order the local Revenue officials to assist the Forest Department in procuring carts, and in this manner some 700 carts were available up to the 10th March, when the help of the Revenue officers was withdrawn, because cartmen complained that the road was dangerous to limb and life of man and beast, and the wage, 3 annas a koss, was insufficient. The Forest officers were then puzzled how to obtain carriage. All the Commissariat Transport animals of the Bombay Army had gone off to the Frontier wars, and their assistance, upon which I had relied (*vide* Government Resolution No. 9192, dated 20th November 1896, Revenue Department, Famine) for bringing grass from the Sápuda mountains, was beyond reach. Forest subordinates were sent to scour the face of the country for carts, with orders to go from village to village and make offers of advances of money to cart owners, and the Divisional Forest Officer had even to go to Burhanpur in the Nimar District, personally, to beat up for carts. After some of the Burhanpur cartmen had made a few trips and set an example, cartmen from Rasulpur, Ráver and other large villages of Eastern Khándesh followed suit. Káshirám Lála, Police Pátil of Rasulpur, at this time rendered valuable assistance by sending his own carts, and by prevailing upon his villagers to send their carts into the hills, and for the public spirit thus shown by him he was rewarded, fittingly, by the presentation to him, with the Collector's concurrence, of a Pagri worth Rs. 20. The Forest officers were thus enabled to bring out of the Yával Sápudas 2,181 cart-loads of grass up to the 16th May. But the cost of cart-hire, and concurrently of bringing down the grass to Ráver, had risen so greatly, and even then with these enhanced rates very few carts were obtainable, that the work of compressing and baling was so often interrupted by the absence of grass at Ráver, the big power press having to remain idle, and as the Collector of Khándesh, to whose camp I personally proceeded in the month of March to ask for the assistance of the Revenue and Police officers in the obtaining of carts, expressed his inability to furnish carts, and as the demand in the famine districts for baled hay was, at the time, comparatively feeble, and there seemed to be small prospect of the grass remaining in the Sápudas being bought in the famine districts if baled at Ráver and sent thereto, I addressed Government, demi-officially, on the 13th May, suggesting that operations should be closed at Ráver at once, and the cut and stacked grass left unremoved in the Sápuda hills should be abandoned. Government intimated their approval by wire, which I received on the 17th May, and they sanctioned these proposals in Resolution No. 1217-Fam., dated 22nd May 1897, in the Revenue Department, and I telegraphed on the 18th idem to the Divisional Forest Officer, East Khándesh, to stop all grass operations at Ráver, and to dismantle the presses, &c., preparatory to sending them away.

172. However, after leaving Ráver on the 14th May, on visiting the grass-supply depôts in the famine districts, I found that an enormous demand, indeed a clamour, for grass, had suddenly sprung up, so that the depôts of supply at all railway stations on the Dhond and Manmád line, and from Dhond to Hotgi on the Sholápur line, were being besieged by villagers with carts begging for grass, and that at all railway stations crowds were meeting me asking for more grass; consequently on the 22nd May I reported demi-officially the changed conditions and circumstances to Government, and suggested that the grass cut and collected remaining in the Sápudas should now be brought out to Ráver, that pressing operations should be renewed and carried on vigorously at Ráver, and that Government should direct the Collector and Superintendent of Police, Khándesh, and the Mámátdárs of Ráver, Bhusával and Yával to provide carts for bringing the grass down from the hills; and on the 24th idem I received an urgent telegram from Government approving of my proposals, and informing me that the necessary instructions had been issued, and I wired at once to the Divisional Forest Officer, East Khándesh, to recommence operations; and I also wired to Mr. G. M. Ryan, Divisional Forest Officer, South Thána, to bring all the hand hay-baling presses from the Tánsa Lake catchment to Atgaon

Railway Station preparatory to sending them to Ráver, with all available wire binders, as the whole of the Thána grass had by that time been baled.

173. In the interval between the closing and the reopening of the operations attempt had been made to sell the grass abandoned in the hills to villagers, and over a hundred carts took advantage of the opening to carry away grass on permits by payment of fees.

174. But when the Revenue and Police authorities took action in the matter, under order of Government, and the Mámlatdars of Ráver, Yával and Bhusával co-operated under an imperative direction to do so issued by the Commissioner, C. D., the obtainment of carts to bring out the grass became an easy matter, and 2,500,000 lbs. of excellent fodder grass, that had been temporarily abandoned, was very soon brought down to the Ráver pressing depôt in 3,883 carts. The Collector arranged to pay the cartmen their wage, which was done by the Mámlatdár of Ráver, at the rate of 4 annas a koss for the loaded cart, which was the same rate the Forest officers had been paying between the 17th March and 16th May. The total cost of bringing down the remaining grass amounted to Rs. 16,179-1-3.

175. This grass came in of service in the famine districts at a very critical time, just when the plough cattle were wanted to prepare the fields for sowing the crop of the season 1897-98; the grass supported the cattle doing their heavy work, and it undoubtedly, to a very great extent, prevented the scarcity of grain and fodder other than grass continuing through 1898-99. Without this provision of fodder it is difficult to say what the proportion of area under corn would have been in the famine villages during the rains and autumn of 1897.

176. The Ráver pressing depôt now became a scene of very busy life. The steam pressing plant was worked ceaselessly, day and night, and the Dederick bullock-power press, one screw hand press and 12 lever hand-baling presses which had been brought from distant places after finishing up at their original locations were assisting might and main: it was after the end of May and June had already opened, and if the early monsoon storms which precede the heavy rainfall should come down the grass would get wet, sodden and lose its elasticity, and it would be difficult and dangerous to the plant to compress it: then the black soil of the depôt would become a sticky puddle and operations would be retarded, if not stopped, so that it became a race against time. The large sized hand presses of an improved type with double pulley and chain blocks were much more capable than the small presses originally obtained on loan and started at Jalgaon depôt.

177. The outturn of the different hand presses on a full working day of 12 hours gave the following results:—

	Bales.
1. Jessop's Phoenix steam press	265
2. Dederick, bullock-power	60
3. Atgaon hand press No. 1	26
4. Do. " 2	30
5. Do. " 3	35
6. Do. " 4	30
7. Do. " 5	23
8. Mhow hand press	25
9. Jalgaon hand press No. 1	38
10. Do. " 2	23
11. Do. " 3	26
12. Do. " 4	22
13. Do. " 5	20
14. Screw hand press	16

and during night time the manufacture of bales was from $\frac{1}{5}$ to $\frac{1}{4}$ less.

178. Concurrently with the production of bales there was a constant flow from the depôt to the railway station into wagons for despatch to the famine districts in response to urgent requisitions for grass arriving at all hours.

179. Having obtained through the great kindness of the Traffic Manager, G. I. P. Railway, the loan of two railway carriages placed in the siding of the Ráver Station for the Divisional Forest Officer, East Khándesh, and his office to live in, in case rain storms should deluge, rendering tents uninhabitable, I proceeded to the famine districts to be in the centre of the demand, and in a position to gauge its varying rise and fall, and make arrangements for the distribution of the supply of bales to the railway station depôts where there was a run on the grass, so that the arrivals of supplying wagons might be regulated by the needs of the day at different railway stations.

180. The G. I. P. Railway Company had very kindly permitted the use of their well pumps at the Ráver Station to feed the boiler of the steam engine of the Phoenix Press at the Ráver depôt with water, and the Railway authorities had also very kindly arranged to supply coal from their coal yards at Bhusával, which they sent to Ráver in trucks, 22 miles by rail, and delivered there, from time to time, according to requisitions; this coal had to be moved from the siding to the engine in the depôt; 126 tons of Warora coal was bought, paid for at Rs. 10-1-0 per ton and consumed. Then over 45,325 bales of grass had to be conveyed from the Ráver depôt into the railway premises and loaded into wagons on the sidings. To undertake all this work by manual labour unaided would have not only cost a considerable sum, but it would have delayed and hampered execution, and therefore Mr. Madan, by exercise of happy initiative resource, obtained from Mr. Alli Akabar, Executive Engineer for Irrigation, Khándesh, the loan of a tramway line with 4 trucks fitted with tipping arrangements from the Jamdhā Canal works, where they were lying idle at the time.

This tramway proved of the highest service for carrying coals and water from station to engine, and bales of hay from depôt to wagons, and loose grass from grass yard to presses. A line 912 feet in length was laid from the further end of the depôt to the railway loading platform, the Company's officers having kindly opened their wire fence, and having fixed a gateway to allow this to be done. A branch with a point and crossing was also laid for the water to be carried to the engine, the Railway officers having permitted a special pipe fitted with a tap to be attached to the downtake pipe for their own feeding water tank, so that a tramcar with a tank in it could be run under the pipe, filled with water and propelled by manual labour along the tram diversion to the engine to water it up: for this water no charge was made by the Company.

181. From the Ráver depôt the undermentioned distribution of grass was made into the famine districts:—

District.	Railway Station.	Railway Wagons.	Bales.	Weight of Grass.
				Lbs.
Násik	Nándgaon	3	433	13,723
	Manmád	5	554	40,622
	Yeola	22	2,261	127,756
Ahmednagar	Kopargaon	22	2,771	198,711
	Wari banwatsar	5	1,150	70,369
	Puntámbe	4	911	55,665
	Chitali	4	746	44,182
	Belápur	15	1,081	92,871
	Lákh	2	453	28,906
	Ráhuri	178	7,211	979,155
	Vámboori	2	330	21,897
	Nagar	32	3,830	276,453
Poona	Pimpri	8	293	31,460
	Diksal	1	208	16,333
	Poona	38	8,693	524,511
Sholápur	Kirkee	1	218	15,195
	Kem	12	2,093	126,601
	Mohol	24	5,323	330,868
	Jaur...	10	1,389	91,974
	Mádha	7	1,058	69,860
	Bársi Road	19	3,237	201,297
Bijápur	Sholápur	2	423	31,091
	Hotgi	1	205	16,686
	Bijápur	2	439	32,710
Total		419	45,323	3,442,200

182. The following quantities of grass were sold locally in the East Khándesh District:—

Range.	Quantity.	Price.
	Lbs.	Rs. a. p.
Jalgaon	15,633	154 9 7
Chopda	11,689	47 8 0
Ráver	100,593	496 12 6
Sánda	9,800	17 8 0
Total	137,725	716 6 1

183. And the quantity of grass exported from the Khándesh District to the famine districts is given below:—

To District.	FROM STATION DEPÔTS.														
	Ráver.			Narguon.			Jalgaon.			Malkápur.			Biswa.		
	Wagons.	Bales.	Grass.	Wagons.	Bales.	Grass.	Wagons.	Bales.	Grass.	Wagons.	Bales.	Grass.	Wagons.	Bales.	Grass.
			Lbs.			Lbs.			Lbs.			Lbs.			Lbs.
Násik	30	3,248	182,100	1	100	7,070	21	843	140,820	9	893	63,176	...	...	...
Ahmednagar	272	18,786	1,802,974	39	3,259	253,384	42	1,066	405,040	18	1,894	129,107	26	2,400	171,065
Poona	40	9,124	556,039	2	200	14,052	...	...	...	...	...	...	...	...	...
Sholápur	75	13,781	868,377	9	1,101	63,024	15	1,116	278,960	...	...	...	...	...	...
Bijápur	3	439	32,710	11	1,013	85,588	...	...	...	...	...	...	...	...	...
Total	419	45,323	3,442,200	69	5,673	433,182	78	3,930	824,820	37	2,592	197,282	26	2,400	171,065

* The actual weight is 3,439,000 lbs.

184. The gross outlay on the grass operations in Khándesh having amounted to Rs. 69,012-12-11, and 60,480 bales containing 5,157,674 lbs. of grass having been exported, it will be seen that the average cost, exclusive of the railway freight, for conveying the bales from the district to their destinations, works out to about Rs. 13 per 1,000 lbs.

185. The G. I. P. Railway authorities at Bhusával in Khándesh were cordially helpful in supplying coals, in renewing broken parts of machinery and mending the pressing plant in their Workshops, in giving water at Ráver to the engine, in providing whatever they were asked to do from time to time, such as skilled artificers to work the steam engine, fitters to proceed to Nargaon and Ráver to execute repairs to the presses at the depôts, and in affording other assistance. And the Traffic Department also met the calls for many railway wagons of specially commodious types with every expedition and consideration. It was no small business to supply 609 empty wagons at the five despatching stations in the Khándesh District punctually, so that no delay occurred.

186. The Native Station Master at Ráver was particularly obliging in this respect, and I had the pleasure of bringing his willing co-operation to the notice of his superior, the General Traffic Manager. To the officers of the G. I. P. Railway Company who were serving in the Khándesh District from December 1896 to July 1897, my earnest thanks are due for their ready, unstinted help, which contributed so greatly to the grass operations of the East Khándesh division turning out an unqualified success.

187. As stated already, Mr. R. H. Madan, Extra Deputy Conservator, 4th Grade, and the Divisional Forest Officer of East Khándesh, managed the whole business in addition to his own forest duties under my direct orders, and he was most assiduous and devoted to the work. The Collector of Khándesh, in forwarding Mr. Madan's report, remarks:—

"The work of which this is a record is one for which Mr. Madan deserves great credit. The task was a task of serious difficulty, but his patience and untiring hard work carried it through, and the result was not only to send relief to the people of distant districts, but, as he says in his 7th paragraph, to provide a living for a good many of the Tadvis of our own Sátputas, and to keep them quiet when they would probably otherwise have been looting."

* * * * *

188. Mr. Madan brings to notice the services of—

(1). Mr. Abdul Rassul Khajbaksh, Ranger, Rs. 100 grade, who was put on special duty in connection with these operations and whose services were invaluable. This officer has been promoted subsequently to Extra Assistant Conservator, 4th Grade, and he has been rewarded fully for his past meritorious services, including those connected with the grass operations.

(2). Mr. Gopal Shrikrishna, Forester, Rs. 30 grade, and Range Forest Officer of Yával.

(3). Mr. Maktum Ali Sarvar Ali, Forester, Rs. 20 grade, and Range Forest Officer of Páchora.

(4). Mr. Shaik Hyder Shaik Nizam, Forester, Rs. 30 grade, and Range Forest Officer of Sánda.

(5). Mr. Lakshman Vishnu, Forester, Rs. 30 grade, and Range Forest Officer of Ráver.

(6). Mr. Tukaram Lalaji, Forester, Rs. 40 grade, and Range Forest Officer of Bhusával.

189. * * * * *

West Khándesh Division.

190. Mr. H. W. Keys, Deputy Conservator of Forests and the Divisional Forest Officer, reported that practically any quantity of grass could be furnished from the forests of the West Khándesh Division, but the distances from the grass to be conveyed to railway stations for export to the famine districts were so great that the cost of cartage would raise the price of the grass to so high a figure as to make its sale in the famine districts to be absolutely prohibitive. Inquiries were made as to whether loose grass could be carried from the forests of West Khándesh to a cotton steam factory to be compressed and baled, preliminary to being carted to railway stations for export to the famine districts. In the extensive forest reserves of the Shirpur Satputa, of the Sháháda, Taloda, Navápur, Nandurbár, Akram and Pimpalner, &c., ranges there was an unlimited supply of grass, but Dhulia is the only place in the division where there is a steam cotton press, and while it was computed that loose grass might possibly be stacked down on a cart road in the Shirpur range for about Rs. 3-8-0 per 1,000 lbs., and that its cartage to Dhulia would raise the price to Rs. 9-8-0, the cost of pressing and of carting bales to a railway station at Chálsigaon would bring the price over Rs. 20 a 1,000 lbs. before it was loaded in railway wagons for despatch. From the other ranges the cost would be considerably greater; so that all thought of exporting grass from the West Khándesh Division was abandoned. But special watchers were employed throughout the season to supplement the Forest Guards in protecting the West Khándesh forests against fire, so that these widespread wild forest regions, the home of the bison, the bear, the tiger, the panther, the wild dog, and other beasts of prey might be capable of affording harbours of grazing to any number of famine cattle that might be sent to them

from the districts bereft of grass and other fodder and where pasturage had ceased to exist. However, no cattle owners could be persuaded to send their cattle to such a distance, and to such unknown regions beyond the ken of the villager living in the champaign country of the Deccan. The reply invariably given was that "neither the herdsman nor the cattle would ever return, the grass and herbage of those parts, the wild animals and malaria would be the death of man and beast, and it were preferable far to run the gauntlet of starvation at home than to go and leave their bones to whiten in a foreign land."

And for these reasons West Khándesh sent no grass into the famine country, and it received no foreign cattle to graze in its forests.

The Násik Division.

191. There was grass in abundance in the Peint Táluka below the gháts, but the distance it would have to be carried forbade any attempt at supplying it as fodder, and no cattle from other districts could be attracted to this wild and rugged part of the country, where the people are poor. On the other hand, in the eastern parts of Násik, there was a dearth of fodder, so that it became a grass famine area, and there consequently arose a considerable demand for fodder, so that the grass in the tálukas above the gháts bordering the Sahyadris had been practically eaten up and eradicated before December 1896, when its collection at famine grass depôts was started. Work was continued until my order No. 760, dated 16th February, was received directing that "as grass is dry now in the forests all further collections were to be stopped," but there was very little need of this order, for there was no grass left anywhere.

192. The quantity cut in five tálukas was so small that it was inadvisable to bale it and to remove it outside the district, depriving local cattle of so much fodder; and therefore it was sold by auction *in situ* in order that it might serve the demands of local supply. It was necessary to establish three depôts of grass distribution at the railway stations of Nándgaon, Manmád and Yeola to which bales were sent from the Khándesh and Thána districts for sale; some famine grass was sent to the Násik and Lásalgaon Stations also, and the grass and grazing provided by the forests of Násik were utilized for the support of the cattle of the district supplemented by fodder grass brought from outside.

193. The following table shows at a glance the insignificant collection of grass in the Násik ranges, with the financial results of the departmental operations:—

No.	Range.	Weight of grass collected in pounds.	Cost.	Sale result.
			Rs. a. p.	Rs. a. p.
1	Násik	16,000	42 0 0	50 10 0
2	Igatpuri	73,000	182 11 6	320 0 0
3	Sinnar	3,163	7 15 0	12 14 0
4	Dindori	84,000	161 1 0	255 0 0
5	Baglan	34,400	80 11 0	91 8 0
6	Kalvan	20,923	52 4 6	85 0 0
	Total	231,491	526 11 0	815 0 0

194. And the following table shows the number of bales of grass brought to and sold at the famine grass depôts established in the district:—

Depôts.	FROM							
	THÁNA DISTRICT.				KHÁNDESH DISTRICT.			
	Wagons.	Bales.	Lbs.	Price.	Wagons.	Bales.	Lbs.	Price.
				Rs. a. p.				Rs. a. p.
Nándgaon	3	108	14,936	119 8 0	8	674	55,242	549 11 0
Manmád	23	920	112,747	1,214 13 0	15	936	98,542	1,309 11 6
Yeola	14	483	60,825	543 6 0	33	3,513	320,272	4,141 11 0
Lásalgaon	1	34	5,204	42 0 0	...	...	...	.....
Násik Road ... ..	...	...	...	.....	...	...	...	.....
Total	41	1,545	193,512	1,919 11 0	61	5,123	474,056	6,001 1 6

195. On the 2nd April there were a hundred bales containing 7,076 lbs. of grass, the production of the Dederick Press, which had been received from Nargaon in Khándesh, and had cost about Rs. 90 in the famine grass supply depôt at Yeola, when in the middle of the day it was suddenly seen that the grass was on fire, and that the fire had occurred in the

centre of the stack of bales. How the fire got there has never been found out, though searching inquiries were made: a depôt was in a corner of the compound, which is a large one, of the Dharmshala, but there was no one cooking or smoking close by: it is suggested that some of the grass had been wetted by rain before being pressed, that the tight compression of damp grass had caused gases to generate, which led to spontaneous combustion. No sooner was smoke seen than there was a blaze, and out of the 100 bales only 17 charred ones were rescued, the remaining 83 having been destroyed; the charred bales were sold by auction for Rs. 5-4-0.

Ahmednagar Division.

196. This district suffered very severely from the want of grass; indeed the eastern portion of it was a very Sahara in its similitude to a desert, for the whole face of the country was void of such vegetation as springs up and dies down within the twelve months, so that the Divisional Forest Officer, Mr. Hornidge, reported—taking, however, a long time to do so, report No. 634, dated ^{21st}_{23rd} December, to my letter No. 4649 of the 9th November—that there is no forest area in this division where fodder grass is to be had in fairly large quantities as to justify the establishment of a hay press of any kind in its neighbourhood, and that some 75,000 head of cattle might be sent into the ghât forests of the Akola Taluka in seventeen villages bordering the Sahyadris from outside to graze. As a matter of fact cattle were sent as early as December 1896 from eastern villages of the Ahmednagar District, as also from parts of the Poona District, into the Akola Taluka forests in search of grazing. The Mamlatdâr of Kopergaon reports that from his taluka about 2,000 head of cattle were marched out the Akola Taluka to graze, out of which number barely 500 returned, the rest having probably died in these distant forest lands.

197. Very early in the season it became necessary to open famine grass-supply depôts on the central line of the Collectorate; fortunately the Dhond-Manmâd Railway runs north and south through the middle of the district, so that it serves as a base of supply, the most suitably located for distribution all round that could be arranged. There are 15 stations on this railway within the limits of the district, two of which are comparatively minor or subsidiary stations, without goods platforms, &c., viz., Vilad and Akolner, and no depôts were fixed at them, but depôts were established at the 13 stations of Pimpri, Belwandi, Visâpur, Sârola, Ahmednagar, Vâmbori, Râhûri, Lâkh, Belâpur, Chitali, Puntâmba, Sanwatsar and Kopergaon. The absence of grass and its consequent want was felt with the greatest severity in the country served by the depôts north of Ahmednagar, and the heaviest run on the grass was made at the depôts between Râhûri and Kopergaon inclusive. Chitali and Belâpur were resorted to more particularly for the cattle in the Nevâsa and Shevgaon talukas. At Kopergaon there was a most energetic Mamlatdâr, who interested himself greatly in the fodder distribution and deserves mention here, for Mr. Waman Ganesh Kale was a most useful man and so was Mr. Sakharâm Amrut Palshikar, the Special Relief Mamlatdâr; and the Assistant Collector, Mr. P. E. Percival, took great personal interest in the working of the depôts.

198. A very large quantity of grass in bales was delivered at the Ahmednagar Railway Station, some of which went into the Jâmkhed Taluka for distribution there, and a considerable supply—1,192 bales containing 83,915 lbs. of grass—was given to the Superintendent, Remount Rearing Depôt at Ahmednagar.

199. The sales at all the depôts were comparatively slack so long as a reserve not below the cost of the grass delivered at the depôt was imposed: but directly the selling rate was reduced, as has been reported already in para. 72, to a minimum of 8 annas per maund of 80 lbs., there was a tremendous run on the depôts; and in the words of Mr. Percival, Assistant Collector, people came “clamouring for grass.” Sales were continued by me up to the 31st May 1897, and all grass remaining in the depôts on the 1st June, and such grass as was sent to the depôts on and after that date, was handed over to the Collector for distribution against tagai, and at the cost of the Indian Charitable Famine Fund. In their urgent memorandum No. ^{Fam.}₂₀₅, dated 13th May 1897, to the address of the Commissioners, Central and Southern Divisions, copy of which Government sent to me for information, attention was invited to the orders contained in paragraph 3 of Government Resolution No. 10603, dated 24th December 1896, providing that advances can be made in grass in lieu of cash subject to the General Rules for Tagai Advances, and Government desired to know how far advances for fodder can be met by supplying grass out of the stock collected by me.

200. In order to give effect to the order of Government implied in this memorandum, which was intended more especially to secure a sufficient supply of grass for cultivators' cattle used for dragging the plough, at the season when the preparation of fields for sowing against the coming rains was to be undertaken, I wired to the Collector of Ahmednagar requesting a meeting with him and his Personal Assistant, and I proceeded to Ahmednagar for the purpose where it was arranged, on the 21st May, that the grass-supply depôts should be handed over to the management of the Collector from the 1st June, for if sales to the public had been continued after the end of May, the grass for which there was then an overpowering demand would have been bought up by speculators and others, with the certain prospect of very little of it reaching the plough cattle in the villages far distant from the depôts of supply. Further, in

para. 2 of their Resolution No. 1187-Fam., dated 15th May 1897, in the Revenue Department, Famine, Government referred to their order and directed that “grass collected by me should be supplied in lieu of cash as far as is found practicable.” But it must be mentioned that some of the grass was issued to Government servants at a higher rate than 8 annas per 80 lbs. and some was sold to Gavlis and cultivators; and the following figures show to what extent:—

		Price of Bales.		
		Rs.	a.	p.
Issued against Tagai	...	10,515	0	0
Do. Charitable Funds	...	3,132	10	0
Do. to Government servants	...	506	6	0
Sold to Gavlis and cultivators	...	917	2	4
		15,071	2	4

201. The following table shows the number of bales of different kinds with the quantity of grass sold under my direction at each depôt in this district up to 31st May 1896, and also the number of bales of different kinds with quantity of grass and its value at a minimum rate of 8 annas per maund of 80 lbs., or bale, if lighter than a maund supplied to the Collector during the month of June for distribution against tagai and at the cost of the Indian Charitable Fund. The total of these two statements exhibits the total quantity of famine grass delivered in the Ahmednagar District.

Quantity of grass sold in the Ahmednagar District.

No.	Depôt.	BALES.				Quantity of grass in lbs.	Amount realized.
		Steam Press.	Dederick Press.	Hand Press.	Total.		
							Rs. a. p.
1	Pimpri ...	...	6	209	215	24,861	277 8 0
2	Belwandi ...	...	28	64	92	9,904	107 8 0
3	Visâpur ...	...	82	83	115	12,336	113 6 0
4	Sârola ...	...	100	55	155	14,298	132 6 0
5	Ahmednagar ...	298	1,300	190	1,788	146,959	1,947 13 7
6	Vâmbori ...	230	101	230	561	44,857	519 10 4
7	Râhûri ...	312	202	749	1,263	106,425	739 6 0
8	Lâkh ...	471	99	273	843	67,650	772 13 0
9	Belâpur... ..	442	199	444	1,085	136,577	1,298 0 6
10	Chitali ...	513	106	709	1,328	158,302	1,452 1 0
11	Puntâmba ...	524	133	681	1,338	201,340	1,452 13 0
12	Wari ...	418	464	856	1,738	191,165	1,760 10 0
13	Kopergaon ...	1,090	1,133	1,410	3,633	354,222	3,861 7 0
	Total ...	4,298	3,903	5,953	14,154	1,468,896	14,435 6 5

Quantity of grass supplied to the Collector of Ahmednagar for distribution.

No.	Depôt.	BALES.				Quantity in lbs.	Value.	REMARKS.
		Steam Press.	Dederick Press.	Hand Press.	Total.			
							Rs. a. p.	
1	Pimpri ...	...	94	505	599	63,146	554 6 0	
2	Belwandi ...	...	72	28	100	8,867		
3	Visâpur... ..	...	68	13	81	6,394		
4	Ahmednagar ...	3,388	2,602	560	6,550	504,983	6,788 1 4	
5	Vâmbori ...	...	99	...	99	6,938		
6	Râhûri ...	...	99	6,660	6,759	979,284	5,198 0 0	
7	Belâpur ...	466	...	308	774	64,946		
8	Chitali ...	693	192	...	885	55,220	3,765 10 0	
9	Puntâmba ...	626	165	...	791	50,638		
10	Wari ...	1,034	386	305	1,525	106,400		
11	Kopergaon ...	1,753	225	428	2,406	167,025		
Total ...		7,960	4,002	8,607	20,569	2,013,341	16,256 1 4	

Poona Division.

202. Here also the scarcity of grass became very pronounced early in the autumn in the talukas touching the Western Ghâts, while in the eastern part of the Collectorate there was no grass. However, the old established grass dealers of the city of Poona who had purchased “valuable kurans” from the Forest Department, had considerable stocks of grass in huge stacks near the Lakdi Pul and grass market, which they reserved mainly to meet the demands of the city and cantonments of Poona and Kirkee and of their suburban municipal populations, and also to undertake contracts of supply at highly profitable rates.

203. Grass collecting depôts were started in four ranges, each of which was provided with a Salter's weighing balance, and later on with a Conder's hand press for compressing and baling hay obtained on loan from the Commissariat Department, Poona. The price paid for grass delivered at the depôts by villagers was fixed originally at annas 4 per 100 lbs., equal to Rs. 2½ per 1,000 lbs., but it was found to be necessary to raise this rate slightly, as no grass was being attracted at some depôts. The collections made were comparatively insignificant as under:—

Range.	Lbs. grass.	Cost.	Cost of baling.
		Rs. a. p.	Rs. a. p.
Junnar	46,558	108 12 0	40 5 0
Khed	24,844	82 2 6	15 10 3
Mával	16,276	62 6 0	24 12 6
Mulshi	31,751	71 6 0	34 13 0
Total	119,429	324 10 6	115 8 9

204. Coir rope and a few wire binders were used for fastening the bales.

205. All the bales except those of the Khed range were brought into Poona for sale; from Mával they came to Talegaon by carts, and from thence were railed into Poona; and from Junnar and Mulshi the bales were necessarily brought by carts. There was considerable wastage of grass shown when the baling was completed in the Junnar and Khed ranges.

Ranges.	Number of bales.	Weight of grass.	Average weight of bale.	Cost of carriage to Poona.
		Lbs.	Lbs.	Rs. a. p.
Junnar	370	33,301	117	209 8 0
Khed	241	19,113	79	.....
Mával	184	16,116	87	85 11 0
Mulshi	361	29,910	83	152 6 0
Total	1,156	98,440	95	447 9 0

206. The Mulshi bales were handed over to the Commissariat Department for Rs. 449 at Rs. 15 per 1,000 lbs. The Khed grass was sold for Rs. 178 at public auction on the spot, there being a demand for it and cartmen being averse to come into Poona on account of the plague, and the bales from Junnar and Mával were sold by public auction at Poona for Rs. 384-10-4 and Rs. 206-6-4, respectively.

207. Some expenditure was incurred in moving presses and in repairing them, in the pay of watchers at depôts, in dead-stock articles, &c.; and the financial results of the Poona grass operations worked out eventually as under:—

	Junnar.	Khed.	Mulshi.	Mával.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Receipts	422 0 0	178 0 0	448 12 10	212 0 0
Expenditure	384 10 4	124 3 0	287 1 7	206 6 4
	37 5 8	53 13 0	161 11 3	5 9 8

So that there was a total profit of Rs. 258-7-7: but the quantity of grass collected was very small.

208. Large numbers of cattle grazed all over the Poona forests in every direction, so that the forest areas did their duty fully and adequately in supporting, not only the cattle of the district, but numbers of cattle brought from other districts.

209. Considerable quantities of grass in bales were brought into Poona by railway from the Atgaon, Asangaon, Khardi and Kassara stations in the Thána District, from Karád in the Sátára District and from Ráver in the Khándesh District, and by railway and carts from the Poona forests, and were sold by public auction in my presence, Messrs. Haji Kassim Ladha being the auctioneers. This grass was brought to Poona in order to break the combination of the Poona grass dealers, who had the local market entirely in their hands, and were charging the military and civil residents of Poona and Kirkee exorbitant prices. The Range Forest Officer of Haveli and Forest Guards assisted in unloading railway wagons and carting the grass to the sale depôt, but the chief burden of the work in connection with their sale fell upon the record keeper of the Conservator's office, Mr. Hanmantrao Bhau Kanse, and upon my own office peons, who deserve mention for their zealous and industrious exertions. The following is a statement of these auction sales:—

Date.	Number of bales.	Weight of grass.	Price.	Average per 1,000 lbs.
		Lbs.	Rs. a. p.	Rs. a. p.
27th March 1897 ...	235	29,757	322 10 0	10 13 5
15th April 1897 ...	175	13,145	222 4 0	16 14 6
"	131	20,928	235 4 0	11 3 10
"	51	4,431	63 4 0	14 1 10
"	184	16,116	212 0 0	13 1 3
"	370	33,301	422 0 0	12 10 9
"	1	.....	0 15 0	.....
29th April 1897 ...	402	57,919	385 4 0	15 4 6
"	41	3,075	49 4 0	16 0 3
1st to 8th May 1897 ...	361	29,920	419 0 0	15 0 0
"	776	108,693	1,338 12 6	12 4 0
"	200	28,495	3 3 4 0	12 0 9
20th May 1897 ...	101	14,660	177 4 0	12 1 0
"	1,113	70,919	997 4 0	14 1 0
" ... ..	.....	465	4 0 0	.....
27th May 1897 ...	147	5,926	85 12 0	14 7 6
Total	4,288	437,800	5,278 1 6	.....

210. The G. I. P. Railway Company were very kind and considerate in lending tarpaulins to cover the grass stacks when rain storms occurred: the Traffic Manager at my request having instructed the Station Master of Poona to give me the loan of as many tarpaulins as were necessary. I mention this as being another instance of the ready and cordial help I invariably received from the officers and subordinates of the G. I. P. Railway, and without these tarpaulins considerable damage would have been done to the grass.

211. One wagon load of 55 bales containing 8,740 lbs. of grass was sent from the Badlápúr depôt to Yeot Railway Station, a distance of 103 miles, at the request of the First Assistant Collector: the cost of the grass unloaded at Yeot amounted to about Rs. 45, and it was sold by auction by the First Assistant Collector for Rs. 16-5-0. The experiment was not repeated.

212. Famine grass sale depôts were opened at four railway stations with the following results:—

Range.	Depôt.	BALES.			Sent away, bales.
		Received.	Sold.	Price.	
				Rs. a. p.	
Dhond	Kedgaon ...	118	58	37 0 0	60
	Pátas	118	70	43 0 0	48
	Dhond	174	174	40 13 0	...
Indápúr	Diksal	813	813	521 9 0	...
	Total	1,223	1,115	642 6 0	108

213. One consignment of 55 bales containing 4,270 lbs. of grass was carted from Diksal Station to Baramati and was sold there for Rs. 55.

214. The demand at the railway station depôts was very weak and sales tedious until the end of May, when there was a rush on the Diksal depôt, which was the only one remaining at that time, and containing grass: from the Kedgaon depôt the unsaleable balance of 60 bales was sent to Vámbori, and from Pátas 48 bales were railed to Ráhuri in the Ahmednagar District; subsequently, when it was too late, villagers came to all the depôts asking for grass.

Sátára Division.

215. Depôts were opened at the commencement of December 1896 for buying grass from villagers at the following places:—

Range.	Names of depôts.
1. Wái	{ 1 Wasioli.
2. Jávli	{ 2 Asgaon.
3. Sátára	{ 1 Medha.
	{ 1 Parali.
4. Pátan	{ 1 Helwak.
	{ 2 Morgiri.
5. Shirála	{ 3 Bhojgaon.
	{ 1 Shirála.

And the rate of purchasing was fixed at annas 4 per 100 lbs., the work being carried out by the Depôt Forest Officers employed on Hirda operations in all ranges excepting Pátan, where Round and Beat Guards were in charge. It was soon found that no grass could be bought at Parali in the Sátára range and at the Shirála depôt, as grass was selling at these places for over Rs. 5 the 1,000 lbs., and these depôts had consequently to be closed: and in the

Wái range the rates had to be raised to 6 annas per 100 lbs. as villagers could get this price in the surrounding villages. But in the Jávli and Pátan ranges the original rates were adhered to throughout.

216. The total quantity of grass purchased in this district was small, as the number of its cattle is large, and they had already, before the end of December, overrun the grass of the forests, and there was consequently a considerable dearth of, and a demand for, fodder grass on all sides: the following table shows the collections made:—

Range.	Depôt.	Grass.	Price paid.
		Lbs.	Rs. a. p.
Wai ...	Wasioli ...	19,201	70 11 3
	Asgaon ...	5,425	19 1 6
Jávli ...	Medha ...	2,300	8 10 0
Pátan ...	Helwak ...	190,437½	476 1 6
	Morgiri ...	6,500	45 15 6
	Bhojgaon ...	18,887½	54 12 0
	Total ...	264,151	675 3 9

217. Three Conder's hand presses were sent into the district from the Poona division after having finished work therein, and a new hand baling press working with a vertical screw of English manufacture was obtained from Messrs. Macbeth Brothers of Bombay for baling the grass, which was compressed and made into 3,406 bales; the Macbeth press turning out 35 to 40 bales per diem of about 50 lbs. each, and the Conder's 25 bales of from 80 to 100 lbs., but the grass was very dry when baling commenced, late in the season, as presses could not be obtained for love or money earlier.

218. Coir rope was used as binders to fasten the bales, as no galvanized wire ties were to be purchased anywhere in the district: the expenditure thereupon amounted to Rs. 232-8-3.

219. The quantity of grass collected at Medha being small and in local demand, and no press being available, and it not being worth while to move a press to bale 2,300 lbs., it was sold at cost price. At Wasioli in the Wái range 1,432 lbs. of grass were sold locally, at cost price, without being baled, to serve a demand; and similarly 4,500 lbs. of loose grass were sold in the Pátan range at Bhojgaon for the cost that had been incurred upon it; and the baled grass was sold at the press depôt—114 bales for Rs. 67-11-0. The baled grass of the Wái range was carted to the town of Wái and was sold there by public auction—225 bales for Rs. 191-4-0, while the bales from the Morgiri and Helwak depôts of Pátan were carted to Karád for sale, a distance of about 33 miles.

220. No demand for grass at Karád, however, appeared at the outset, and as purchasers were not forthcoming for it even at cost rates, 959 large and 301 small bales were sent by railway to Poona, and were sold by public auction there for Rs. 1,087-15-0. But when the inhabitants of the villages neighbouring the Karád Station realized that the grass was being railed away to Poona, they flocked to the depôt from all sides and bought up at once the remaining 1,341 large and 436 small bales for Rs. 1,172-12-0.

221. The financial results of the grass operations in the Sátára District were:

	Rs.	a.	p.
Receipts by sale...	2,548	7	0
Expenditure ...	2,195	12	6
Profit Rs. ...	352	10	6

The cost of the baling presses and of establishment is not included in the expenditure.

222. The Divisional Forest Officer, Mr. Wilkins, directed the operations, and the Range Forest Officer of Karád, Mr. Dinkar Narayan Damle, Ranger, 3rd Grade, made himself useful in sending bales from Karád to Poona and in selling bales at that place.

223. The experience in the Sátára District, as elsewhere in the Deccan, points to the desirability of fencing substantially with wire as many of the closed forest areas as is possible, so as to protect them as sources of fodder supply against early grazing in a year of scarcity. This view is expressed by the Collector, Mr. Winchester, as well as by the Divisional Forest Officer; and it is a very correct view of the situation, for cattle crowd on to the hills when grass is scarce elsewhere, early in the rains, and they trample down and destroy with their feet much more than they can eat, so that a few cattle, by preventing the new grass from growing, deprive a multitude of animals of food later on in the season.

Sholápur Division.

224. Whatever grass may have sprouted in this part of the country during the period of the south-west monsoon of 1896 was eaten up, or had otherwise practically disappeared

by the end of September 1896, and there was a complete failure of the more important later rains, or Madras monsoon, which, in seasonable years, deliver heavy downpours over the eastern Deccan, giving life to agriculture and vegetation; so that the cattle began to suffer for the want of fodder long before a state of famine was declared in the month of November 1896. All the forest areas had been overrun by hungering cattle, and there was no keeping them out, for impounding trespassing animals had lost its power, because their owners preferred to abandon the animals rather than to release them by payment of pound fees. But the principal cultivation of the district is fodder-producing crops, and there were numerous stacks of Karbi and Sarma in all the villages from the last harvest, and moreover under artificial irrigation by means of canals and wells fodder was grown here and there, throughout the dry season; so that the village cattle owner contrived to keep his more valuable cattle in life and fair condition until the commencement of the ploughing season for the next rains, viz., May 1897. Compressed grass was sent into the district early, the first consignment being delivered at Sholápur on 14th December 1896, and during January and February 1897 a few wagon loads were placed at the larger railway stations, such as Jeur, Kem, Bársi Road, Mádha and Sholápur, but the bales did not sell at this time. All the redundant cattle not required for the plough, nor for cart traffic, and those not in profit at the time, were abandoned to the butcher, as not worthy of their up-keep. Attempts made by the Divisional Forest Officer, Mr. Fisher, and by me personally to sell bales by auction at Bársi Road junction, Kem, Jeur and other large centres, were not successful. One wagon load of bales was pushed to Bársi town by the new light railway, but the venture fell flat. During March and April and early May the demand for compressed grass progressively increased with the exhaustion of the stored fodder, but not to any considerable extent, and nothing approaching to the degree necessary to absorb all the grass that I had ready collected, and was being compressed, for delivery in the famine districts. The railway distances for bringing grass were so great, and the cost of freight consequently so high, that the cultivator could not afford to pay the price which was then being demanded, viz., actual expenses. But when the rate was reduced to 8 annas the maund of 80 lbs., a scramble for bales set in at every depôt.

225. Grass supply depôts were located at all the chief railway stations, viz., Pomalwadi, Jeur, Kem, Bársi Junction, Mádha, Mohol, Sholápur and Hotgi Junction, and as soon as the rush commenced, compressed grass was poured into these depôts by railway; on one day, the 26th May 1897, no less than 58 railway wagon loads were despatched from one station, Atgaon, to another station, Bársi Junction. The depôts were handed over to the Collector and his Personal Assistant from the 26th May 1897.

226. The following table will show the number of wagon loads of compressed hay sent to each railway station famine grass-supply depôt during the season:—

Station Depôt.	DURING							Total.
	December 1896.	January 1897.	February 1897.	March 1897.	April 1897.	May 1897.	June 1897.	
Pomalwadi...	...	2	...	...	3	...	...	5
Jeur ...	1	6	...	9	...	45	7	63
Kem ...	1	6	...	8	...	49	7	80
Bársi Junction ...	1	4	4	7	3	113	15	147
Mádha ...	1	3	2	7	...	74	5	92
Mohol ...	...	1	...	13	1	14	21	50
Sholápur ...	1	1	1	8	12	9	...	32
Hotgi Junction ...	...	...	1	11	...	2	...	14
Total ...	5	23	8	63	28	306	55	488

227. And this statement exhibits the bales of hay and their price distributed in the district:—

Depôts.	By Forest Department up to 25th May 1897.			BY THE COLLECTOR FROM 26th MAY 1897.								
				By Sale.			Against Tagedi.			Against Charitable Fund.		
	Bales.	Grass.	Value.	Bales.	Grass.	Value.	Bales.	Grass.	Value.	Bales.	Grass.	Value.
		Lbs.	Rs. a. p.		Lbs.	Rs. a. p.		Lbs.	Rs. a. p.		Lbs.	Rs. a. p.
Pomalwadi ...	174	14,418	111 6 0	...	...	...	...	...	...	...	...	...
Jeur ...	1,132	98,184	1,105 13 8	423	54,141	477 0 0	...	...	...	2,430	234,329	1,903 2 0
Kem ...	2,025	168,984	2,067 8 0	644	56,382	493 6 0	...	...	...	3,620	275,937	2,593 8 0
Bársi Road ...	1,675	150,614	1,655 4 6	9,805	681,261	6,805 4 0	751	47,400	493 8 0	1,109	118,078	853 14 0
Mádha ...	1,053	97,924	1,121 18 0	1,602	161,254	1,461 12 0	1,045	98,730	630 0 0	1,454	145,937	988 4 0
Mohol ...	1,092	98,455	991 2 0	776	70,109	660 5 0	375	28,768	363 12 0	1,508	120,367	1,873 14 0
Sholápur ...	893	77,726	969 9 0	409	61,033	498 1 0	...	...	...	913	112,299	763 12 0
Hotgi ...	303	29,483	249 10 0	320	27,671	216 8 0	...	...	...	269	32,644	217 0 0
Total ...	8,347	736,198	8,262 2 3	14,179	1,101,861	10,112 4 0	2,171	174,913	1,487 4 0	11,297	1,042,191	8,703 6 0

228. Double the above quantity of grass could have been sold had it been available in the latter half of May and during June and July, for there was a furious demand for it at that time.

229. The forest area of the Sholapur District is 278 square miles, which is spread over the country in patches; had some of these been enclosed by wire, and been efficiently protected against cattle, there would have been a reserve supply of fodder grass within the district. But the villagers have often stated to me that the forest reserves were of the greatest assistance to the support of their cattle in the grazing that they furnished, however poor it may have been during the first half of 1897; and it has been told me, that a greater number of cattle die proportionately in the villages in which there are no forest reserves. The root stocks of the grass in the forest areas sent up shoots when showers of rain fell in December 1896, and likewise in May 1897, and there was generally something found for the cattle to nibble here and there.

230. Mr. G. S. Hinge, Extra Assistant Conservator of Forests, 2nd Grade, was deputed to the Sholapur District to superintend the grass distribution arrangements during May and June 1897, as the Divisional Forest Officer, Mr. Fisher, and most of the Forest establishments of the Sholapur District were at that time employed on famine duty. Mr. Hinge worked under the immediate direction of the Collector in distributing grass to village cattle owners, who brought permits, issued by the Māmlatdārs for grass, to the forest supply depôts, where their permits were taken and grass given to them either against tagai advances or at the cost of the Famine Charitable Fund.

Northern Circle.

231. A considerable quantity of grass was collected, compressed into bales and despatched to the famine districts from the south and central divisions of the Thāna District, the only one of the three districts included in the Northern Circle, which from its position and facilities of railway communication could give any assistance in fodder grass to the famine-affected country of the Eastern Deccan.

232. There were two distinct divisions of famine grass operations in Thāna, viz., one which included all the principal railway stations on the G. I. P. Railway excepting Atgaon Station between Kalyān Junction and the eastern frontier of the Thāna District, on both the North-East and South-East lines; and the other which was confined to the catchment area of the Tānsa Lake with the Atgaon Railway Station as its base and the station for the export of its compressed grass by railway.

233. Mr. R. C. Wroughton, Conservator of Forests, Northern Circle, started the operations of cutting, collecting and baling grass with the assistance of his two Divisional Forest Officers, Messrs. Edie and Dodgson, and his two Sub-division Officers, Messrs. Phadke and Master, in both of the famine grass divisions, and he personally directed and over-looked the work until about the end of December 1896, when he withdrew himself and his European officers as the forest administration of the circle and of their divisions required their attention and presence elsewhere. And Mr. Wroughton placed—

(1) Mr. Krishnaji Babaji Phadke, Extra Assistant Conservator, 3rd Grade, in special charge of the famine grass operations being carried on at the railway station depôts which I will call No. 1 famine grass division of Thāna, and he placed Mr. Phadke under my direct orders.

(2) Mr. Ardesar Nasarwanji Master, Extra Assistant Conservator, 3rd Grade, in special charge of the famine grass operations being carried on in the Tānsa Lake catchment area, which I will call No. 2 famine grass division of Thāna; and his Divisional Forest Officer of Central Thāna, Mr. Dodgson, requested me in his letter No. 90 of 20th January to correspond direct with Mr. Master in future on all the grass business.

234. Subsequently at the commencement of April, when there was still a very large quantity of grass to be compressed and baled, and when an enormous number of bales remained to be exported by railway from the railway station depôts and to be brought in carts from the Tānsa Lake catchment area to the Atgaon Railway Station to be sent off from there in railway trucks to the famine districts, I applied to the Conservator of Forests, Northern Circle for the services of Mr. G. M. Ryan, Deputy Conservator of Forests and Divisional Forest Officer of South Thāna, who had served under me during the early portion of his Forest service for several years, and whom I knew to be an energetic and zealous officer, to supervise generally the important grass operations in the Thāna District. The Conservator kindly complied with my request, and under Mr. Ryan's active assistance the whole of the grass was baled and was despatched out of the district before the rains came down, which might have spoilt much of the grass and have impeded the work.

THĀNA FAMINE GRASS DIVISION NO. I.

Railway Station Depôts.

235. The forest depôt officers at the principal railway stations were employed to purchase grass, which villagers were invited to bring and brought to the depôts for sale by weight at the rate of 4 annas per 100 lbs.; the grass was weighed by means of a spring balance supplied each depôt officer, who was provided with funds to make immediate payments, and thus up to the 10th February 1897, when I issued an order to stop further collections of grass, a very large

quantity had been received, as will be seen from the following statement. Some villagers were detected in wetting their grass in order to make it weigh heavier; so, as the grass was usually brought in the early morning, each person was made to open out and dry his bundle, and it was weighed subsequently and paid for.

236. The purchases of grass were—

Station Depôt.	Grass in lbs.	Price.
		Rs. a. p.
Wāngni	149,591	372 3 3
Badlāpur	182,257	461 9 0
Titvāla	49,486	121 4 0
Khadavli	161,971	402 3 6
Wāsind	292,422	728 8 6
Asangaon	142,622	362 10 0
Atgaon	1,926	5 4 9
Khardi	299,072	744 15 3
Kasāra	411,496	1,044 4 9
Total	1,690,843	4,232 15 0

and 2,758 lbs. of grass which had been saved from the disastrous fire at the Sashivli depôt were brought to Khardi Station to be baled.

237. One bullock-power and 7 hand baling presses were employed in compressing and baling the grass at the railway station depôts, and presses being moved from station to station concurrently with the early completion of the operations at any station. The last three stations to be finished were Asangaon, Khardi and Kasāra. On the 14th April all the grass was baled at the first named, when the two presses that had been working here were sent to Kasāra, and on the 25th April Khardi Station was cleared out and its presses were moved to Kasāra, at which depôt 8 presses were concentrated, and the last blade of grass was baled there on the 30th April, when all the presses were sent off to the Tānsa Lake catchment to bale the grass remaining at the Borala and Rohida depôts. There was a great fear of thunderstorms, especially in regard to the stations such as Kasāra and Khardi near the Western Ghāts; and had a heavy downpour, as may be expected generally more than once in the months of April and May in these parts, deluged the depôts, some of the grass would have been spoilt, and the work of baling would have been seriously retarded; therefore during the whole of April, Mr. Ryan, at my suggestion, worked with double gangs night and day. The Forest officers and their subordinates exercised supervision, night and day, Mr. Ryan very often being present at the press depôt one-half of the night and Mr. Phadke the other half. Ten men worked at each hand press, five during the day and five at night, and were paid generally at 1½ annas per bale for day work and 2 annas for night work, provided the bale reached the minimum weight of 150 lbs. It was discovered that stones and earth had been put into several bales to increase their weight by the labourers when the supervision was not present. At Kasāra it became necessary to equal the rate to an all-round one of 2 annas per bale; as some of the men who were making 6 annas a day struck work for higher wages, causing thereby delay in the baling work. It was at all times difficult to obtain labour, and unskilled village labourers had to be taught how to manipulate the presses. Men had to be brought from other parts of the district, and labour was even imported from the Nāsik District above the ghāts; families came down together and worked for a time, the men on the press levers and their women and children on feeding the press boxes with grass; women were paid 4 annas a day and children 2 annas, but yet they would not remain long in the Konkan. Mandvas had to be erected over each press to protect the people from the sun, or else they would have stopped work between 12 and 3 p.m. owing to the heat, and imported labour had to be huddled. At the close of each day, depôt officers went round and weighed the bales, and a ticket with the weight written on it was attached to each bale so as to guide the depôt officer in the famine district in determining its selling price, and the labourers were paid every evening.

238. On the 21st April, at about 3 a.m., a fire occurred in the grass depôt at Kasāra while night work was in progress, and 245 bales containing 38,000 lbs. of grass costing Rs. 118 were burnt. The fire was alleged to have been caused by a Mussalman out of ill-feeling towards the depôt officer; he was seen near the burning grass when the fire was first observed, and he immediately ran away and was chased by the night watchmen. The police were called in to inquire into the case and the prosecution of the accused was undertaken, but unsuccessfully.

239. The Station Master of Kasāra lent the railway fire engine and hose for extinguishing the fire, and both the day and night Station Masters with subordinates came promptly to assist; and had it not been for their ready and cordial help a greatly heavier loss would undoubtedly have occurred. I brought specially to the notice of the General Traffic Superintendent, G. I. P. Railway, the good services of their station staff at Kasāra and requested that they might be thanked. The Māmlatdār of Shāhāpur, Mr. Anandrao Bhaskar Pradhan, and the Chief Constable came promptly on the scene and rendered great assistance.

240. Each hand press on an average baled 5,000 lbs. of grass working day and night interruptedly. But the ratchet wheels of the presses were continually coming to grief, the

teeth broke off, and then the chain used to slip, and the press would not compress properly : besides, parts of the machines used to break now and again, so that a fitter and a carpenter from Messrs. Geo. Gahagan and Company's workshop was entertained on daily wages in constant attendance on the presses to do such repairs as were possible on the spot.

241. The Bombay Tramway Company, Limited, supplied galvanized wire binders of different lengths, with catches fitted to them, for fastening the bales, sending such quantities of different kinds to the different railway stations on requisitions from Mr. Phadke, and bills were sent through the Extra Assistant Conservator to me for payment of their price, which was made by means of cheques on the Government Treasury at Bombay. 52,850 wire binders were supplied; their price at the rate of Rs. 3-4-0 per 100 amounted to Rs. 2,172-10-0. The price of the hand presses and of stores obtained from Bombay from time to time, such as new ratchet wheels, new chains, &c., to repair the presses, was paid in the same way.

242. The number of bales despatched to the famine districts, with their weight of grass, is as under :—

Depôt.	Number of Bales.	Grass in Lbs.
Wángni	1,177	144,017
Padlápúr	1,929	178,879
Titvála	488	48,772
Khadavli	1,300	144,559
Wásind	2,625	243,886
Asangaon	1,010	151,965
Khardi and Sashivli ...	2,217	309,206
Kasára	2,836	365,748
Total	13,582	1,587,032

243. The Konkan grass grown under a heavy rainfall has much moisture in it when it is cut early, and this grass dries rapidly and loses weight. The following table shows the loss in weight. In two stations there appeared an increase and this was due to a large proportion of grass having been received on estimate and not by actual weightment before weighing scales were supplied :—

Depôt.	Grass Lbs. received.	Grass Lbs. despatched.	Increase	Loss.
Wángni	149,591	144,017	...	5,574
Padlápúr	182,257	178,879	...	3,378
Titvála	49,486	48,772	...	714
Khadavli	161,971	144,559	...	17,412
Wásind	292,422	243,886	...	48,536
Asangaon	142,622	151,965	9,343	...
Atgaon	1,926*	1,926	...	...
Khardi	299,072	306,480	7,388	...
Sashivli	2,758	2,746	...	12
Kasára	411,496	365,748	...	45,748
Total	1,603,601	1,586,958	16,731	121,374

* Sold locally.

38,000 lbs. of grass were burnt at Kasára, so that the loss by dryage and wastage is left as 7,748, but much sweepings covered the ground at all depôts and this was sold by auction, realising Rs. 39-5-0. At Khadavli and Wásind the loss was much greater than can be reasonably admitted, and the depôt officers at Wásind were sentenced to dismissal with an order that they are never to be re-employed in the Forest Department.

244. Rs. 7,596-6-0 were advanced from time to time to Mr. Phadke, the Extra Assistant Conservator in charge of the operations, and Rs. 7,522-13-9 were expended and accounted for by him and the remaining balance, Rs. 73-8-3, was paid into the Treasury by him. This expenditure is sub-divided thus :—

	Rs.	a.	p.
1. Price of grass collected	4,232	15	0
2. Cost of compressing and baling	1,092	5	3
3. Cost of loading in railway trucks	416	2	1
4. Cost of depôt establishment	626	2	6
5. Contingent charges	1,155	4	9
	7,522	13	9
Paid by Conservator—			
6. Price of wire-binders	2,172	10	0
7. Railway freight on carriage of bales to famine district.	8,519	1	3
	18,214	9	0

245. Mr. Krishnaji Babaji Phadke, Extra Assistant Conservator, devoted himself to the work with great zeal and interest; he was present day and night at depôts where his supervision was strict, and he displayed great intelligence in handling the presses and in carrying out the operations generally, which were quite new to him; and I am of opinion that his services deserve special mention.

NO. 2 FAMINE GRASS DIVISION.

Operations on the Tánša Lake Catchment Area.

246. In November 1896, Mr. A. N. Master, Extra Assistant Conservator of Forests, brought to my notice, in consequence of inquiries that I had made of the Collector of Thána, that there was a large quantity of grass on the Tánša catchment, and he finally suggested that contractors might be obtained to bring grass to railway stations from thence for Rs. 5-8-0 per 1,000 lbs., and when it seemed to be almost hopeless that a large quantity of grass would be exploited from the Sátputa forests of East Khándesh, I turned to the Tánša catchment as a substitute, and proceeded to Wásind and Atgaon, where I discussed with Mr. Wroughton, Conservator, Northern Circle, and his officers, the project of making large collection in the forest areas draining into the lake on the side nearest the railway line, and orders were issued accordingly by the Conservator, Northern Circle, to Mr. Master on the 23rd December 1896, to establish depôts and to commence collecting grass.

247. Three depôts were located on the 24th and 29th December and 4th January 1897 at Rohida, Borala and Sashivli, respectively, and the work of collection was started at the rate of 4 annas per 100 lbs., equal to Rs. 2-8-0 per 1,000 lbs. Not only did the inhabitants of villages in the Sháhápúr and Váda talukas, near and far, come in to the work, but 300 families—men, women and children—came down from the Poona and Násik Districts and worked away until I gave a final order, on the 8th February 1897, to stop further collecting, as the grass had then become very dry and brittle and any cut later on might have been rejected by the Deccan cattle. I had visited the depôts on 29th January, and finding the grass then to be dry, and inclined to have a musty smell, I told Mr. Master to complete up to 25 lakhs and then stop, so that from that day forward the work progressed slow and with care to select the better grass.

248. The following table shows the quantities collected :—

Depôts.	Lbs.
Rohida	1,216,261
Borala	902,663
Sashivli	392,339
Total ..	2,511,263

There is not the least doubt that if grass cutting had been started from the last fortnight of October, an unlimited quantity, say, over one crore of pounds, of excellent grass could have been taken off the Tánša catchment. But up to now the Thána grass had a very bad name: it was currently reported that the cattle of the Deccan would not eat it, and that all the grass which had been sent up to the Deccan from the Konkan last famine had been wasted, and the money expended upon it was like money cast into the sea. This had been the popular tale of years, and consequently the project of collecting grass on the Tánša catchment for the supply of the famine district had to be entered upon with great circumspection, for I incurred a great responsibility in spending hundreds and thousands of rupees of public money upon an operation which popular belief and tradition had declared to be useless, certain of failure, and a waste of money; more particularly was this the case in the face of Government Resolution No. 9618, dated 30th November 1896, in the Revenue Department, Famine, which reads :—

"Sanction is accorded to the requests of the Honourable Mr. Shuttleworth, on the understanding that he has satisfied himself as far as is practicable that the Deccan (including Southern Marátha Country) cattle are likely to eat the grass proposed to be collected below the gháts."

249. All the depôts of collected grass were fire traced, and special fire watchers were employed for the protection of the grass. At the Sashivli depôt three Forest Guards and one depôt officer were stationed solely to guard the grass; but during the Holi or Shimga festival all these men left their post without obtaining leave or giving intimation, and some evil-disposed person came while they were away, and set fire to the grass, whereby all but 2,758 lbs. were burnt on the night of the 19th March. Inquiries were made by the Police,

by the Revenue and the Forest authorities, but they were productive of no result. However the Forest Guards and the depôt officer, were dismissed the service.

250. At first there was a difficulty in obtaining baling presses to compress and bale the grass. The desertion of Bombay by factory and workshop labourers owing to the raging plague prevented hand hay baling presses from being made as quickly as they might otherwise have been, and there were no ready made presses in the market. Government declined to order out presses from England, and those that I could have bought in Calcutta were very heavy in weight apparently and slow in working, so I determined to leave them alone. The only Phoenix Steam Hay Baling Press at that time in existence I had already got hold of, and was in Khândesh, but I knew of another being made for the Commissariat Department at Mhow and I had already been promised it on loan. The extreme doubt as to the obtainment of baling presses of sufficient number and power to compress and bale more than 25 lakhs of grass was a consideration which in a great measure reconciled me to the decision of curtailing the extent of grass collection on the Tansa catchment to 25 lakhs of pounds.

251. On the 2nd February 4 hand hay baling presses which the A'bkari contractors of the Khândesh District had lent to me, and which came originally from the workshops of Messrs. Richardson and Cruddas of Bombay, were received at the Atgaon Station from Jalgaon, from whence I had sent them, and were carted out 3 to Rohida and 1 to Borala, where they were erected, and started during the second week of February, but they were continually coming to grief: further these presses required hard manual labour to work them, so that the unskilled village labourers could not be induced to remain in the wilds, miles from any village, after about a week's experience of the work: consequently new gangs of men had to be brought constantly, and this caused slackness in the work; comparatively, a short outturn of bales and a higher rate of cost than if skilled labour had been continuously employed.

252. No. 2 Phoenix Steam Baling Press and plant arrived at the Khardi Station on the 14th March, and was then sent on to Atgaon, where it was unloaded from the railway trucks in which it had come from Calcutta from its maker's workshops, viz., from Messrs. Jessop and Company; it was then steam boiler and engine only hauled out by buffaloes to Rohida 7 or 8 miles on the Atgaon-Tansa road, where it was erected and started by the end of March. Water had to be brought in casks mounted on carts daily from the Tansa Lake to feed the boiler. Iron tanks for holding water had to be obtained from Her Majesty's Dockyard at Bombay, and coals had to be procured from the G. I. P. Railway Stores at Wásind, but teak firewood was mostly used for the furnaces. On the 31st March 1897 this press began to work, but in April it was stopped for 15 days on account of the breaking of the plunger and the cracking of a cylinder: the broken parts were sent to Her Majesty's Dockyard at Bombay to be repaired or renewed. But from the 28th of April to the 22nd May 1897 the press was worked night and day, humming along and baling as fast as it could.

253. On the arrival of the Phoenix Press the 3 hand baling presses were sent to assist the fourth at Borala, where very little impression was being made on the enormous store of grass. A screw hand press was received from Wásind and put up at Kangaon on the 10th April, about $\frac{1}{2}$ mile west of Rohida, where there were nearly $1\frac{1}{2}$ lakhs of pounds of grass; this press though slow did good work, going all night and day. The presses at Borala were breaking down constantly, and on the 1st May it looked very doubtful whether the 14 lakhs of pounds of grass remaining at the two depôts on that date could be baled before the rains.

254. But 7 hand presses and a bullock power press came to the rescue from the Kasara Station, where they had baled up all the grass, and from the 8th of May 12 presses were kept going day and night. The labour difficulty was overcome by bringing relays of men from distant villages. So that by 2 P.M. on the 14th May all the grass at Borala depôt was compressed and tied up with wire binders, and the 12 presses were at once dismantled, loaded in carts ready waiting for them, and carted that night to Rohida, where they were fixed up, 2 at Kangaon and 10 at Rohida, and all 12 were keeping the steam press and the screw press in company, compressing and turning out bales night and day, from the morning of the 17th May when 5 lakhs of pounds of grass were still on hand: but the whole quantity was compressed and baled by 5 A.M. of the 22nd May.

255. Labour for working the presses was obtained with great difficulty from distant villages, and from the Igatpuri Taluka of the Násik District, there being no villages and no people living on the Tansa catchment area. At first men were employed on daily wages at the rate of from 4 to 5 annas each per diem, when it cost 9 annas to bale 1,000 lbs.; but latterly the wage had to be increased to 6 annas a day to induce men to stay, and piece-work was arranged at 2 annas of a minimum weight of 125 lbs. The Sashivli grass that was saved, 2,758 lbs., was carted to the Khardi Station depôt and compressed there in 21 bales.

256. The collection of grass at Borala, which was estimated partly by weighment and partly by guess when received at 902,663 lbs., was baled into 8,098 hand press bales, which weighed 980,282 lbs., while the grass at Rohida estimated at 1,216,261 lbs. was

compressed and bound into 17,537 bales, of which 10,888 were steam press and 6,649 hand press bales and their total weight came to 1,252,275 lbs.

257. The bales from the two depôts were carted to Atgaon Railway Station, and the first lot was sent off in the month of March, the rate being about 1 anna per bale from Rohida and 2 annas from Borala. But a difficulty of obtaining carts when the number of bales became large soon presented itself, and on the 16th May, when I met Mr. Ryan and the two Extra Assistant Conservators and discussed the situation at Atgaon, the prospects of getting all the grass baled, all the bales carted to the railway station, and from there the bales sent off to the famine districts appeared hopeless, for there was very little demand for grass then at the sale depôts in the Sholapur and Ahmednagar Districts, so that the plan of stacking and chapping in bales at the Atgaon depôt for the rains was considered. And on the 17th I wrote to Mr. Ryan from Poona that if there should be any reasonable doubt of his ability to have all the bales that may be produced under a continued night and day working of the steam and other presses conveyed to the railway station before the rains come down, say the 5th June, and entrained and despatched to the Deccan forthwith, thereafter, then he should stop further pressing operations at once, and abandon the grass, if it cannot be sold locally, as it would be more profitable to sacrifice some thousands of pounds of loose grass, than to have several hundred bales of pressed hay destroyed by the rain. However, on the 18th May I went to Sholapur from Poona, and found that a grass boom had set in, and there was a rush on the depôts, and a scramble for grass. So I wired to Mr. Ryan on the 18th May 1897 from Sholapur to despatch all the bales that he could, and as fast as possible, to the famine districts. The situation was completely changed. All the black clouds, obscuring the horizon had blown, and now it only remained to finish baling, to cart in the bales to Atgaon, to get railway trucks and to load and send them off as quickly as could be achieved.

258. As a large number of bales remained to be moved from the Rohida and Borala depôts to the Atgaon Station, and carts were difficult to procure at this season when the timber merchants were getting all their timber and other forest produce to the railway before the rains, Mr. Ryan went to Bassein and saw Mr. Logan, the Collector, on the 20th May, asking assistance in obtaining carts, and the Collector at once issued orders on the subject and through the cordial co-operation of Mr. W. C. Shepherd, the Second Assistant Collector, who interested himself very actively in the matter, Mr. DuBois, the District Superintendent of Police, and the Mámlatdars of Sháhápúr, Váda and Bhiwndi, a very smart piece of work was done, about 262 carts were provided daily between the 23rd and the 27th, and by the 28th May every bale had been brought away. I was at Atgaon on the 22nd May, and the carts were bringing bales. Altogether 17,537 bales were brought to the Atgaon Station from the Rohida depôt in 1,514 carts, and on 2,478 pack bullocks, and 8,098 bales were brought from the Borala depôt in 1,748 carts.

259. The railway trucks were loaded night and day, relays of workmen being employed. The General Traffic Manager, G. I. P. Railway, sent a special officer to assist in providing trucks, and the Station Master helped all that he could. The number of trucks sent off to the famine districts after the rain had come was as under:—

Date.	No. of trucks.
17th	29
19th	15
20th	8
21st	19
22nd	38
23rd	46
24th	44
25th	48
26th	60
27th	45
28th	30
29th	7

Total... 589

making up 13 special trains.

260. Mr. G. M. Ryan, Deputy Conservator, 4th Grade, was a tower of strength, and deserves, I respectfully submit, the thanks of Government. The two Extra Assistant Conservators, Messrs. K. B. Phadke and A. N. Master, also worked with great zeal, tact and intelligence, and they were engaged in the operations from the beginning, and I should be glad if Government could see their way to acknowledge their services by conferring a personal native title upon each of these officers of Rao Bahádúr on Mr. K. B. Phadke, Extra Assistant Conservator, 3rd Grade, and of Khán Bahádúr on Mr. A. N. Master, Extra Assistant Conservator. The Native officers of the Provincial Forest Service have had no personal titles bestowed upon them yet.

261. I must mention that Forester Sorabji Hormusji, Range Forest Officer of Sháhápúr, managed the steam press himself without a fitter or engineer during day

work in the month of May, and I would recommend him for a special honorarium of Rs. 50 (fifty) as he saved Government more than this sum in wages and performed duties outside the ordinary course of his own duties without interfering with the discharge of the latter.

Southern Circle.

262. Here famine grass operations were undertaken in five forest divisions, four of them, viz., Belgaum, Dhárwár, N. D. Kánara and S. D. Kánara, being divisions of baling and despatch, and the fifth, Bijápúr, a receiving and relieved district. The late Mr. MacGregor, Conservator, S. C., directed his Divisional Forest Officers to carry out the duty of collecting, compressing and baling under my direct orders. Later on the Divisional Forest Officer of Bijápúr superintended the sales and distribution of the baled grass at seven railway station depôts between Gadag and Telgi on the Southern Marátha Railway, Hotgi and Gadag Section, while Mr. W. D. Sheppard, I. C. S., Personal Assistant to the Collector of Bijápúr, managed the sales and distribution of grass in the city of Bijápúr and at the Indi Road Station depôt. The success of the famine grass operations in the Southern Marátha Country is due mainly to the personal exertions and interest taken in the business by Mr. Sheppard at one end at Bijápúr, where the grass was sold and distributed, and at the other end where grass was collected, baled and despatched by Mr. W. R. Woodrow, Divisional Forest Officer, Dhárwár, who gave me very willing and efficient assistance in every direction. Both these officers identified themselves with the work, and were cordially helpful, and I venture to hope that they will receive the thanks of Government, which in my opinion they richly deserve. The Dhárwár division collected and sent into the famine parts more grass than the other three supplying divisions taken together.

263. The Southern Marátha Railway Company, with wisdom and liberality to be very highly commended, reduced their freight on fodder conveyed in their trucks from 3 annas to 1 anna per mile per wagon, and as an immediate result a very large quantity of karbi was moved by traders and private enterprise into the Bijápúr District, and this trade continued throughout the whole season much to the benefit of the owners of cattle and seemingly also of the Railway Company in traffic receipts. Another result of the reduction was that Government grass, both baled and loose, could then be sent from long distances even so far as from remote Ráver in East Khándesh, a long lead of 467 miles, into the famine parts at a sufficiently low cost price to command ready sales. The Railway authorities also very obligingly provided us with their largest wagons, the C. G. H. and C. G. M. classes, and every requisition for carriage was met promptly, and the Traffic Department, I may be allowed to mention the names of Messrs. Dunn and Crichton, District Traffic Superintendents, showed the greatest courtesy and willingness to assist Government to the utmost extent of their power. Had it not been for the facilities afforded by the Company, either our grass would have remained undisposed of, or Government would have had to sell it at considerable loss.

Dhárwár Division.

264. The Divisional Forest Officer, Mr. Woodrow, Deputy Conservator, 3rd Grade, directed the operations in this division with the greatest vigour and

1. Kamlarganvi.	8. Tarlagatti.
2. Pandur.	9. Tadas.
3. Kalkeri.	10. Artal.
4. Kalkundi.	11. Kunnur.
5. Biranhal.	12. Bichwad.
6. Kargod.	13. Dundochi.
7. Jandalgatti.	

cordiality. Cutting was started in the centres marginally mentioned, which were selected as likely to afford the most grass, and to be at the same time conveniently situated to road and rail for its ready removal. Then women and children were employed in cutting, and in the forests where herdsmen cattle from Bijápúr were being grazed, the

herdsmen thankfully turned to also, and, it is reported, blessed Government that not only provided fodder for their cattle, but likewise gave them employment. The grass when it had dried somewhat was conveyed by carts to the depôts. The cutting was continued up to the third week of February, by which time the grass had become so brittle as to break in the cutter's hands, and the carting and stacking continued a few weeks longer. The grass was, according to immemorial custom, delivered by the cutters in poolies or bundles, and not by weight, which the villagers would not agree to, as it was a method of dealing unknown to them. It was found subsequently that the poolie weighed a little over half a pound. Altogether 2,378,905 poolies were cut and stacked, weighing approximately 1,400,782 lbs., at a cost of Rs. 5,874-8-0.

265. Considerable delay was experienced in obtaining presses. The first set up was a screw press, which Mr. Woodrow hired from Mr. Coen, a merchant at Hubli: it was started to work on 5th February, and continued day and night till the end of the operations, about the middle of May, turning out on an average 68 bales measuring $3' \times 2' \times 1\frac{1}{2}'$ equal to 9 cubic feet, and weighing from 90 to 100 lbs., in the 24 hours. On the 25th January, the first Conder's Press sent from Poona was received, and between that date and the 2nd March four more Conder's Presses and one Gahagan's Press were supplied to the Divisional Forest Officer, Dhárwár. All these presses were first used at Kambarganvi, where the largest amount of grass was collected, and two presses were afterwards sent to Bandur, and the remaining ones to the S. D. Kánara.

266. In the Kalghatgi range 431,800 poolies of grass had been collected, of which 57,000 were burnt in two fires: one occurred at Biranhal in the month of February, and the other in the Bichwad forest in April when 28,000 were burnt; the origin of these fires has not been dis-

covered; that they were intentional cannot be doubted, as the stacks were surrounded by fire traces, and the fires occurred at night time; it is suggested that dacoits set the grass on fire, and in the Bankápúr range 177,105 poolies were collected. Of this grass, 337,705 lbs. were carted to Hubli at a cost of Rs. 1,436-1-0 and were compressed at a steam cotton factory, belonging to the West Press Company, in 1,241 bales. It was originally estimated by the Manager, after an experimental trial, that the bale would weigh 350 lbs., but the weight was soon reduced to 270 lbs. and the machinery of the presses broke down, two large iron doors of the presses being rendered useless. The Engineers explained the damage as due to the great lateral pressure of the grass on the doors, which were not able to stand the strain. Whatever the reason may be, grass got such a bad name that none of the seven steam cotton presses at Hubli would undertake a further contract to press the Kánara grass; another objection was that the Insurance Companies raised the rate of insurance on the cotton brought to the press, owing to the grass being there, and the owners of cotton gave trouble in consequence. The rate paid was Rs. 1-4 per bale, averaging 270 lbs., including iron hoops worth about 6 annas a bale. Forty of these cotton steam press bales were carried in the small C. G. wagons of the Southern Marátha Railway.

267. No wire fasteners for bales were obtainable nearer than Bombay, so rope was used in the first instance for tying the compressed bale, but it was very dear. Mr. Woodrow purchased 63 cwt. of old rope from the Gokák Mills; then the Dhárwár Jail was kept employed many months making rope; experiments were made with fibre and bark from the forests, and with ropes made of grass and reeds, and with cocoanut fibre, and cotton: the former were not strong enough, and the latter too expensive. Aloe fibre was finally found to be the cheapest and best rope, and Mr. Woodrow, on visiting Bijápúr, arranged with the rope-makers in that city to supply aloe fibre rope, which was then used up to the end of the operations, and some small relief was given thereby to an industry in the famine-stricken city, where the rope-makers found it to be hard to earn a livelihood.

268. The whole of the Dhárwár grass was sent to the Bijápúr District. The Collector of Dhárwár issued a circular in the affected parts of his district, informing the villagers of the depôts and of the price of grass, and inviting them to go there and take bales of grass at cost price. I disapproved of this proceeding, because the grass of only a very small fractional portion of the forest area of the district had been reserved for export to Bijápúr, which had no forest of available grass of its own to turn to, while all the rest of the Dhárwár District was open to the Dhárwár villagers. However, no local villager took advantage of the convenience, the distance for carts to come from the east being prohibitive, and in the west there was not such scarcity of fodder as to send them to the famine grass press depôts. All the Dhárwár Táluka bales were despatched to the Bijápúr District by the 22nd May and the Hubli bales followed in June. It was fortunate that the season was a dry one, unusually so, and that beyond a few thunderstorms at the beginning of April there was no rain.

269. There was practically no demand for grass in the Dhárwár District. At the railway station depôts of Bijápúr 3,333 bales were sold, and 1,495 handed over to the Revenue Department, and 79 were burnt, so that 4,907 bales were accounted for at these depôts; Bágalkot, taking 1,382 bales, was the largest consumer.

270. From the Dhárwár range alone 11,658 bales, containing 1,141,127 lbs. of grass, were exported by railway to the following destinations:—

Station.	Bales.	Lbs.
Bijápúr ...	6,345	575,483
Indi Road ...	336	29,370
Almatti ...	1,974	218,790
Bágalkot ...	1,079	117,279
Katgeri ...	497	50,548
Telgi ...	497	51,962
Badámi ...	235	36,150
Mallápúr ...	294	25,862
Gadag ...	369	32,982
Alur ...	30	2,481
Poona ...	2	190
Total ...	11,658	1,141,127

271. The Range Forest Officer of the Dhárwár Táluka, Mr. Ganpat Mane, displayed the greatest energy in conducting the operations, and it was owing to his personal attention and, I may say, devotion to the work that such a very large collection was obtained in this táluka alone. Mr. Woodrow, the Divisional Forest Officer of Dhárwár, in a letter addressed to me on the 20th May 1897, writes of Mr. Mane as follows:—

“As I may not have another opportunity, I take the liberty to put in writing the exceptionally good work done by Mr. Ganpat Mane, Range Officer, Dhárwár, in connection with the grass operations. Beginning towards the end of December, in the short space of six weeks he had cut and stacked over 17 lakhs of poolies. In another six weeks he had the bulk of it baled and brought to the railway stations, and with equal despatch had the wagons loaded and sent off to their destination. Since the commencement of the work he has simply lived in the unhealthy jungles round Kambarganvi, and though subject to attacks of fever, has conducted the operations with a zeal, intelligence and fertility of resource worthy of all praise. Had it been a private enterprise of his own he could not have shown greater keenness and energy.”

Belgaum District.

273. The cutting and collection of grass was begun during the last week of November and stopped by the middle of February 1897, when the grass had become dry. Mr. Hugh Murray, Deputy Conservator, 3rd Grade, and Divisional Forest Officer, directed the business, and carried it out with his accustomed energy and care.

274. The total collection amounted to 513,550 poolies, equal to 262,132 lbs., and was a very small one for such a large district possessing such a large forest area bordering the Western Ghats, but it is explained that almost all the grass in the forests had been cut and removed or grazed down before order was received for famine operations to be undertaken.

275. In the Belgaum range the grass was collected from the forests of the Huzgoli and surrounding villages; about 214,200 poolies were obtained, which were compressed into 1,079 bales containing 81,832 lbs. of grass; nearly all were sent to Bijapur, as 1,071 bales weighing 80,052 lbs. were despatched there and sold for Rs. 607-8-0. The remaining grass was sold locally for Rs. 13, the total cost incurred being Rs. 514-11-5 and there was a net profit of Rs. 105-12-7.

276. In the Khanapur range the grass was collected in the Jamboti, Kalmani and Hemadgi forests, from 12 to 15 miles distant from Khanapur Station, and was bound into 1,913 bales, weighing about 180,000 lbs. As the sales were very slack in the Bijapur town and district about the month of February, and the Collector of Bijapur wrote then that no more grass was wanted, the whole of the bales in the Khanapur range were despatched by railway to the Jath State as the Administrator of that State had asked for assistance in fodder grass. 251 bales were sold for annas 9 each and 166 smaller bales at annas 8 each, realizing with a local sale of binders, &c., Rs. 974-7-6 against an expenditure of Rs. 897-14-11, showing a net profit of Rs. 76-8-7 on the transaction. All this grass had to be baled at Jamboti and Kalmani depôts, and then to be carted to the Desur Station, from whence it was carted to Miraj Station, Southern Maratha Railway, for the Jath State.

277. A Conder's Hand-baling Press was sent to the Divisional Forest Officer, Belgaum, to Khanapur, but not being an efficient press, it was not used to any extent, the bales being made better by means of ropes and bamboos.

278. The financial results of the division appear as under:—

	Rs.	a.	p.
Receipts ...	1,594	15	6
Expenditure ...	1,412	10	4
Net Revenue ...	182	5	2

Northern Division, Kánara.

279. A very small collection of grass, amounting to 143,150 lbs. only, was made in this division, where a very large one might naturally have been expected. The Divisional Forest Officer explains this by the statement that the grass operations were commenced too late in the season, for they were begun in December, when there was very little good grass left in the country. But it would appear that the late Mr. MacGregor wired to the Divisional Forest Officer an order on the 1st December 1896, "Please cut immediately 200,000 lbs. fodder grass, Tenai, Dudhmul and elsewhere, if necessary," and this was not too late in the season to cut in Kánara.

280. Collecting depôts were established at Jagalbet, Boregalli, Konshet, Tenáighat and Tenai; most of the grass was collected at Tenáighat and was received from villagers at the rate of Rs. 2-8-0 per 1,000 lbs.; it was then carted to the pressing depôts at Castle Rock, Tenáighat and Kumbeli, where it was compressed and baled by means of Conder's presses sent from Poona. About 30 bales were outturned daily by 6 coolies, who received 4 annas each per diem. Canes were used for binding the bales, as rope was found to be too expensive: it was an ingenious and economical proceeding to thus utilise produce of the surrounding forests in order to supply a want that it would otherwise have been not only expensive, but difficult to satisfy.

281. One wagon load of loose grass was sent to Bijapur in the month of December 1896 as an experiment to see whether cattle would eat the grass of the Kánara forests, and the Collector said they did eat it "greedily." Some 8,000 poolies were supplied for building plague sheds at Londa at the request of the Collector of Belgaum, and all the bales of hay were sent to the Jath State by railway to Miraj Station, Southern Maratha Railway, and to the Bijapur District, also by railway. Altogether 88 bales containing 7,500 lbs. of grass were sent to the Jath State and 1,349 bales containing 123,077 lbs. to the Bijapur District.

282. * * * * *

283. The Divisional Forest Officer, Mr. Oliver, remarks as follows in forwarding his Range Forest Officer's final report giving a history of the operations:—

"The orders to cut and press grass were received far too late. For this of course no one is to blame, as the famine did not definitely declare itself till late. But if the grass could have been cut in the latter part of October or early in November, there would have been far more nourishment in it. The Kánara grass is *never* good, but being cut late it was on the whole very bad. The Political Agent of the Jath State told me that the grass sent there was unfit for food for cattle and they would not eat it. It was also unfit for thatching as it smelt so bad. I believe the bulk of this grass came from the Belgaum District, but I sent a little."

284. The best commentary on these depreciatory remarks regarding the quality of the grass is to be found in the fact that the whole of the grass sent into the Bijapur District was bought readily there, and was eaten by the cattle without hesitation, and no ill-effects have been reported. The pilot wagon load of loose grass, which was sent as an experiment, was, the Collector of Bijapur stated, eaten greedily; and Mr. Rebeiro, the Divisional Forest Officer, Bijapur, reports of the seven famine grass supply depôts under his charge when the agriculturists found it necessary to keep alive as many cattle as they could for the fast approaching monsoon sowing operations, the sales were very rapid, and in fact so rapid that grass could not be brought fast enough! This was just the time when, as Mr. Rebeiro says, "later on, the consignments were all from Tenáighat." The people in the Jath State may not have been prepossessed by the appearance of the Kánara forest grass, because it is very different from the grass grown in the open country under a light rainfall, and it may have had a smell peculiar to itself, the smell of the forests; but notwithstanding all this, it was good, wholesome, nutritious grass, and I entirely agree with Mr. Ebdon, the Commissioner, S. D., in the opinion conveyed in the following words of his letter to me:—"As far as I can gather any information, the question whether local (Bijapur) cattle will eat the Southern Circle grass, appears to depend very much upon whether it has to be paid for." The touchstone of experience has amply verified this conclusion.

285. The expenditure incurred locally on grass amounted to Rs. 1,024-10-1, thus:—

	Rs.	a.	p.
Cost of grass ...	349	11	0
Cost of carting ...	116	1	5
Cost of cane ...	10	0	0
Cost of baling ...	153	12	2
Contingencies ...	39	12	0
Cost of loading ...	22	1	6
Cost of railway freight ...	333	4	0
Total ...	1,024	10	1

and in addition thereto railway freight for famine grass moved to Bijapur from Tenáighat was paid by this office amounting to Rs. 210, bringing the total expenditure up to Rs. 1,234-10-1.

286. On the other side 143,150 lbs. of grass were collected, veritably an insignificant quantity for this division. 1,437 bales were manufactured containing 130,577 lbs. of grass, of which 88 bales containing 7,500 lbs. were sent to the Jath State, and its price, Rs. 77-9-6, was received and credited, and 1,349 bales containing 123,077 lbs. of grass were exported to the Bijapur District and were sold there and the proceeds credited in the Bijapur accounts. The pilot wagon load of loose grass sent to Bijapur itself from Castle Rock early in the season was sold for Rs. 30-12-0, and a sum of Rs. 25 was received on account of the grass supplied at Londa to build huts for plague detainees.

Southern Division, Kánara.

287. Mr. Haselden, Assistant Conservator, 1st Grade, and Divisional Forest Officer, conducted personally the famine grass operations in this district with great interest and zeal, and exerted himself to the utmost to obtain as large a collection as possible of edible grass to have it compressed and baled quickly, and despatched as soon as possible, to Hubli by carts, from whence it was all conveyed by railway into the Bijapur Districts for consumption.

288. The work of cutting and collecting was undertaken in the two ranges of Yellapur and Mundgod, and the particulars are as under:—

Range.	Forests where Grass was cut.	Quantity.	Cost of conveyance.	Press Depôt to which Grass was conveyed.	Cost.
		Lbs.	Rs. a. p.		Rs. a. p.
Yellapur	Sangtikop ...	84,422	390 10 2	Sangtikop. 84,422 lbs.	155 9 8
	Amalgar ...	60,000	157 8 0	Singanhalli. 128,900 lbs.	323 5 0
	Chitgeri ...	24,000	63 0 0		
	Khodanabi ...	11,200	29 0 5		
	Malgi ...	85,400	89 2 0		
		130,600	339 0 5	128,900 lbs.	323 5 0
Mundgod	Bhadrapur ...	79,560	208 13 6	Sanwalli 102,660 lbs.	115 9 2
	Karkikop ...				
	Kulkari ...				
	Sanwalli ...	23,100	60 10 2	.....	.....
	Bahalkalli ...				
	Wadgatta ...	125,000	340 10 0	Wadgatta 136,187 lbs.	192 15 0
	Sudgeri ...				
	Kusur ...	11,187	22 4 0	.....	...
	Total Mundgod ...	869,447	971 6 1	367,747	631 18 2
	Grand Total ...	453,869	1,362 0 3	452,169	757 6 10

(lxxxii)

289. No grass was sold locally, but it was all pressed into bales with the following results :—

Press Depôts.	Grass.	Bales.	Cost.	Cost of cartage to Hubli.	Cost of Ropes.
			Rs. a. p.	Rs. a. p.	Rs. a. p.
Sangtikop	84,422	1,128	151 12 6	317 4 0	59 12 5
Singanhall	98,181	1,607	130 7 7	512 12 6	
Sanwali	104,660	1,428	132 2 10	454 1 6	517 14 6
Wadgatta	136,187	919	92 1 9	349 7 0	
Total	421,450	5,082	506 8 8	1,633 9 0	607 10 11

And there was also some miscellaneous expenditure, such as Rs. 221-4-7, for erecting trestles and stacking bales and grass and for fencing; Rs. 117-15-6 for special watchers to protect the grass against fire; Rs. 191-4-7 for contingencies.

290. Of the 453,869 lbs. of grass which had been cut, a deficiency was discovered in grass of the value of Rs. 80, and after a careful departmental inquiry the Deputy Conservator in charge of the Southern Circle directed that Rs. 60 should be recovered from the Ranger and Rs. 20 from the Forest Guard who was in charge of the operations at the grass depôts of Amalgar, Chitgeri, Khodambi and Malgi and of the press depôt at Singanhalli whereat this deficiency occurred. The total cost of the operations amounted to Rs. 5,457-12-4.

291. Two screw presses which remained over from the famine of 1876-77 were first employed in compressing and baling the grass and later on three Conder's and one Gahagan Press were sent from Dhárwar after they had been working in that district and had broken the neck of the work there, so that the residual of loose grass could be baled easily by the big screw press left at Kambarganvi in Dhárwar Taluka.

292. All the bales sent to Hubli were consigned to Mr. Woodrow, the Divisional Forest Officer of Dhárwar, who had them loaded in railway trucks and sent off to the famine districts, where the grass was all sold and eaten by the cattle of the country.

293. Mr. Haselden deserves thanks for the care and attention he devoted to this grass work.

Bijapur District.

294. This was a district supplied and relieved; it had no grass of its own to be collected and distributed. The Personal Assistant, Mr. William Didsbury Sheppard, I. C. S., to the Collector, undertook the sale and distribution of the grass delivered in the city of Bijapur and elsewhere in the district up to the last week in March, when he gave over to the Divisional Forest Officer the control of the depôts at the railway stations to the south of Bijapur, keeping in his own hands the transactions in the city and at the railway station of Indi Road to the north of it, and Mr. Sheppard gave up much time and attention to this work, and brought it to a very satisfactory conclusion through the keen interest and zealous energy that he took in distributing the grass and in obtaining purchasers for it: the work was by no means so simple as might be imagined, for there was at starting a great prejudice against grass brought from the Dhárwar, Belgaum and Kánara forests, and it was only by coaxing and by the force of example and urging that the people, so very conservative in their habits, were induced to give the foreign and abused grass a fair trial, and when they saw how good it was, and that its old-standing bad character was unmerited, they no longer hesitated to buy.

295. The consignments of grass sent to Bijapur from the Thána and Khándesh districts longer railway distances than from Souden (London?) to Edinburgh appear in this statement :—

Month and Date.	From		To			
	Depôt.	District.	Station.	Railway distance.	Wagons.	Grass.
December 12th ...	Badlipur ...	Thána ...	Bijapur...	310	1	Lbs.
" 14th ...	Nargaon ...	Khándesh ...	Do. ...	465	1	6,240
January 7th ...	Do. ...	Do. ...	Indi Road ...	463	2	4,960
" 8th ...	Do. ...	Do. ...	Do. ...	...	1	15,760
" 8th ...	Badlipur ...	Thána ...	Bijapur ...	310	5	7,581
" 8th ...	Do. ...	Do. ...	Telgi ...	337	5	26,629
" 9th ...	Nargaon ...	Khándesh ...	Indi Road ...	463	2	27,559
" 11th ...	Do. ...	Do. ...	Bijapur ...	465	5	16,066
Total ...	...	...	...	...	22	24,219
						129,014

296. Mr. Rebeiro, Extra Assistant Conservator of Forests, 3rd Grade, and Divisional Forest Officer of Bijapur, directed the work in seven famine-supply grass depôts located at the railway

(lxxxiii)

stations of Telgi, Almati, Bágalkot, Katgiri, Bádami, Mallápur, Gadag South of Bijapur the last two being in the Dhárwar District, from the 25th March to the end of the season, ten Forest Guards being placed in charge of them as depôt officers and assistants. A weekly examination of all the depôts and of their accounts was made by Mr. Rebeiro, who regulated the orders for fresh consignments of bales according to the demands at, and issues from, each depôt. At first the grass was imported from Kambarganvi in bales partly hand-bound and partly press bound: later on the consignments were all from Tenaighát in the N. D. Kánara division. This is a point to be noted, because of the bad character given so undeservedly and recklessly by Mr. Oliver, the Divisional Forest Officer, N. D. Kánara, to the grass of his district. In the beginning the sales were slow, the chief consumers being cartmen, Gavlis and professional owners of cattle, and at the depôts south of Bágalkot hardly a bale was sold for a fortnight, the complaint at some places being that the cattle ate this grass very shyly and were affected with looseness of the bowels: if this were the fact it was not to be greatly wondered at, seeing that these cattle had been fed mostly on karbi and grass grown in an open country and green grass all their lives. The agriculturist in general held aloof from the depôts and let their cattle provide for themselves or die, as they found it to be beyond their means to feed a large number of animals on grass. Only very valuable agricultural cattle were fed on karbi very largely imported from Mysore. However later on, end of April and May, when cattle which had been removed to other districts in search of fodder and which having fared worse there on account of the tick disease began gradually to return, and also when the agriculturists found it necessary to keep alive as many cattle as they could for the ploughing of fields, the sales were very rapid, and in fact so rapid that grass could not be brought and supplied fast enough. On the 31st May all the grass in stock was handed over to the Revenue authorities for disposal, and it was partly issued at the cost of the Indian Charitable Famine Fund and partly used in feeding cattle bought for distribution to cultivators.

297. Out of 4,907 bales received in the seven depôts, 3,333 were sold at prices realising Rs. 2,839-15-9. Seventy-nine bales were accidentally burnt in two fires, one at Bádami when 4 bales were destroyed, and the other at Mallápur depôt when 75 bales were consumed; and the remaining 1,495 bales were handed over to the Revenue Department for disposal and their price, Rs. 1,101-10-0, was received and credited.

298. The receipts and issues at the seven depôts were as under :—

Depôts.	Received.	Issued.				
	Bales.	By sales.	Burnt.	By Revenue Department.	Total.	Price.
						Rs. a. p.
Telgi	842	696	...	146	842	682 10 9
Almati	825	347	...	478	825	607 13 6
Bágalkot	1,382	1,003	...	379	1,382	1,106 12 6
Katgiri	1,050	779	...	271	1,050	884 4 0
Bádami	204	99	4	101	204	120 5 6
Mallápur	266	191	75	...	266	141 0 0
Gadag	338	218	...	120	338	198 11 6
Total	4,907	3,333	79	1,495	4,907	3,941 9 9

299. Mr. Sheppard, the Personal Assistant to the Collector, informed me in his letter No. 3805, dated 11th September 1897, that all the grass sent to the Indi Road Station, Bijapur and elsewhere in the district, had been sold and the proceeds credited. In reply I considered it my duty to inform Mr. Sheppard: "If it had not been for your cordial and valuable assistance, the operations in the Bijapur District could not have been either satisfactory or successful, and it has been personally a pleasure to me, as it has been decidedly to the interest of Government, that you have taken so prominent a part in the work."

300. The following is a brief statement of the receipts and issues of grass in the town of Bijapur and in other depôts, not including the grass which Mr. Rebeiro received and disposed of :—

	Bales.	Grass.	Amount.
		Lbs.	Rs. a. p.
Bijapur	14,376	11,93,623	13,018 12 4
Indi	1,128	1,55,197	
Katgiri	56	3,636	
Bágalkot	900	76,500	
Almati	492	82,360	
Telgi	495	41,580	
Alur	80	2,481	
Total	17,452	15,55,377	13,018 12 4

(lxxxiv)

Financial Results.

301. The total expenditure up to date, 28th February 1898, has amounted to Rs. 2,15,547-7-4 and the total receipts to Rs. 1,42,807-10-11, so that the former has exceeded the latter by a sum of Rs. 72,739-12-5. But some adjustments remain still to be made which may decrease the value of the concession of fodder grass to the famine districts for saving agricultural cattle to some extent; for example:

(a) The value, Rs. 1,487-4-0, of grass issued against tagái in the Sholápur District has to be recovered by the Mámlatdárs from the cultivators and then to be credited to the famine grass account.

(b) Rs. 5,887-2-0 represent the value of the wire-binders which were fastening the compressed bales of hay handed over to the Collector of Ahmednagar for issue at the cost of the Famine Charitable Fund to village cattle owners and against tagái. These wires have not been returned, and numbers of them, if ever returned, will be found to be broken and unserviceable.

(c) Rs. 8,431-6-6 represent the value of the wire-binders supplied to the Collector of Sholápur with the bales of hay furnished to that district; a large heap of these binders are in the Madhe Mámlatdár's Kacheri and are being sorted and arranged, but a considerable number of them is broken and useless.

302. In paragraph 2 of Government Resolution No. 252-Fam., dated 25th January 1897, it was ordered: "The Collectors of the districts to which the grass is sent should be requested to arrange, as far as possible, for the prompt return to the Government grass depôts whence the pressed grass was despatched of the metal binders fastened round the bales, as their cost represents no insignificant portion of the aggregate cost of the pressed bales."

303. The patent galvanized wire-binders and iron links of the Jessop's Phoenix Steam Press bales have a present value, for the Commissariat Department will probably be glad to take those that are intact and serviceable at a reduced price of 25 per cent. below original cost. But the other wires of the Hand Press, Dederick, &c., bales will not realize very much when sold.

304. Then there are the following hand hay baling presses remaining unsold, attempts hitherto made at selling them not having proved successful; they may sell later on.

Description of Press.		Original price.		
		Rs.	a.	p.
4	Gahagan & Co.'s Presses at Rs. 355 each	1,420	0	0
1	Mhow Press	300	0	0
4	Conder's Presses at Rs. 179-1-0 each	716	4	0
1	Do. do.	90	0	0
Total		2,526	4	0

Revenue credited up to end of February 1898:—

		Rs.	a.	p.
I.—By sale of grass	...	1,20,523	12	11
		Rs.	a.	p.
In Khándesh	...	732	10	3
„ Násik	...	7,920	12	6
„ Ahmednagar,	...	32,690	5	11
„ Poona	...	27,035	5	8
„ Sátára	...	1,460	8	0
„ Sholápur	...	28,580	13	9
„ Thána	...	81	13	6
„ Bijápur	...	7,557	13	10
„ Belgaum	...	1,237	5	6
„ Dhárwár	...	13,030	13	8
„ Kánara	...	245	6	4

II.—By sale of presses, wire-binders and dead stock articles, &c.	...	7,607	6	10
III.—By sale to G. I. P. Railway of coals remaining on hand	...	272	0	0
IV.—By refund of excess cost of freight by G. I. P. Railway, &c.	...	85	14	8

Expenditure debited up to the end of February 1898:—

		Rs.	a.	p.
I.—Cost of collecting grass	...	31,433	3	8
II.—Cost of carting grass to depôts to be pressed and to Railway stations for despatch	...	42,064	9	5
III.—Cost of labour for compressing and baling grass	...	14,740	14	2

(lxxxv)

		Rs.	a.	p.
IV.—Cost of wire-binders or ties for fastening bales—				
(a) The Jessop's Phoenix Steam Baling Press binders cost Rs. 6-12-0 per 100 and the iron links Rs. 2-4-0 per 100. 4 binders and 4 links are required to each bale.		26,820	9	9
(b) The wire-binders with fastening ends for hand press bales run to Rs. 3-4-0 per 100 and from 3 to 5 go to each bale and ropes, canes, &c.				
V.—Cost of loading bales into and unloading from railway wagons	...	2,909	7	11
VI.—Cost of coals and firewood for working steam presses	...	2,292	3	0
VII.—Cost of artificers on Steam Baling Presses	...	1,397	0	10
VIII.—Cost of freight paid to the Railway Companies for conveyance of grass, loose and baled	...	50,638	2	0
IX.—Cost of Hay Baling Presses purchased	...	5,547	15	0
X.—Stores, such as lanterns, lubricating oil, tallow, &c., weighing scales, dead stock articles, repairs to Steam and Hand Presses, &c., &c.	...	4,773	8	1
XI.—Sundries, including railway and cart charges for conveying Steam Presses from Poona to Ráver and vice versa and from Howrah to Atgaon and to Poona. Railway and cart charges for moving Hand Baling Presses. Cost of erecting and dismantling Presses. Hire of a Press in Dhárwár, &c., &c.	...	7,450	8	2
XII.—Cost of special watchers employed for protecting forests from fire-guarding grass depôts, &c.	...	3,854	0	5
XIII.—Cost of road making	...	593	12	6
Total expenditure under A	...	1,94,515	14	11

B.—Establishments.

I.—Cost of salary of Superior officers	...	13,034	7	1
II.—District and Office Establishment on special duty	...	4,082	3	1
III.—Travelling allowances to Special Officer and Establishments, District and Office	...	2,825	4	6
IV.—Contingencies	...	1,089	9	9
Total B	...	21,031	8	5
Grand Total	...	2,15,547	7	4

305. In conclusion, I would venture to make two suggestions in view of the possibility of a famine occurring again in the immediate future:—

(1) That a Jessop's Steam Phoenix Hay Baling Press plant completed should be provided, and stored one at the head-quarters of each Forest Circle with 200,000 binders and links sufficient for 50,000 bales.

(2) That the wire-fencing of forest areas in the plain country of the Deccan be pushed at the rate of 20 linear miles of barbed wire fence per annum for the next 10 years.

The Steam Press plant will not deteriorate nor decay rapidly, and it may come in of use at any time for baling grass when a military expedition is sent over the seas, as not infrequently occurs, or when Government cattle, including horses, are moved from one part of this vast empire to a distant portion by railway.

306. Enclosing forest areas against cattle will increase the sources of fodder-grass supply and will promote the use of fodder-grass and stimulate stall feeding: at the same time the production of firewood and timber and the growth of trees in the Eastern Deccan will be increased.

I have the honour to be,
Sir,
Your most obedient Servant,
A. T. SHUTTLEWORTH,
Conservator of Forests, First Grade,
on Special Famine Duty.

APPENDIX No. 1.

List of Hay Baling Presses.

1. Portable Jessop's Steam Phoenix Hay Baling Press.
2. Dederick's Full Circle Patent Lever Bullock Press.
3. Messrs. Richardson and Cruddas' Original Portable Lever Press.
4. Messrs. Richardson and Cruddas of Bombay Improved Lever Hay Baling Press.
5. Messrs. Geo. Gahagan and Company's Improved Portable Hand Press.
6. Messrs. Macbeth Brothers and Company's Hay Press.

Portable Jessop's Steam Phoenix Hay Baling Presses.

Each plant consists of two hydraulic presses, each fitted with two press boxes that run out and into the presses on rails, so that whilst the contents of one box is being pressed the other is being filled ready for pressing, thus keeping the press working continuously.

The presses are supplied with hydraulic pressure by a Duplex steam pump, which stops automatically when the maximum pressure is reached, thereby reducing the risk of break down and when working with unskilled labour.

Steam is supplied by a locotype boiler, mounted on wheels, with specially enlarged fire box for burning either wood or coals.

The whole of the plant can be taken to pieces and any portion carried by a country bullock cart, except the boiler: this goes on its own wheels. The entire plant can thus be easily moved from one district to another, though in actual practice it is found preferable to have a central pressing station and cart the grass in from the surrounding districts.

Each plant is supplied complete with all fittings ready for erecting and starting to work.

A tripod and chain block is also supplied for erecting and dismantling the press.

A trained Native Mistri and Tindal, *i.e.*, Fitter or Engineer and Fireman, with about 30 coolies, are required to work the plant.

About 20 cwt. of coal or 40 maunds of wood are required for the boiler daily.

The plant is designed to turn out one maund (80 lbs.) bales measuring 24" x 18" x 12", equal to about 90 cubic feet to the ton.

The bales are bound with Jessop's patent binders: these are made of light flexible wire, the necessary length to go once round a bale, with an eye formed at each end, the two ends being connected by a small open iron link. The bales are pressed a little and smaller than the required measurements, the binders then passed round and the links put on. By this means bales are quickly and securely bound by unskilled labour. When it is required to open out the bales the eyes of the binders are drawn together with a pair of tongs and the link taken out and the binders and links can be re-used; four binders with four links are required for each bale.

Price of press	...	...	Rs. 12,200
Price of wire binders with iron links	...	...	90 per 1,000.

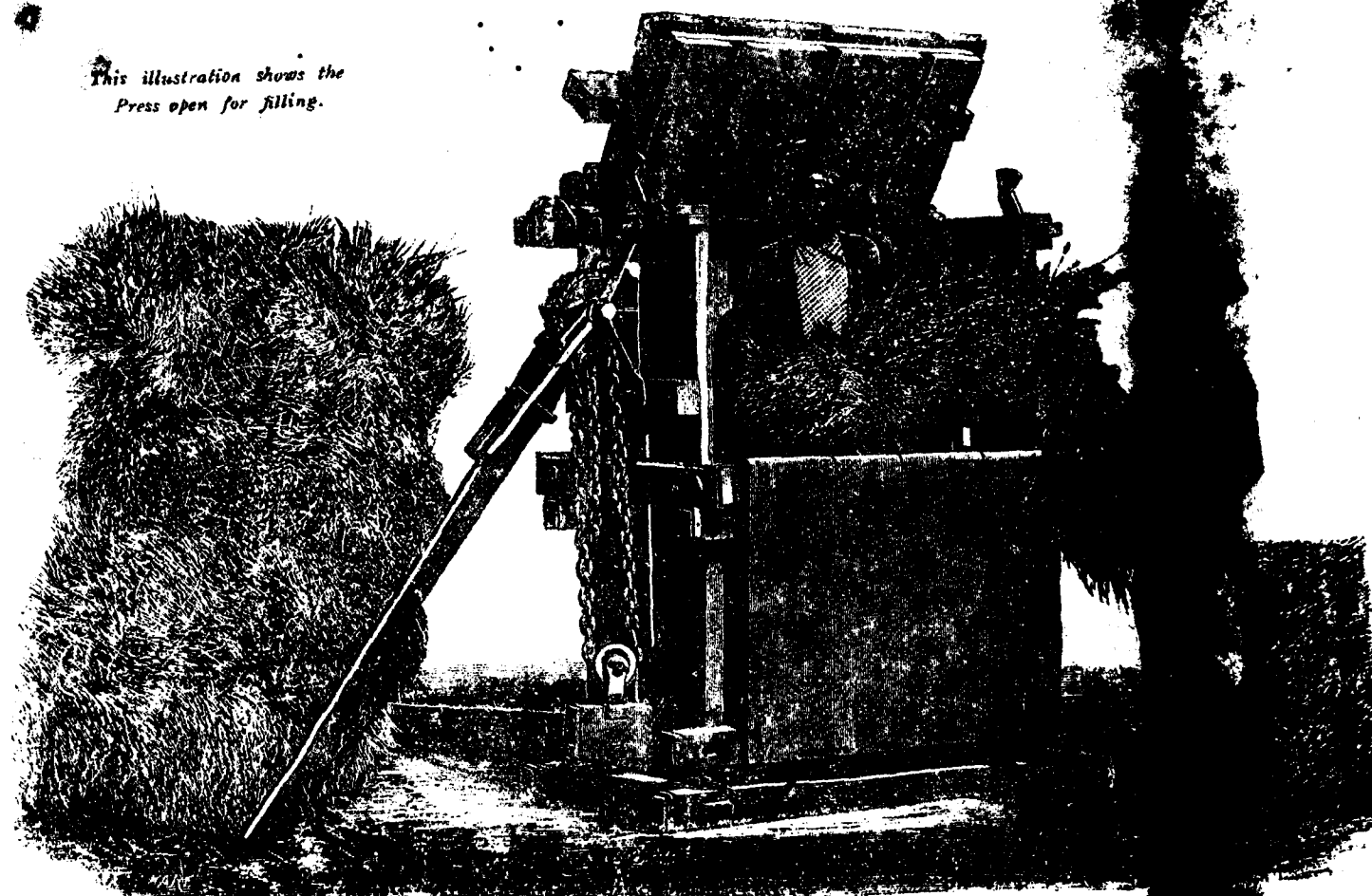
Dederick's Full Circle Patent Lever Bullock Press.

The power-baling case and connections are constructed of steel and iron. The connection between the press and power end of the machine is a steel tube or pipe, through which the staff of the traverser (another pipe) passes and communicates the power to the traverser, so that there are no visible moving parts for the bullocks to slip over. The press and the power are under the surface of the axles of the wheels, pits being dug for the purpose, so that the steel tube or pipe rests on the ground level and a damp of earth is banked on either side of it for the bullocks to walk over the pipe.

3 wire ties with patent fastening ends are used to bind each bale.

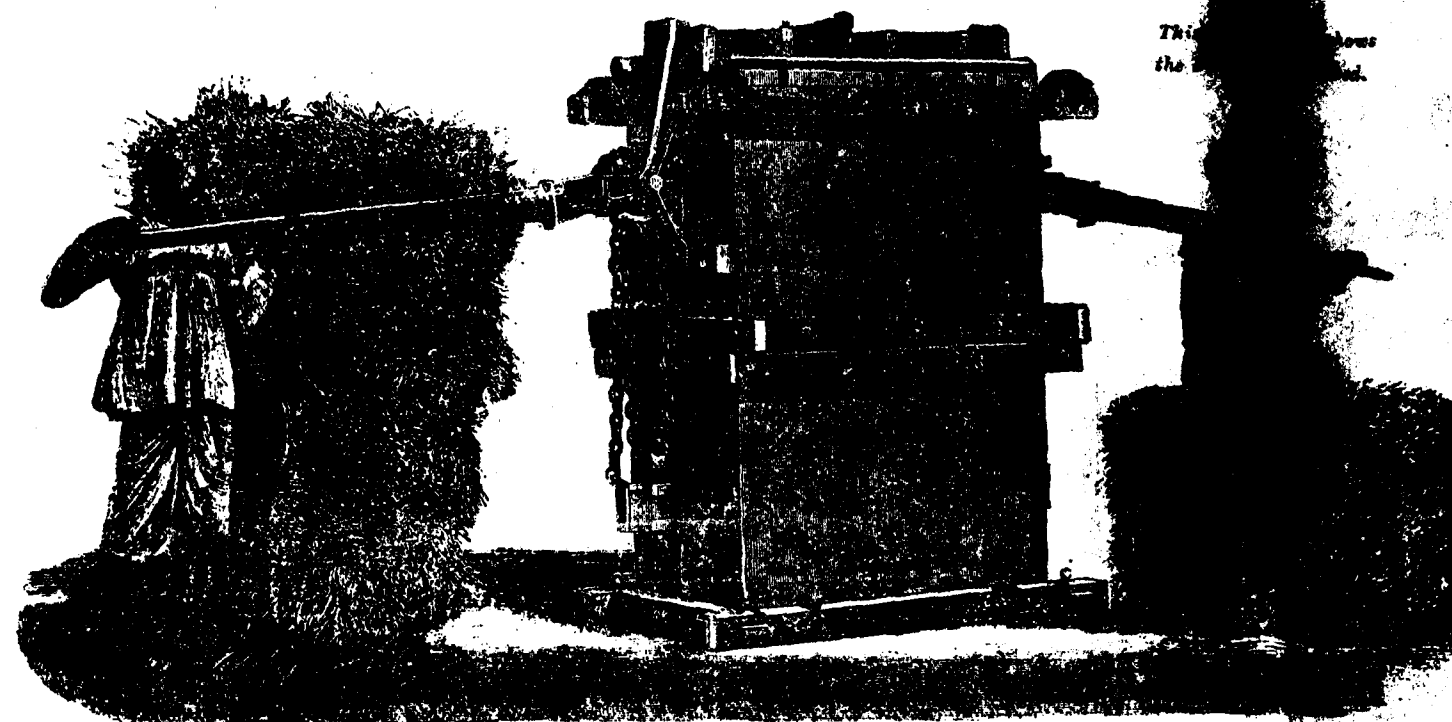
ORIGINAL PATTERN PORTABLE LEVER PRESS FOR HAY, &c.

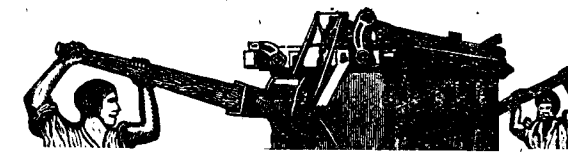
This illustration shows the
Press open for filling.



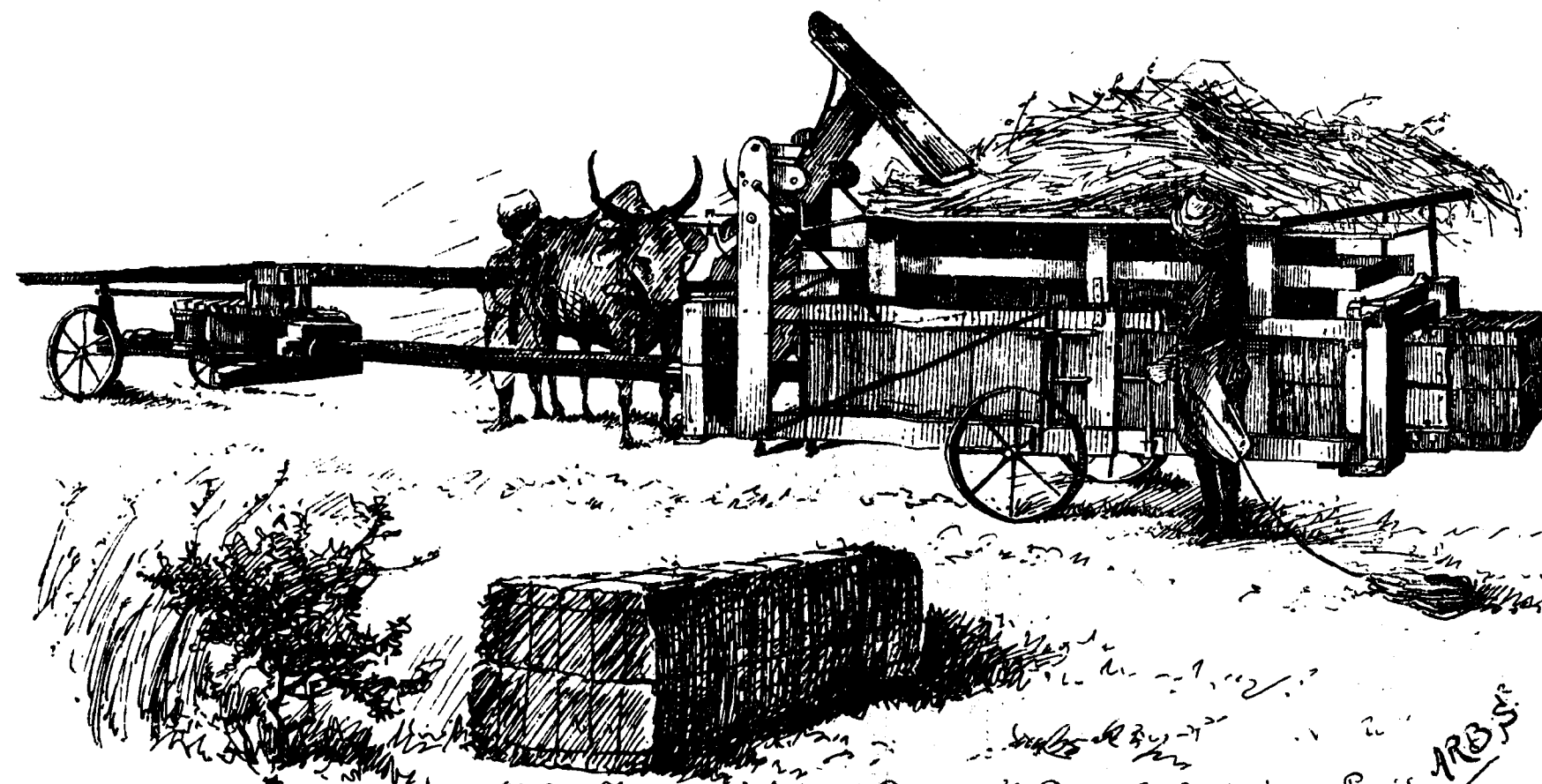
This Press is strong, portable, compact, effective and cheap, and is largely used in America, the Colonies, and this country, for pressing Hay, Straw, Cotton, Jute, Hides and numerous other kinds of merchandise required in neat and compact bales for transportation.

It is easily worked by two men, and with its aid 103 pounds of unpressed hay, occupying 50 cubic feet can be readily compressed into a neat bale measuring 48 in. x 29 in. x 25 in. (Experience has shown that 6 men are absolutely necessary to work this Press. When used for cotton, 300 pounds can be put into a bale 48 in. x 29 in. x 28 in. Weight about 9½ cwt. Price Rs. 350.





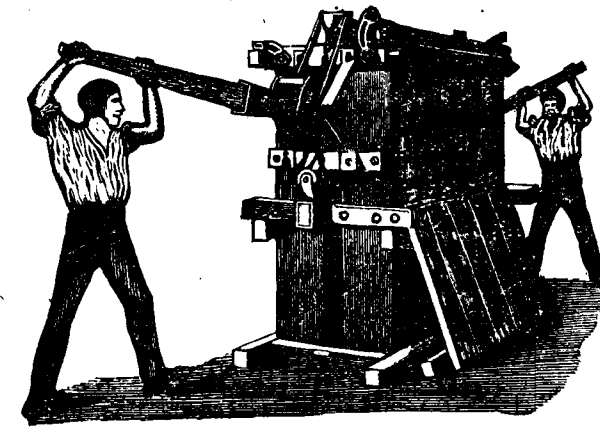
DEDERICKS' FULL CIRCLE PATENT LEVER BULLOCK PRESS



Dedericks' Patent Full Circle Lever Press

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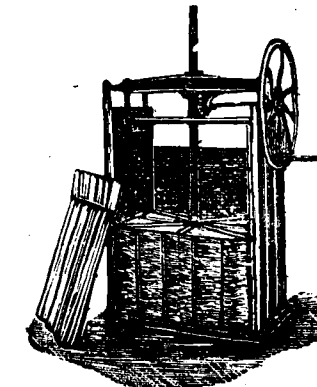
Messrs. Geo. Gahagan and Company's Improved Portable Hand Press.



These Lever Presses being strong, compact and cheap, can be recommended for light baling purposes, and to those who require a press to work by manual power only. They are easily worked by two men. The inside measurement of the standard size press, when closed up, is 45 by 26 by 28 inches; slight variations from these sizes are made without extra charge. For hay, four or even more trusses may easily be compressed into a space of 46 by 25 by 25, and for cotton 320 lbs. can be pressed into a space of 48 by 28 by 28. A bale of rags weighs about 6 cwt.

This press is an improvement upon the American press, in which the chain was drawn up by means of small teeth between the ratchet wheels; these teeth were required exactly to fit the links of the chain, consequently a very little wear of the chain or of the teeth caused the chain to slip over the teeth, and thus render the press useless. In this improved press, as shown in the above drawing, the chain is coiled upon a grooved cone, the end being fastened to the large end of the cone; the winding commences at the large end, and therefore winds up much more chain at first for each depression of the lever than it does at the last, thus increasing the power as the resistance of the bale becomes greater. The end of the chain being fastened securely to the cone, there is no possibility of any slip occurring. This press, when packed for shipment, measures about 56 cubic feet. Gross weight about 10 cwt.

Messrs. Macbeth Brothers and Company's Hay Press.



To make bales 2 ft. 3 in. x 2 ft., with travelling wheels and shafts, Rs. 450.

Statement of Dead Stock Articles purchased in connection with Famine Grass Operations.

Number of Articles.	Description.	Value.	Voucher No.	REMARKS.
		Rs. a. p.		
1	Bullock power Press from Tramway Company.	742 9 0	6 of December.	
1	Gahagan Press ...	350 0 0	11 of do.	
1	Richardson and Cruddas Press ...	354 0 0	13 of do.	
1	Hay Press ...	300 0 0	7 of February 1897.	
3	Hay Presses, 1 for Rs. 350 and the other 2 for Rs. 700, from Messrs. George Gahagan of Bombay.	1,050 0 0	27 of March 1897.	
4	Conder's Hand Hay Presses from the Commissariat Department, Poona.	776 4 0	29 of do.	
2	Hay Presses, improved type, from Messrs. Richardson and Cruddas.	900 0 0	37 of do.	
1	Hay Press ...	30 0 0	38 of do.	
1	Do. ...	450 0 0	35 of do.	
50 sets.	Appliances (Tommys and Tongs) for opening bales of hay.	350 0 0	23 of do.	
...	Dogs and bolts ...	37 12 0	37 of do.	
...	Ratchet wheels ...	7 0 0	Do.	
...	Ratchet wheel and catch ...	6 0 0	.....	
...	Articles of Press from Messrs. Richardson and Cruddas.	48 0 0	47 of March 1897.	
8	Dogs for Hay Press ...	8 0 0	29 of April 1897.	
2	Ratchet wheels ...	10 0 0	Do.	
6	Ratchets ...	6 0 0	Do.	
8	Hooks, &c. ...	13 0 0	Do.	
...	Articles of Hay Press from Messrs. Richardson and Cruddas.	114 11 6	19 of May 1897.	
...	Do. do.	100 0 0	37 of do.	
...	Do. do.	118 15 3	8 of June 1897.	
...	Articles from Messrs. George Gahagan and Company.	326 0 0	9 of do.	
...	Articles of Hay Press from Messrs. Jessop and Company, Calcutta.	52 0 0	5 of July 1897.	
12	Neck leathers for the Hydraulic Press ...	108 0 0	92 of do.	
12	Hat leathers ...	24 0 0	Do.	
<i>East Khândesh Division.</i>				
1	Iron weighing balance ...	2 8 0	31 of December 1896.	
1	Iron chain for bullock traces ...	6 10 5		
2	Lanterns ...	6 8 0		
1	Do. ...	4 0 0		
1	Glass globe for lantern ...	1 4 0		
2	Tin cases for oiling Press ...	0 6 0		
8 1/2	Iron bands ...	1 6 9		
1	Hammer ...	0 12 0		
1	Hand lantern ...	0 14 0		
1	Do. ...	1 10 0		
4	Partis of gunny for weighing balance ...	1 0 0	Do.	
2	Circular spring balances from Messrs. Kurwa Kajji.	20 0 0	32 do.	
1	Lantern ...	2 8 0	40 of January 1897.	
1	Glass inkstand ...	0 5 0	100 do.	
1	Chisel... ..	0 6 0		
2	Weighing balances ...	5 0 0	102 do.	
6	Lanterns ...	18 6 0		
3	Hammers ...	1 0 0	101 do.	
2	Iron bars ...	0 8 6		
1	Iron weighing balance ...	1 8 0		

Number of Articles.	Description.	Value.	Voucher No.	Remarks.
		Rs. a. p.		
East Khândesh Division—continued.				
2	Buckets ...	1 12 0	103 of January 1897.	
10	Tin boxes ...	1 9 0		
1	Padlock ...	0 4 0		
3	Lanterns ...	9 0 0		
2	Cylindrical tanks ...	12 7 9	149 of February 1897.	
2	Salter's spring balances ...	20 10 0		
1	Pincer... ..	0 6 0	150 of	do.
1	Box with lock and key ...	0 6 0	151	do.
1	Pincer ...	1 0 0		
1	Scraper ...	0 7 0		
1	Water-pipe ...	8 11 6		
1	Bend ...	0 9 0	315	do.
1	Coupling ...	0 4 6		
1	Iron lap ...	4 0 0		
2	Iron tanks ...	11 4 10		
2	Buckets ...	1 2 0	316	do.
2	Hammers ...	0 8 0		
2	Circular spring balances ...	24 0 0		
...	Weighing scales ...	10 14 0		286 of April 1897.
4	Lanterns ...	12 0 0	287	do.
2	Iron files ...	2 2 0	288	do.
1	Pick-axe ...	0 10 0	497 of May 1897.	
3	Lanterns ...	2 10 0		
1	Axe ...	0 14 0		
1	Pincer... ..	1 0 0		
2	Iron bars ...	3 0 0	517 of	do.
Doz.	Bolts ...	1 8 0		
1	Iron clamp and ...	2 0 0		
1	Iron bracket ...	0 12 0		525
1	Scissors ...	0 12 0	113 of June 1897.	
12	Hink's lanterns ...	37 8 0	82 of July 1897.	
1	Iron pincer ...	0 8 0	.....	
1	Iron ring ...	0 4 0	82 of July 1897.	
4	Hammers ...	4 0 0	.....	
1	Pincer ...	0 12 0	83 of July 1897.	
6	Cane baskets ...	2 4 0	.....	
1	Iron tank ...	4 8 9	100 of July 1897.	
1	Penknife ...	1 0 0	14 of October 1897.	
1	Firewood box ...	1 0 0		
Nâsik Division.				
2	Locks with keys ...	0 10 0	292 of April 1897.	
6	Salter's balances ...	13 8 0	498 of May 1897.	
Poona Division.				
1	Lantern ...	0 6 0	61 of January 1897.	
4	Weighing balances ...	37 0 0	104 of January 1897.	
3	Needles ...	1 2 0	146 of February 1897.	
1	Pincer ...	1 0 0	147	do.
Sâtâra Division.				
9	Spring balances ...	8 12 0	148 of February 1897.	
4	Bolts ...	1 0 0	42 of June 1897.	
3	Iron bolts ...	0 9 0	20 of July 1879.	
...	Iron chains ...	2 10 0		

Number of Articles.	Description.	Value.	Voucher No.	REMARKS.
	<i>Sholapur Division.</i>	Rs. a. p.		
2	Locks ...	0 11 0	21 of March 1897.	
2	Boxes ...	0 15 0	} 128 of do.	
2	Locks ...	0 5 0		
1	Dealwood box	0 8 0	} 232 of April 1897.	
1	Do.	0 5 0		
3	Do.	1 5 0	} 231 of do.	
3	Padlocks	0 11 0		
	<i>South Thána.</i>			
1	Bolts ...	8 2 0	} 152 of February 1897.	
8	Hammer and 1 wrench	7 10 6		
4	Spring balances	94 8 10	153 of do.	
4	3 Engineer's oil cans and 1 parallel wrench.	0 13 1	154 of do.	
2	Spring balances	28 8 4	} 155 of do.	
1	Hammer	1 11 4		
5	Iron bars	0 10 0	} 97 of do.	
3	Do.	0 6 0		
4	Lanterns	4 0 0	} 156 of do.	
1	File	0 11 0		
24	Bolts	1 8 0	} 267 of April 1897.	
Doz.	Do.	2 0 0		
1	Chaki	0 8 0	} 499 of May 1897.	
2	Iron dogs	4 0 0		
4	Screws	1 0 0	} 7 of August 1897.	
4	Lanterns	2 8 0		
	Screws	3 5 0	} 7 of August 1897.	
	Bolts	1 2 0		
1	Iron Patti	0 13 0	} 7 of August 1897.	
4	Tin boxes	0 8 0		
	Nails	0 6 0	} 7 of August 1897.	
1	Spring balance	12 8 0		
4	Spring balances	37 12 0	} 7 of August 1897.	
1	Iron chain	15 8 0		
1	Iron catch	1 0 0	} 7 of August 1897.	
	<i>Central Thána.</i>			
4	Teakwood boxes	11 0 0	} 105 of January 1897.	
4	Hurricane lanterns	5 12 0		
6	Salter's spring balances	62 3 5	} 157 of February 1897.	
2	Ladders	0 12 0		
5	Salter's spring balances	55 0 0	} 317 of March 1897.	
4	Buckets	3 4 0		
24	Hurricane lanterns	40 0 0	} 7 of final March 1897.	
2	Iron tanks	60 10 8		
4	Wooden casks	20 0 0	} 290 of April 1897.	
4	Brass casks	6 0 0		
2	Funnels	1 0 0	} 276 of do.	
2	Tin cases	2 0 0		
12	New catchers for Hay Press	15 0 0	} 275 of do.	
16	Do.	23 0 0		
14	Hurricane lanterns	3 8 0	} 500 of May 1897.	
8	Tin cases	1 0 0		
8	Hurricane lanterns	24 0 0	} 431 of do.	
1	Box	1 0 0		
4	Hurricane lanterns	8 8 0	} 502 of do.	
...	Forks, iron hooks, and	49 0 0		
3	Iron catches ratchets	3 0 0	503 of do.	

Number of Articles.	Description.	Value.	Voucher No.	B.
	<i>Dhárwár Division.</i>	Rs. a. p.		
10	Lanterns	40 0 0	313 of March 1897.	
6	Do.	6 0 0	.....	
1	Pair of scissors	0 14 0	314 of March 1897.	
...	Screws, &c.	0 7 9	.....	
	<i>Kánara Southern Division.</i>			
6	Screws and bolts	1 1 0	28 of July 1897.	
	<i>Supplied by the Commissariat Department.</i>			
10000	Binders	900 0 0	13 of final March 1897.	
10000	Links	5,133 15 4	12 of October 1897.	
57044	Binders	675 0 0	.....	
57044	Links	11,700 0 0	.....	
10000	Wire binders	675 0 0	.....	
80000	Do. links from Calcutta	11,700 0 0	.....	
	<i>Purchase of wire binders.</i>			
10000	Galvanized wire binders	675 0 0	} 48 of August 1897.	
10000	Do. do.	675 0 0		
12000	Iron links	270 0 0	} 37 of February 1897.	
00000	Wire	4 0 0		
00000	Do.	4 0 0	38 of do.	
27800	Wire ties from Tramway Company	1,034 8 0	6 of do.	
5000	Do. do.	187 8 0	12 of do.	
2500	Wire ties	81 4 0		
250	Do.	8 2 0		
2000	Do.	65 0 0		
12000	Do.	390 0 0		
2000	Do.	65 0 0		
...	Do.	620 12 0		
5000	Do.	162 8 0		
900	Do.	29 4 0		
5000	Do.	162 8 0		
20000	Do.	650 0 0	18 of May 1897.	
20000	Do.	650 0 0	36 of do.	
29000	Do.	962 8 0	10 of June 1897.	
8000	Do.	180 0 0	3 of November 1897.	
6000	Do.	180 0 0	28 of March 1897.	
Total		32,766 2 11		

at Visapur, Ahmednagar District,
12th March 1898.

A. T. SHUTTLEWORTH
Conservator of Forests, 1st Gr
On Special Service

APPENDIX No. 3.

Statement showing Receipts and Expenditure.

EXPENDITURE.		RECEIPTS.		REMARKS.
Particulars.	Amount. Rs. a. p.	Particulars.	Amount. Rs. a. p.	
(A.)				
In connection with grass operations—		By sale of grass	1,20,523 12 11	
Cost of grass collected	31,433 3 8	By recoveries of excess payments	357 14 8	
Cost of carting to Press Depôts	42,064 9 5	By sale of Presses, wire-binders and other dead stock articles already adjusted	2,513 7 2	
Cost of compressing and baling	14,740 14 2	To be adjusted on account of the price of wire-binders of grass bales supplied to the Collector of Ahmednagar	5,887 2 0	
Cost of binders or ties for fastening bales of grass	26,820 9 9	Do. do. Sholapur	8,431 6 6	
Loading in and unloading bales from Railway trucks	2,909 7 11	Do. on account of the price of wire-binders of grass supplied to the Commissariat Department	5,093 15 8	
Cost of coals and firewood for working Steam Presses...	2,292 3 0			
Freight paid to Railway Companies	50,638 2 0			
Watchers for protecting the forests from fire, for protecting loose grass at the Press Depôts and bales at the Sale Depôts...	3,854 0 5			
Cost of Presses purchased	5,547 15 0			
Stores and repairs to Presses	4,773 8 1			
Sundries	7,450 8 2			
Temporary Establishments on steam-baling Presses	1,397 0 10			
Road making	593 12 6			
Total Expenditure on grass operations	1,94,515 14 11	Total	1,42,807 10 11	
(B.)—Establishments.				
Special officer's salary	13,034 7 1			
Executive and Office Establishments' salary	4,082 3 1			
Travelling allowances	2,325 4 6			
Contingencies	1,089 9 9			
Total, B Establishments	21,031 8 5			
Grand Total of Expenditure	2,15,547 7 4			

Camp Visapur, Ahmednagar District,
dated 12th March 1898

(xciii)

APPENDIX No. 4.

Statement of Receipts and Expenditure shown under each head and sub-head.

Budget Head and Sub-head.	Actuals to end of March 1897.	Actuals to end of January 1898.	Total.	Estimate during February and March 1898.	Total.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
RECEIPTS.					
Timber and other produce removed from the forests by Government agency—					
a. Grass and other minor produce	5,750 2 0	84,008 3 11	89,758 5 11	30,765 7 0	1,20,523 12 11
Miscellaneous—					
b. Refunds...	.....	357 14 8	357 14 8	.....	357 14 8
c. Other sources	.....	2,513 7 2	2,513 7 2	19,412 8 2	21,925 15 4
Total	5,750 2 0	86,879 9 9	92,629 11 9	50,177 15 2	1,42,807 10 11
EXPENDITURE.					
A.—Conservancy and Works.					
Timber and other produce removed from the forests by Government agency—					
a. Grass and other minor produce	46,029 7 10	1,08,402 12 1	1,54,432 3 11	.....	1,54,432 3 11
Live stock stores, tools and plant—					
c. Purchase of stores, tools and plant...	9,551 14 7	23,918 8 10	33,470 7 5	.....	33,470 7 5
Communications and Buildings—					
a. Roads and Bridges	441 6 6	152 10 0	594 0 6	.....	594 0 6
Demarcation, &c.—					
f. Protection from fire	730 1 0	803 1 0	1,533 2 0	.....	1,533 2 0
Miscellaneous—					
b. Other charges	1,490 14 10	2,995 2 3	4,486 1 1	.....	4,486 1 1
Total	58,243 12 9	1,36,272 2 2	1,94,515 14 11	.....	1,94,515 14 11
B.—Establishments.					
Salaries—					
a. Conservators	5,120 0 0	4,800 0 0	9,920 0 0	.....	9,920 0 0
b. Subordinate Forest and Depôt Establishment	333 5 4	523 14 3	857 3 7	.....	857 3 7
c. Office Establishment	950 8 11	2,274 6 7	3,224 15 6	.....	3,224 15 6
d. Deputation and special allowance	1,120 0 0	990 0 0	2,110 0 0	.....	2,110 0 0
e. Exchange compensation allowance...	565 15 1	438 8 0	1,004 7 1	.....	1,004 7 1
Travelling allowances—					
a. Conservators	1,048 5 0	1,755 13 0	2,804 2 0	.....	2,804 2 0
b. Subordinate Forest and Depôt Establishment	1 4 0	550 15 4	552 3 4	.....	552 3 4
c. Office Establishments	17 15 5	79 7 9	97 7 2	.....	97 7 2
Contingencies—					
a. Stationery	80 2 6	112 5 9	192 8 3	.....	192 8 3
b. Official postage	127 9 0	242 10 0	370 3 0	.....	370 3 0
c. Sundries	214 14 3	312 0 3	526 14 6	.....	526 14 6
Total	9,579 15 6	12,080 0 11	21,660 0 5	.....	21,660 0 5
Conservancy and Works	58,243 12 9	1,36,272 2 2	1,94,515 14 11	.....	1,94,515 14 11
Grand Total	67,813 12 3	1,48,352 3 1	2,16,175 15 4	.....	2,16,175 15 4
				* Deduct	628 8 0
					2,15,547 7 4

* On account of refund of travelling allowances.

Camp Visapur, Ahmednagar District,
dated 12th March 1898,

A. T. SHUTTLEWORTH,
Conservator of Forests, First Grade,
on S. Famine Dist

APPENDIX M.

Statement showing the advances made under the Land Improvement Loans Act XIX of 1883 and the Agriculturists' Loans Act XII of 1884.

LAND IMPROVEMENT LOANS ACT XIX OF 1883.										AGRICULTURISTS' LOANS ACT XII OF 1884.						
District.	Wells.			Other land improvements.			Total.			Seed.			Plough Cattle.			
	1896-97.	1897-98.	Total.	1896-97.	1897-98.	Total.	1896-97.	1897-98.	Total.	1896-97.	1897-98.	Total.	1896-97.	1897-98.	Total.	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Sholapur	2,20,009	1,34,110	3,54,119	16,391	800	17,191	2,36,400	1,34,910	3,71,310	...	39,863	39,863	70	40,884	40,954	...
Ahmednagar	4,75,701	1,65,830	6,41,531	2,650	14,545	17,195	4,78,351	1,80,375	6,58,726	2,490	79,941	82,431	2,135	2,205	4,340	...
Poona	1,24,980	1,55,835	2,80,815	29,685	68,675	98,360	1,54,665	2,24,510	3,79,175	395	1,24,492	1,24,887	1,065	41,224	42,289	...
Satara	1,86,100	69,620	2,55,720	68,768	44,490	1,13,258	2,54,868	1,14,110	3,68,978	...	51,685	51,685	510	20,625	21,135	...
Nasik	1,18,520	25,145	1,43,665	9,760	.....	9,760	1,28,280	25,145	1,53,425	...	.....	.....	1,369	43,890	45,259	...
Khandesh	1,11,655	47,430	1,59,085	1,686	1,900	3,586	1,13,341	49,330	1,62,671	...	38,646	38,646	7,554	38,486	46,040	...
Bijapur	3,26,310	...	3,26,310	6,05,090	.....	6,05,090	9,31,400	...	9,31,400	...	51,804	51,804	...	2,42,811	2,42,811	...
Belgaum	49,780	1,650	51,430	3,41,970	15,150	3,57,120	3,91,750	16,800	4,08,550	...	10,184	10,184	250	15,238	15,488	...
Dharwar	21,400	...	21,400	2,71,380	.....	2,71,380	2,92,780	...	2,92,780	2,080	14,743	16,823	3,740	74,183	77,923	...
Kolaba	600	...	600	50,270	4,250	54,520	50,870	4,250	55,120	...	.....	.....	...	732	732	...
Total	16,35,055	5,99,620	22,34,675	13,97,650	1,49,810	15,47,460	30,32,705	7,49,430	37,82,135	4,965	4,11,358	4,16,323	16,693	5,20,278	5,36,971	...

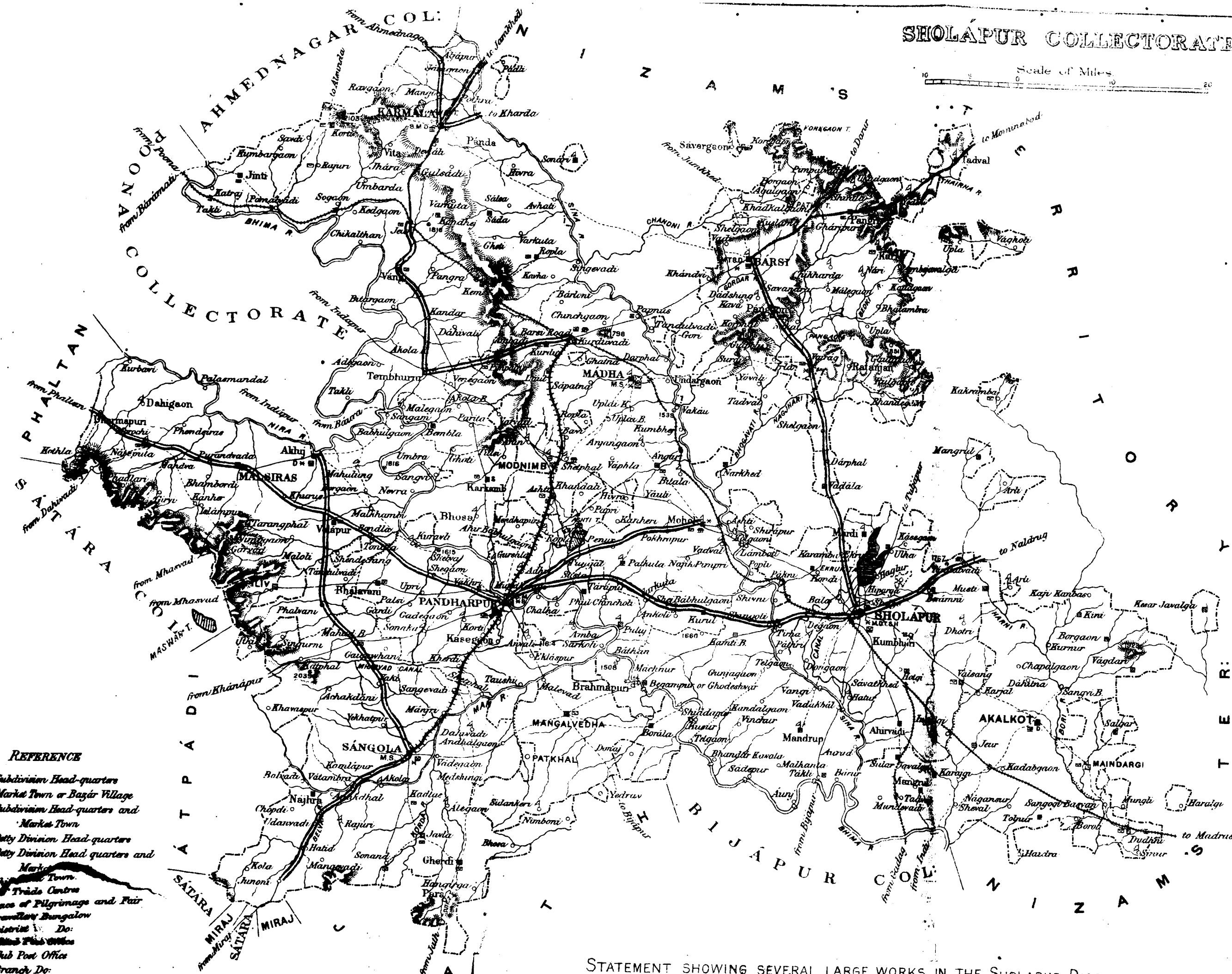
AGRICULTURISTS' LOANS ACT XII OF 1884—continued.													
District.	Subsistence under Section 143 (2), Famine Code.			Other purposes.			Total.			Total under both Acts.			REMARKS.
	1896-97.	1897-98.	Total.	1896-97.	1897-98.	Total.	1896-97.	1897-98.	Total.	1896-97.	1897-98.	Total.	
	17	18	19	20	21	22	23	24	25	26	27	28		29
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Sholapur				2,184	1,37,882	1,40,066	2,254	2,18,629	2,20,883	2,38,654	3,53,539	5,92,193	
Ahmednagar		45,193	45,193	13,206	88,608	1,01,814	17,831	2,15,947	2,33,778	4,96,182	3,96,322	8,92,504	
Poona	860	58,416	59,276	.....	.....	.....	2,320	2,24,132	2,26,452	1,56,985	4,48,642	6,05,627	
Sátára		59,394	59,394	50	3,311	3,361	560	1,35,015	1,35,575	2,55,428	2,49,125	5,04,553	
Nasik				4,540	.....	4,540	5,909	43,890	49,799	1,34,189	69,035	2,03,224	
Khandesh				7,655	1,489	9,144	15,209	78,621	93,830	1,28,550	1,27,951	2,56,501	
Bijápur				30,300	82,040	1,12,340	30,300	3,76,655	4,06,955	9,61,700	3,76,655	13,38,355	
Belgaum				550	317	867	800	25,739	26,539	3,92,550	42,539	4,35,089	
Dharwár				725	12,107	12,832	6,545	1,01,033	1,07,578	2,99,325	1,01,033	4,00,368	
Kolába		2,772	2,772	12,610	.....	12,610	12,610	3,504	16,114	63,480	7,754	71,234	
Total	860	1,65,775	1,66,635	71,820	3,25,754	3,97,574	94,338	14,23,165	15,17,503	31,27,043	21,72,595	52,99,638	

MAPS SHOWING THE LARGE WORKS CARRIED OUT DURING THE FAMINE.

APPENDIX N.

SHOLAPUR COLLECTORATE

Scale of Miles



- REFERENCE
- Subdivision Head-quarters
 - Market Town or Bagar Village
 - Subdivision Head-quarters and Market Town
 - Petty Division Head-quarters
 - Petty Division Head-quarters and Market Town
 - Chief Town
 - Trade Centre
 - Place of Pilgrimage and Fair
 - Travellers Bungalow
 - District Do
 - Sub Post Office
 - Branch Do
 - Telegraph Office
 - Municipality
 - Hospital
 - Dispensary
 - Town School
 - Ferry
 - Bridge
 - Toll
 - Port
 - Made Road
 - Railway open
 - Railway Station

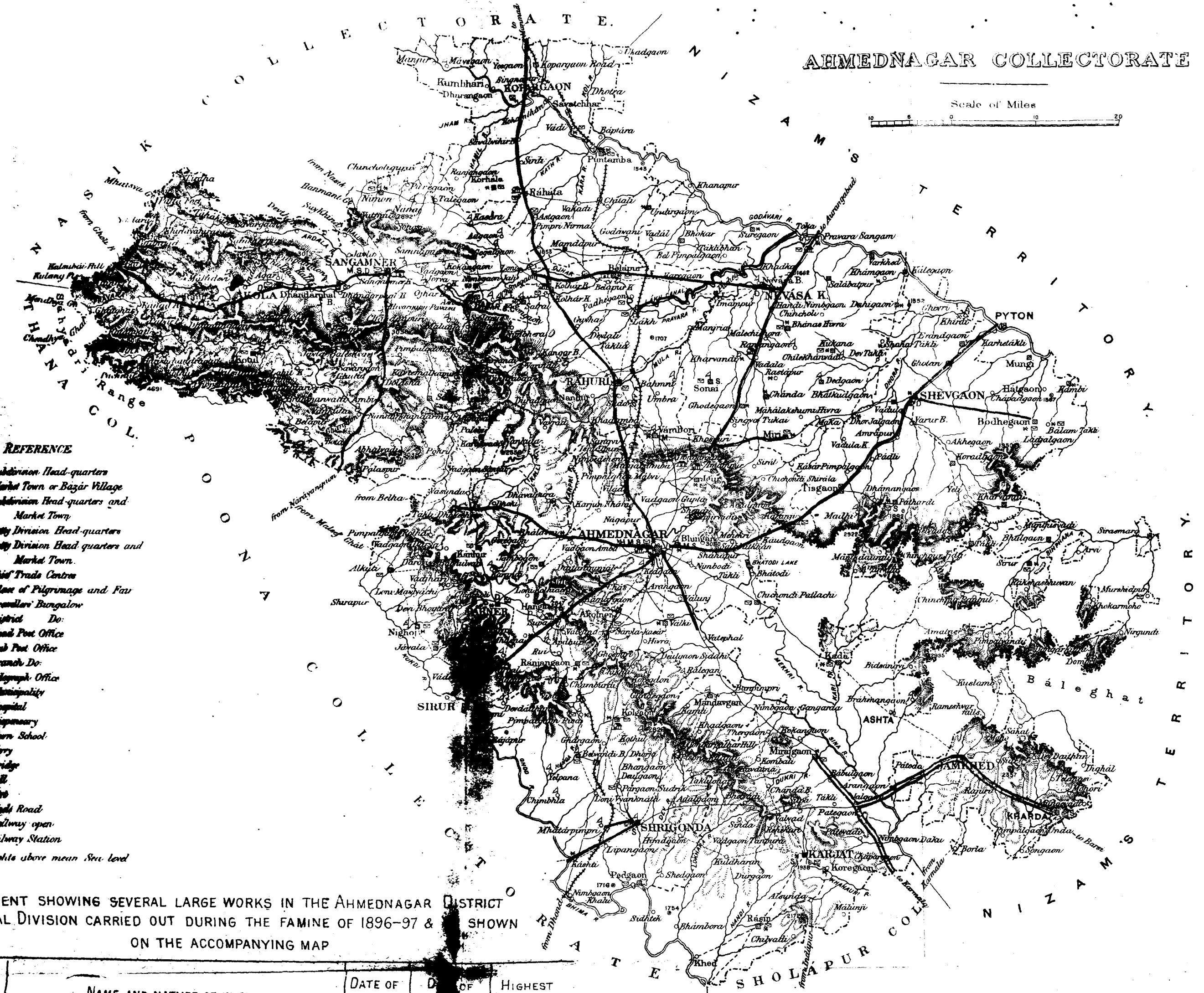
STATEMENT SHOWING SEVERAL LARGE WORKS IN THE SHOLAPUR DISTRICT CENTRAL DIVISION CARRIED OUT DURING THE FAMINE OF 1896-97 & AS SHOWN ON THE ACCOMPANYING MAP

DISTRICTS	Nº	NAME AND NATURE OF WORK	DATE OF OPENING OF WORK	DATE OF CLOSURE OF WORK	HIGHEST Nº OF RELIEF WORKERS
SHOLAPUR DISTRICT	A. COMMUNICATIONS.				
		Kaslumb Yermala Road — Diversion of ———	13-5-97	2-3-98	3768
		Karmala Aljapur Road — Improving & metalling — and stacking metal thereon for repairs —	25-12-96	24-6-97	3141
		Karmala Jotegaon Road — Do: — do: —	18-1-97	15-7-97	3671
		Poona Hyderabad Road Section III (between Sholapur & Tandulwadi) — Do: — do: —	16-11-96	11-11-97	6344
		Kaslumb Yermala Road — Do: — do: —	20-11-96	16-12-96	1738
		Sholapur to Barsi — improving Road from —	15-12-96	1-5-97	4067
		Jeur to Tembhorni — Do: — do: —	4-2-97	9-5-97	3318
		Karmala to Boregaon Road — improving & metalling & stacking metal thereon for repairs —	23-11-96	28-5-97	2522
		Kurduwadi Tembhorni Road — Do: — do: —	13-1-97	26-5-97	5373
		Sholapur Pandharpur Road — Improving —	16-11-96	15-4-97	3397
		Poona Hyderabad Road Section I Improving & metalling & stacking metal thereon for repairs —	4-1-97	7-5-97	7494
		Pandharpur Janori Road — Do: — do: —	20-11-96	30-9-97	21674
		Pandharpur Phaltan Road — Do: — do: —	20-11-96	29-8-97	17298
		Sangola to Akhuj — do — road from — do: —	28-12-96	13-5-97	5306
		Mohol Pandharpur Road — Do: — do: —	30-11-96	3-6-97	6585
		Barsi Yedsi Road — Collecting metal for 10 years' repairs to —	10-12-96	11-5-97	8282
		Yedsi Tadwal Road — Do: — do: —	21-1-97	20-5-97	3978
		Jeur Karmala Road, stacking metal on for — Do: —	21-12-96	20-5-97	2855
	2. RAILWAYS.				
		Barsi Station Pandharpur Railway — Earthwork on —	4-3-97	4-11-97	8402
		Pandharpur Sangola Railway — Do: —	22-4-97	4-11-97	8829
	B. IRRIGATION & WATER SUPPLY.				
		Pathri Tank — Constructing —	1-4-97	In progress	17873
		Mangi Tank — Do —	23-4-97	Do —	13330
		Ekrak Tank & Canals, repairs to —	10-12-96	17-1-98	2689
		Mhaswad Tank Canals, Strengthening & improving the banks of —	3-5-97	6-11-97	1588
		Ashti Tank Dam, adding a berm in rear of a portion of —	3-8-97	23-2-98	571

NOTE — Metal collection on roads shown ———
Do ——— Quarries ———
Roads constructed or improved with metal collection ———
Tanks or Canals ———
Railway embankments ———

AHMEDNAGAR COLLECTORATE

Scale of Miles

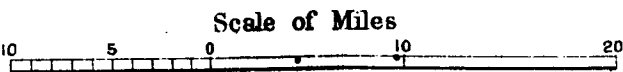


STATEMENT SHOWING SEVERAL LARGE WORKS IN THE AHMEDNAGAR DISTRICT CENTRAL DIVISION CARRIED OUT DURING THE FAMINE OF 1896-97 & SHOWN ON THE ACCOMPANYING MAP

TS	No	NAME AND NATURE OF WORK	DATE OF OPENING OF WORK	DATE OF CLOSURE OF WORK	HIGHEST NO OF RELIEF WORKERS
A. COMMUNICATIONS					
		Nasik Poona Road — Collecting metal on	5-1-97	12-97	2728
		Nagar Malegaon Road — Do — Do	16-11-96	2-97	21826
		Kolhar Bari Road — Do — Do	1-12-96	1-97	18375
		Belapur Station feeder Road — Do — Do	1-12-96	2-97	5572
		Loni Belapur Road — Do — Do	14-1-97	1-97	6129
		Newasa Belapur Road — Do — Do	19-2-97	2-97	11676
		Anaghat Road from Nagar to the boundary of Nagar Taluka — Improving the	25-3-97	2-97	5592
B IRRIGATION & WATER SUPPLY.					
		Reservoir at Kapurwadi in connection with the water supply to the town of Ahmednagar	22-3-97		7552
		Lakh Canal — Clearing the bed of	7-6-97		1704
		Ojhar Right Bank Canal — Constructing	23-7-97		137
A. COMMUNICATIONS					
		Shegaon Badhegaon Road — Construction of	8-12-96		7108
		Khorda Shrigonda Road Section I between Jamkhed & Khorda — Do Section II between Sina River & Jamkhed	11-11-96	2-97	12676
		Khorda Jotegaon Road	1-8-97	12-97	2107
		Mahi Jalgaon to the Sholapur Frontier Road from Constructing miles No 37 to 40 of Nagar-Mirajgaon Sholapur road from a cleared track to an unbridged Murum Road	17-9-97	15-97	1638
			10-11-96	15-97	2710
		Nagar Shegaon Road Section B. Special repairs to Nagar Patthan Road Collection of materials for Imampur Ghat to Toka Road — Do — Do	4-1-97	28-97	10859
			11-11-96	7-97	6601
		Khispuri Ismalpur Road — Do — Do	19-11-96	16-97	3604
		Nagar Sinner Road — Do — Do	24-9-97	13-97	3272
		Nagar Shegaon Road — Do — Do	16-11-96	27-97	2891
		Khorda Shrigonda Road — Do — Do	16-11-96	2-97	4654
		Nagar Karmala Road — Do — Do	26-7-97	14-97	3543
		Shrigonda Khesta Road — Do — Do	10-11-96	14-97	2710
		Pimpri Station Feeder Road — Do — Do	15-3-97	12-97	734
			11-11-96	17-97	1092
B. IRRIGATION & WATER SUPPLY.					
		Visapur Tank — Construction of Storage Dam for Irrigation to	19-7-97	28-97	3846
		Maladevi Tank	19-3-97	27-97	7134

NOTE—Metal collection on roads shown ————
 Do ———— Quarries ————
 Roads constructed or improved with metal collection ————
 Tanks or Canals ————
 Railway embankments ————

POONA COLLECTORATE



REFERENCE

- Subdivision Head-quarters
- Market Town or Bazaar
- Subdivision Head-quarters
- Market Town
- Petty Division Head-quarters
- Petty Division Head-quarters
- Market Town
- Chief Trade Centres
- Place of Pilgrimage
- Travellers' Bungalows
- District Do.
- Head Post Office
- Sub Post Office
- Branch Do.
- Telegraph Office
- Municipality
- Hospital
- Dispensary
- Town School
- Ferry
- Bridge
- Toll
- Fort
- Made Road
- Railway open
- Railway Station
- 517 Heights above mean

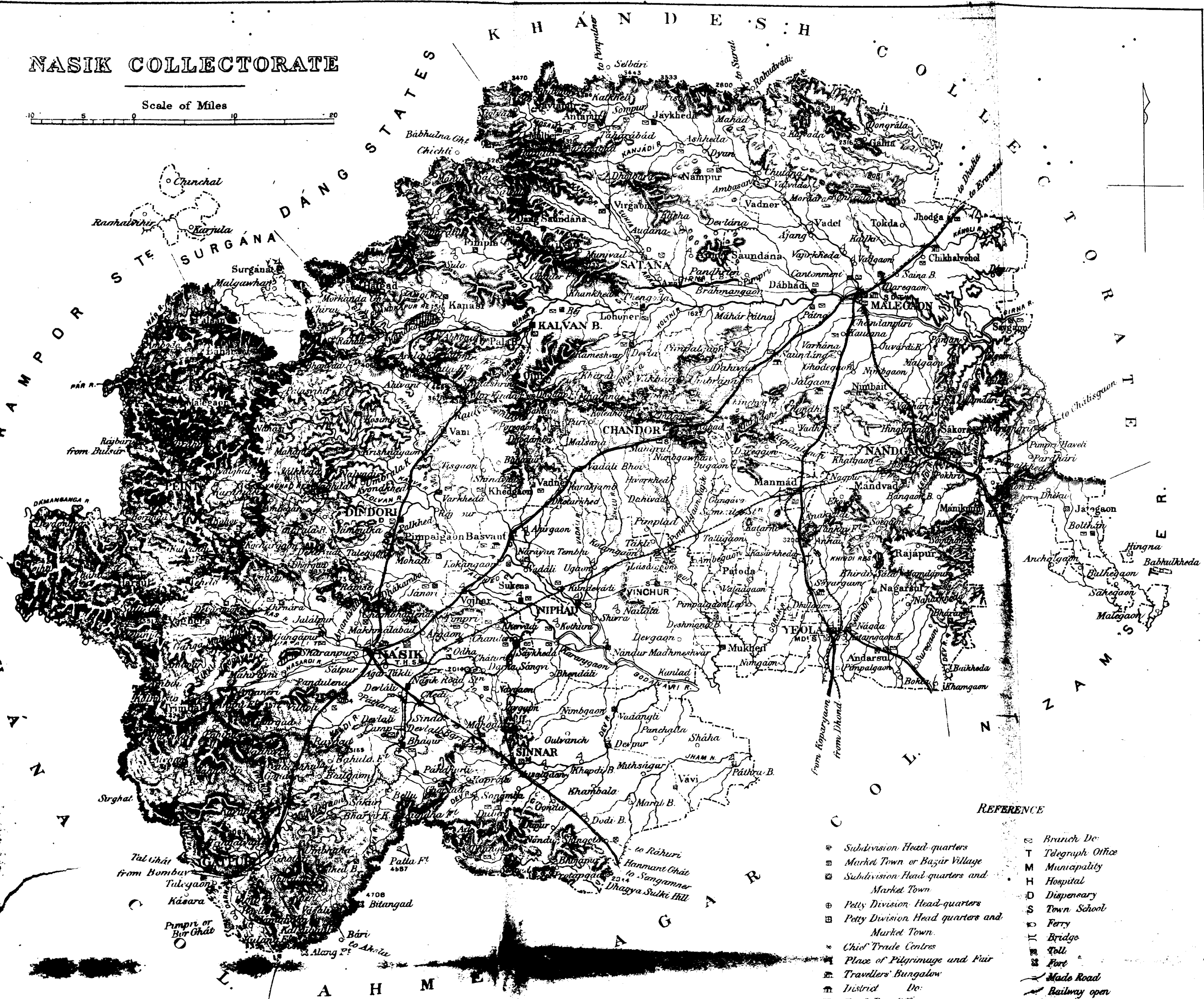
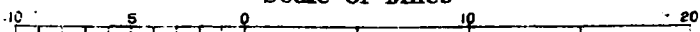
STATEMENT SHOWING SEVERAL LARGE WORKS IN THE POONA DISTRICT
CENTRAL DIVISION CARRIED OUT DURING THE FAMINE OF 1896-97 & AS SHOWN
ON THE ACCOMPANYING MAP

DISTRICTS	No.	NAME AND NATURE OF WORK	DATE OF OPENING WORK	DATE OF CLOSURE OF WORK	HIGHEST No OF RELIEF WORKERS
A. COMMUNICATIONS.					
POONA DISTRICT		Indapur Baramati Road — Improvements to —	11-96	21-2-97	9528
		Poona Sholapur Road — Collecting metal on —	11-96	26-5-97	2527
		Poona Nasik Road — Improvements to —	12-96	5-8-97	7368
		Baramati Nira Station Road — Constructing —	12-96	27-10-97	2966
		Bombay Agra Road — Collecting metal on —	1-97	23-6-97	2003
		Ghoda Ambegaon Road — Do: — do: —	2-97	17-6-97	5382
		Junnar Narayangaon Road — Do: — do: —	2-97	18-6-97	1226
		B. IRRIGATION & WATER SUPPLY.			
		Shetphat Tank —	2-97	31-12-97	13129
				reopened on 31-3-98	

NOTE—Metal collection on roads shown
Do — Quarries —
Roads constructed or improved
with metal collection —
Tanks or Canals —
Railway embankments —

NASIK COLLECTORATE

Scale of Miles



REFERENCE

- Subdivision Head-quarters
- Market Town or Bazar Village
- Subdivision Head-quarters and Market Town
- Petty Division Head-quarters
- Petty Division Head-quarters and Market Town
- * Chief Trade Centres
- Place of Pilgrimage and Fair
- Travellers Bungalow
- District Do.
- Head Post Office
- Sub Post Office
- Branch Do.
- T Telegraph Office
- M Municipality
- H Hospital
- D Dispensary
- S Town School
- F Ferry
- II Bridge
- II Toll
- II Port
- Made Road
- Railway open
- Railway Station
- 572 Heights above mean Sea level

STATEMENT SHOWING SEVERAL LARGE WORKS IN THE NASIK DISTRICT
CENTRAL DIVISION CARRIED OUT DURING THE FAMINE OF 1896-97 & AS SHOWN
ON THE ACCOMPANYING MAP

DISTRICTS	No.	NAME AND NATURE OF WORK	DATE OF OPENING OF WORK	DATE OF CLOSURE OF WORK	HIGHEST NO. OF RELIEF WORKERS
NASIK DISTRICT	A. COMMUNICATIONS.				
		Khandesh & Nizam's Frontier Road Collection of Materials	21-4-96	25-6-97	4429
		Bombay Agra Road Do Do	29-4-96	27-5-97	7331
		Nasik Poona Road Do Do	9-4-96	18-8-97	7081
		Malegaon Manmad Road Do Do	8-4-96	13-8-97	3369
		Manmad Kopergaon Road Do Do	2-4-96	3-7-97	1588
		Nandgaon Aurangabad Road Do Do	6-4-96	2-6-97	3005
		Nasik Dindori & Kalwan Road Do Do	11-4-97	3-5-97	1028
	B. IRRIGATION & WATER SUPPLY.				
		Waghad Tank embankment	9-4-97	30-7-97	1452
		Khirdi Sathe Tank Do	20-4-97	30-10-97	3316
		Wasali Tank	3-4-97	20-10-97	1480
		Peint Tank	22-4-97	17-6-97	856

NOTE—Metal collection on roads shown

Do Do Quarries

Roads constructed or improved

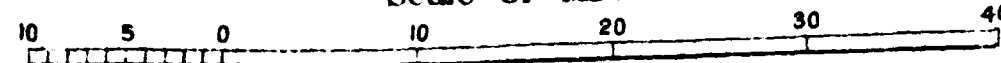
with metal collection

Tanks or Canals

Railway embankments

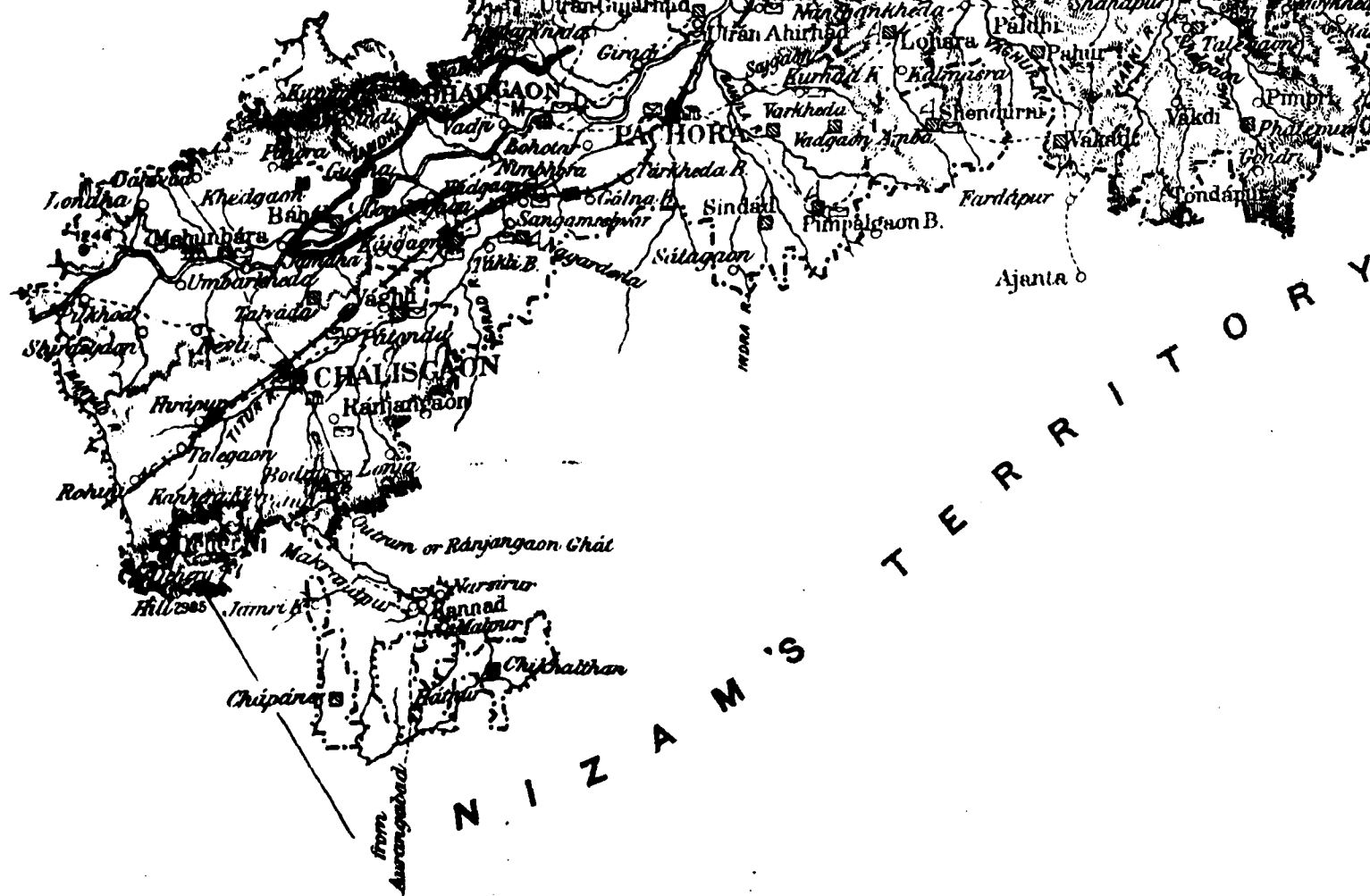
KHANDESH COLLECTORATE EAST

Scale of Miles



REFERENCE

- Subdivision Head-quarters
- Market Town or Bagar Village
- Subdivision Head-quarters and Market Town
- Petty Division Head-quarters
- Petty Division Head-quarters and Market Town
- Chief Trade Centre
- ▲ Place of Pilgrimage and Fair
- Travellers' Bungalow
- District Do.
- Head Post Office
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- Branch Do.
- T Telegraph Office
- M Municipality
- H Hospital
- D Dispensary
- S Town School
- C Ferry
- (Bridge
- Toll
- Fort
- Made Road
- Railway open
- Railway Station
- 517 Heights above mean Sea level



NOTE—Metal collection on roads shown

Do—Quarries—

Roads constructed or improved

with metal collection—

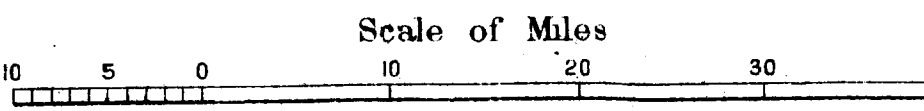
Tanks or Canals—

Railway embankments—

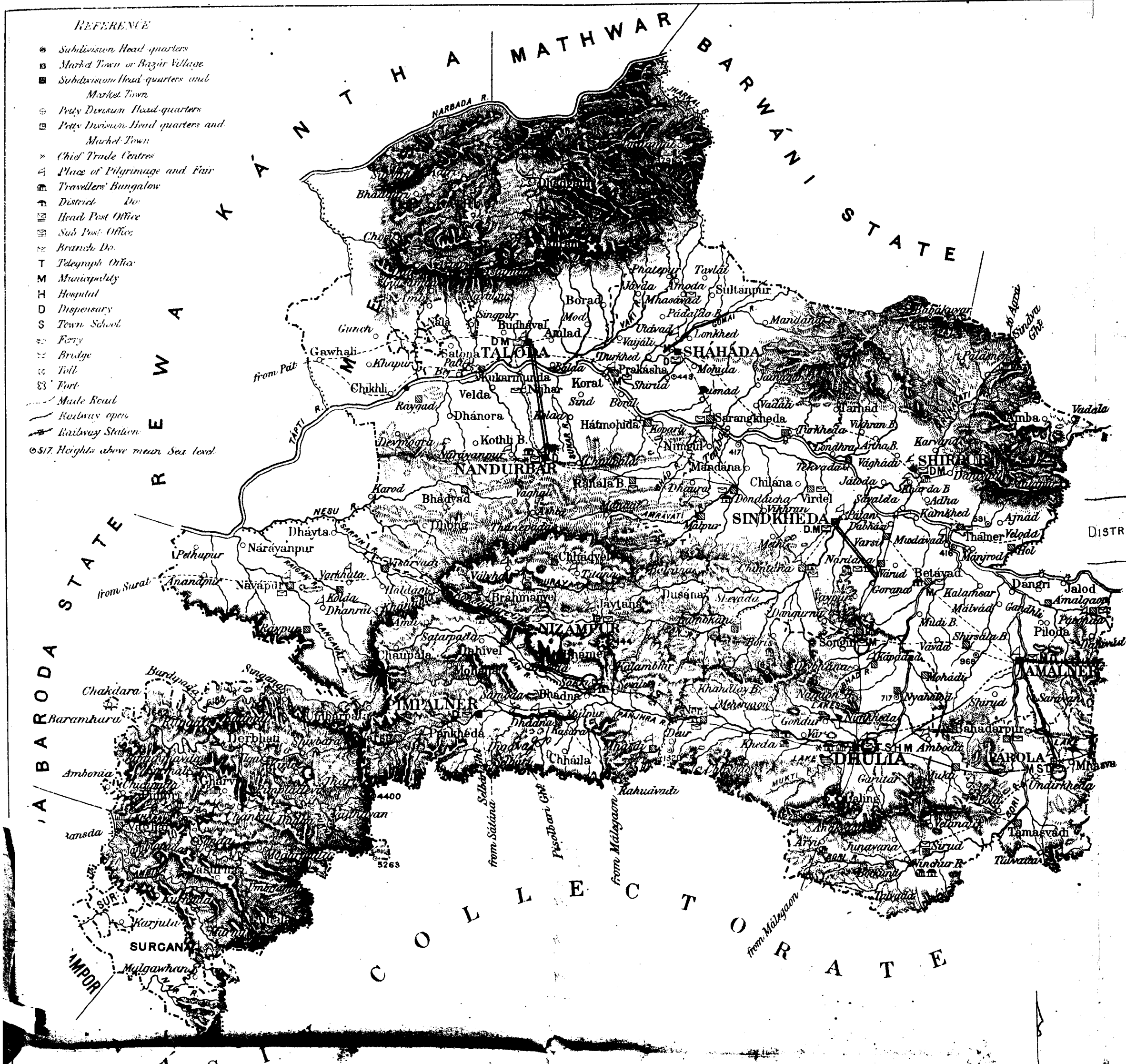
STATEMENT SHOWING SEVERAL LARGE WORKS IN THE KHANDESH DISTRICT
CENTRAL DIVISION CARRIED OUT DURING THE FAMINE OF 1896-97 & AS SHQWN
ON THE ACCOMPANYING MAP

DISTRICTS	No	NAME AND NATURE OF WORK	DATE OF OPENING OF WORK	DATE OF CLOSURE OF WORK	HIGHEST NO OF RELIEF WORKERS
KHANDESH DISTRICT	A. COMMUNICATIONS.				
		Metal collection at Morana for Dhulia Surat road repairs	10-2-97	7-8-97	3525
		Do at Songir for Bombay Agra Road	20-11-96	3-4-97	979
		Do at Sakri for Dhulia Surat road 1st coat	1-4-97	19-5-97	1134
		Do at Derabardi for Dhulia Chalisgaon Road	26-4-97	16-6-97	1085
		Do at Nandra for G.I.P. Railway	8-4-97	30-5-97	2863
		Do at Mehrun for			
		Jalgaon Jamner Road	21-1-97	19-6-97	2261
		Jalgaon to Neri repairs			
		Do at Anjala for			
		Anjala Dus Kheda Road	21-1-97	25-5-97	4540
		Bhusawal Yawal Road			
		Metal collection at Udhali for			
		Londa Gatha Road & Udhali Road repairs	25-11-96	3-4-97	3330
		Do Do original			
KHANDESH IRRIGATION		Do at Wanjari for Amalner Parola Road	23-1-97	27-2-97	3046
		Do at Sarola for Bodwad Edlabad Road	6-4-97	16-10-97	1404
	B. RAILWAYS.				
	EMBANKMENTS & CUTTINGS.				
		Amalner Dharangaon Railway Earth works	1-3-97	15-10-97	4110
		Do Do Do original			
		A. NEW ROAD.			
		Sakri Ghorda road, constructing	11-12-96	21-5-97	1254
		Sindkheda Gerna road Do	3-12-96	17-6-97	780
		Nandurbar Taloda road Do	7-10-96	4-5-97	543
		Amalner Parola road Do	28-10-96	14-2-97	844
		Special repairs to Bodwad Edlabad road	7-12-96	10-6-97	750
	B. IRRIGATION & WATER SUPPLY.				
		Chankapur Reservoir	12-4-97	10-6-97	659
		Girna Left Bank Canal	29-4-97	2-10-97	3304
		Jamda Left Bank Canal, special repairs to	19-3-97	10-6-97	1139
		Do Right Bank Canal Do	5-4-97	10-6-97	1382
		Kasara Channel Improvements	13-3-97	13-5-97	637
		Shahada Channel Do	15-3-97	29-8-97	1141
		Jalgaon Water supply	22-7-97	25-8-97	742

KHANDESH
COLLECTORATE
WEST

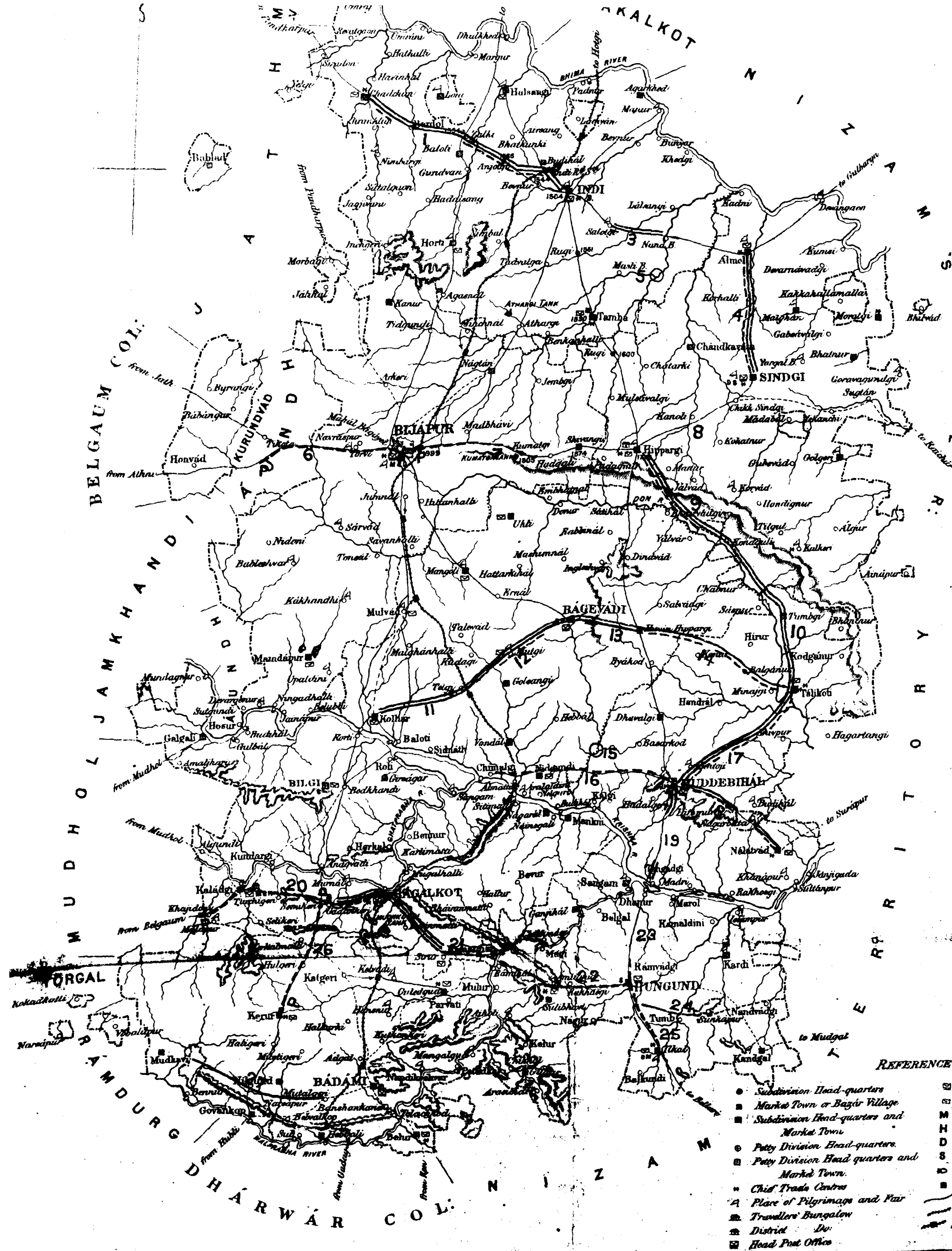


STATEMENT SHOWING SEVERAL LARGE WORKS IN THE KHANDESH DISTRICT
CENTRAL DIVISION CARRIED OUT DURING THE FAMINE OF 1896-97 & AS SHOWN
ON THE ACCOMPANYING MAP



DISTRICTS	Nº	NAME AND NATURE OF WORK	DATE OF OPENING OF WORK	DATE OF CLOSURE OF WORK
KHANDESH DISTRICT		A. COMMUNICATIONS.		
		Metal collection at Morana for Dhulia Surat road repairs	10-2-97	7-8-97
		Do at Songir for Bombay Agra Road	20-11-96	3-4-97
		Do at Sakri for Dhulia Surat road 1st coat	1-4-97	19-5-97
		Do at Derabardi for Dhulia Chalisgaon Road	26-4-97	16-6-97
		Do at Nandra for G.I.P. Railway	8-4-97	30-5-97
		Do at Mehrun for		
		Jalgaon Jamner Road	21-1-97	19-6-97
		Jalgaon to Neri repairs		
		Do at Anjala for		
		Anjala Dus Kheda Road	21-1-97	25-5-97
		Bhusawal Yawal Road		
		Metal collection at Udhali for		
		Londa Gatha Road & Udhali Road repairs	25-11-96	3-4-97
		Do Do original		
KHANDESH DISTRICT		Do at Wanjari for Amalner Parola Road	23-1-97	27-2-97
		Do at Sarola for Bodwad Edlabad Road	6-4-97	16-10-97
		B. RAILWAYS.		
		EMBANKMENTS & CUTTINGS.		
		Amalner Dharangaon Railway Earth works	1-3-97	15-10-97
		A. NEW ROAD.		
		Sakri Ghorda road: Constructing	11-12-96	27-5-97
		Sindkheda Gorna road Do:	3-12-96	17-6-97
		Nandurbar Taloda road Do:	7-10-96	
		Amalner Parola road Do:		
		Special repairs to Bodwad Edlabad road	7-12-96	10-6-97
		B. IRRIGATION & WATER SUPPLY.		
		Chankapur Reservoir	12-4-97	10-6-97
		Girna Left Bank Canal	29-4-97	2-10-97
		Jamda Left Bank Canal. special repairs to	19-3-97	10-6-97
		Do: Right Bank Canal Do:	5-4-97	10-6-97
		Kasara Channel Improvements	13-3-97	13-5-97
		Shahada Channel Do:	15-3-97	29-8-97
		Jalgaon Water supply	22-7-97	25-8-97

NOTE Metal collection on roads shown
Do Quarries
Roads constructed or improved with metal collection
Tanks or Canals
Railway embankments

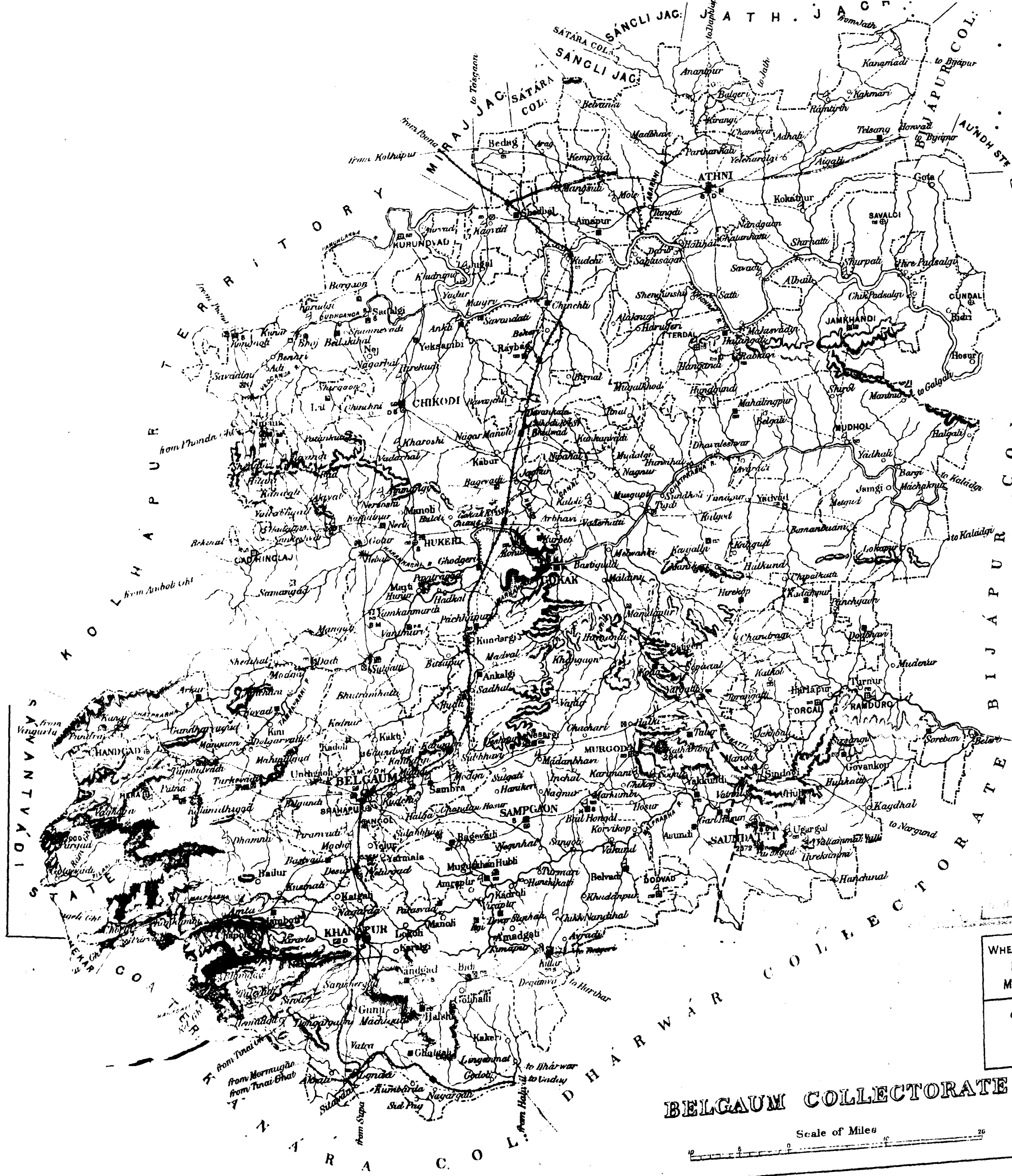


WHETHER CONSTRUCT- ING, IMPROVING OR METAL BREAKING.	NAME OF ROAD OR TANK.	WHEN OPENED	WHEN CLOSED	AVERAGE NO OF PEOPLE MAIN- TAINED PER WEEK.	TOTAL EXPENDI- TURE.
		D. M. Y.	D. M. Y.		Rs.
Improving and metal breaking	1 Indi Shiradhon road.	2-12-96	16-10-97		205795
Improving.	2 Indi station road.	16-8-97	15-10-97		8110
Do.	3 Indi Sindgi road, 1 st Sect ⁿ	6-11-96	25-10-97		190418
Improving and metal breaking	4 Do. do. 2 nd Do.	7-12-96	15-9-97		34826
Excavating pud- dle trench.	5 Sangogi tank.	19-8-97	11-12-97		37477
Metal breaking.	6 Bijapur Honwad road.	16-11-96	10-5-97		77996
Do.	7 Bijapur Sindgi road, 1 st Sect ⁿ	4-12-96	28-4-97		241079
	Reopened	16-8-97	1-10-97		73995
	8 Do. do. 2 nd do.	7-1-97	9 1 97		153035
Improving and metal breaking	9 Devar-Hippargi Talikot road, 1 st Sect ⁿ	3-12-96	18-10-97		52680
Do.	10 Do. do. 2 nd do.	7-12-96	29-6-97		145897
Improving	11 Telgi Kolhar road.	22-2-97	6-11-97		30390
Improving and metal breaking	12 Huvini-Hippargi Telgi road, 2 nd Sect ⁿ	11-11-96	30-10-97		90707
Do.	13 Do. do. 1 st do.	24-11-96	15-6-97		144810
	Reopened	3-9-97	30-10-97		168149
Constructing and metal breaking.	14 Huvini-Hippargi Talikot road	8-1-97	30-10-97		9060
Excavating pud- dle trench	15 Hulur tank	30 7 97	21 1 98		87240
Metal breaking	16 Muddebihal Chimalgi road.	24 11 96	1 8 97		53679
Improving and metal breaking	17 Muddebihal Talikot road.	28 5 97	30 10 97		29162
Constructing and metal breaking	18 Muddebihal Nalatwad road.	6 5 97	16 10 97		121241
Improving and metal breaking	19 Sholapur Bellary road, 4 th Sect ⁿ	5 3 97	16 10 97		155334
Do.	20 Khajidoni Bagalkot road.	7 8 97	30 10 97		47447
Do.	21 Bagalkot Hungund road, 1 st Sect ⁿ	1 12 96	10 10 97		
Metal breaking	22 Do. do. 2 nd do.	8 3 97	5 12 97		
	Reopened	4 12 96	10 7 97		
	23 Sholapur Bellary road, 5 th Sect ⁿ	5 9 97	11 9 97		
Constructing and metal breaking.	24 Hungund Nandwadgi road.	12 3 97	30 10 97		
Metal breaking	25 Hungund Ilkal road.	5 4 97	30 10 97		
Do.	26 Sholapur Hubli road, 3 rd Sect ⁿ	14 1 97	5 9 97		
Constructing.	27 Badami Mudakavi road.	7 11 96	16 5 97		
	Gratuitous relief Tools and Plant.	29 11 96	20 10 97		
	Grand Total				

N. 6, 20, & 26 are Provincial roads & are marked P. P.

REFERENCE

- Subdivision Head-quarters
- Market Town or Bagar Village
- Subdivision Head-quarters and Market Town
- Petty Division Head-quarters
- Petty Division Head-quarters and Market Town
- * Chief Trade Centre
- ▲ Place of Pilgrimage and Fair
- Travellers Bungalow
- District Do.
- Road Post Office
- Sub Post Office
- Branch Do.
- Municipality
- Hospital
- Dispensary
- Town School
- Ferry
- Toll
- Made Road
- Railway open
- Railway Station



WHETHER CONSTRUCT- ING IMPROVING OR METAL BREAKING	NAME OF ROAD OR TANK	WHEN OPENED			WHEN CLOSED			AVERAGE N ^o OF PEOPLE MAINTAINED	TOTAL EX- PENDITURE Rs.
		D	M	Y.	D	M	Y.		
Metal-breaking	Gokak-Hukeri Road.	20	11	96	23	1	97	209	1319
Do.	Do. Nargund-Do. Sec.1	1	4	97	18	10	97	640	13915
Do.	Do. Do. Sec.2	27	12	96	14	10	97	1030	31016
Do.	Manoli-Saundatti Road	14	3	97	14	10	97	224	5297
Do.	Saundatti-Dharwar Road	31	5	97	23	10	97	670	11642
Constructing	Gokak Mills to Gokak Road	25	1	97	19	6	97	299	5569

REFERENCE

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- Market Town or Bazar Village
- Subdivision Head-quarters and Market Town
- Petty Division Head-quarters
- Petty Division Head-quarters and Market Town
- Chief Trade Centres
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- District Office
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- Bridge
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- Port
- Made Road
- Railway open
- Do. in progress
- Railway Station
- 517 Heights above mean Sea Level

WHETHER CONSTRUCTING IMPROVING OR METAL BREAKING	NAME OF ROAD OR TANK	WHEN OPENED			WHEN CLOSED			AVERAGE N ^o OF PEOPLE MAINTAINED	TOTAL EXPENDITURE Rs.
		D.	M.	Y.	D.	M.	Y.		
Constructing	Shedbal Athni Road	16	4	97	16	10	97	684	26,453
Do.	Honvad Athni Road	11	3	97	1	11	97	1462	46,598
Do: Dam	Taosi Tank	14	1	97	17	1	98	3861	2,41,304

BELGAUM COLLECTORATE

Scale of Miles

Govt. Photodup. Office Poona, 1898

DHARWAR COLLECTORATE

Scale of Miles

RAMDURG BIJAPUR COL.

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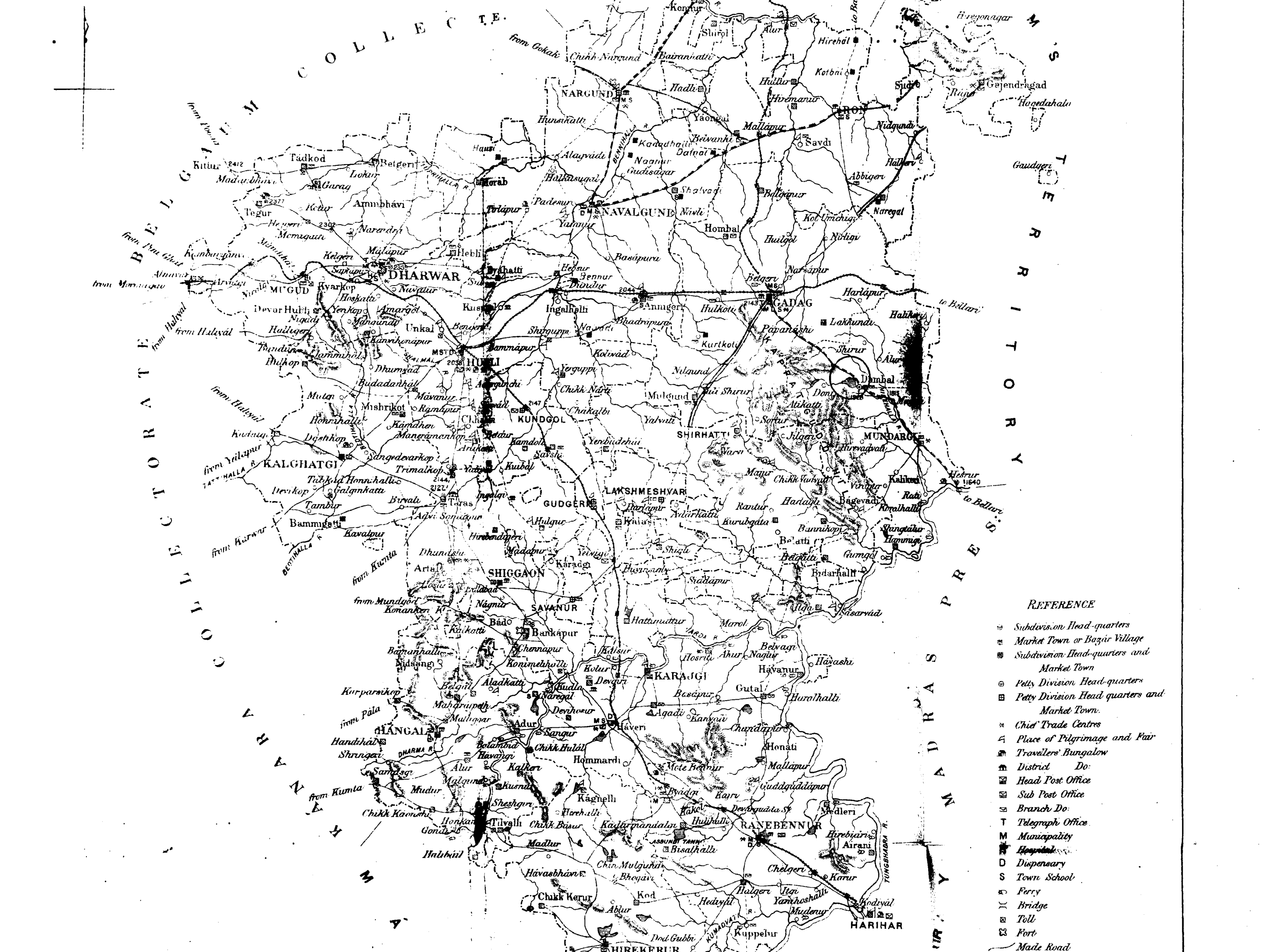
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REFERENCE

- Subdivision Head-quarters
- Market Town or Bazar Village
- Subdivision Head-quarters and Market Town
- Petty Division Head-quarters
- Petty Division Head-quarters and Market Town
- Chief Trade Centres
- Place of Pilgrimage and Fair
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- District Do
- Head Post Office
- Sub Post Office
- Branch Do
- Telegraph Office
- Municipality
- Hospital
- Dispensary
- Town School
- Ferry
- Bridge
- Toll
- Fort
- Made Road
- Railway open
- Do in progress
- Railway proposed
- Railway Station

STATEMENT SHOWING SEVERAL LARGE WORKS IN THE DHARWAR DISTRICT SOUTHERN DIVISION CARRIED OUT DURING THE FAMINE OF 1896-97 & AS SHOWN ON THE ACCOMPANYING MAP

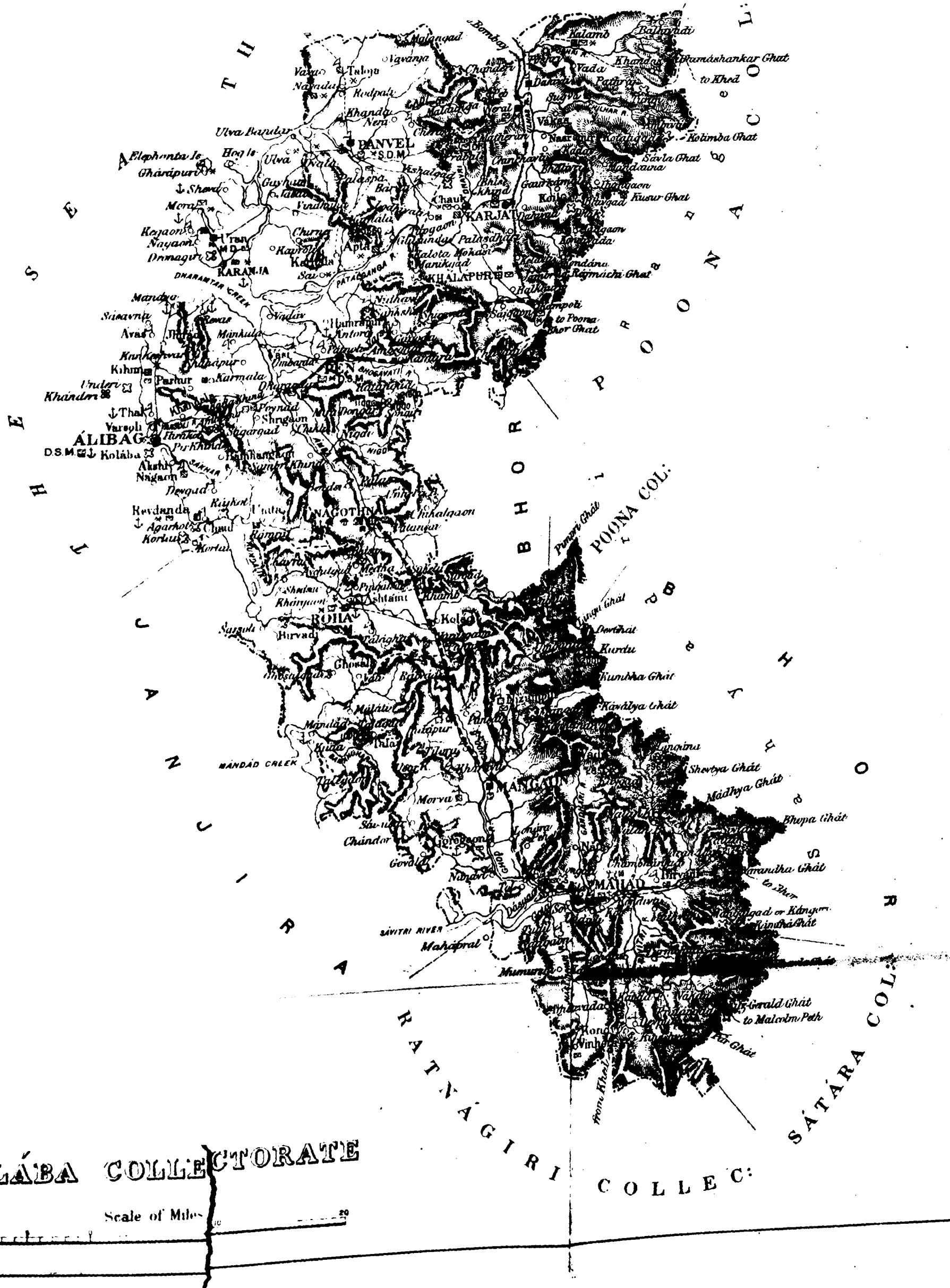
CONSTRUCTING OR IMPROVING OR METAL BREAKING	NAMES OF ROADS OR TANKS	WHEN OPENED	WHEN CLOSED	AVERAGE NO. OF PEOPLE MAINTAINED	TOTAL EXPENDITURE
Constructing	Nargund Gokak road (Provincial)	12-8-97	31-10-97	929	8,326
Do	Naregal Gajendragad road (Local)	12-2-97	31-10-97	1109	3,335
Do	Nargund Mallapur road (Local)	24-2-97	31-10-97	927	31,717
Do	Ron Gajendragad road (Local)	7-8-97	31-10-97	2040	17,926
Improving	Gadag Mulgund road (Local)	0-6-96	31-10-97	504	59,931
Special repairs	Naregal Kotumchigi road (Local)	20-9-97	31-10-97	259	1,475
Metal collection	Navalgund Ron road (Local)	12-11-96	15-12-96	431	1,400
Do	Gadag Hesrur road (Provincial)	26-5-97	30-9-97	1293	21,765
Do	Hubli Sholapur road (Provincial)	24-9-97	18-10-97	118	311
TANKS =					
Improving	Tank at Herihal	0-2-97	0-6-97	385	4,868
Do	Do at Kotbal	0-3-97	0-6-97	26	3,295
Do	Do at Hansi	0-1-97	0-7-97	46	1,243
Do	Do at Kurtkoti	0-1-97	31-10-97	88	3,948
Do	Do at Shalvadi	0-1-97	0-9-97	80	3,028
Do	Do at Bennur	0-12-97	0-9-97	59	956
Do	Do at Nalvadi	0-1-97	0-7-97	27	1,065
Do	Do at Naregal	0-12-96	0-6-97	474	2,945
Do	Do at Kadadhalli	0-1-97	0-3-97	131	1,377
Do	Do at Datnal	0-1-97	0-7-97	108	2,118
Do	Do at Nagnur	0-1-97	0-9-97	103	2,275

DHARWAR IRRIGATION DISTRICT REFERENCE

NAME OF WORK	PLACE	WORK OPENED	WORK CLOSED	AVERAGE NO. OF PEOPLE MAINTAINED	TOTAL EXPENDITURE
Excavating Kadampur Section of the Feeder Channel	Dambal Taluka Gadag	4-10-97	18-10-97	157	403

KOLABA COLLECTORATE

Scale of Miles

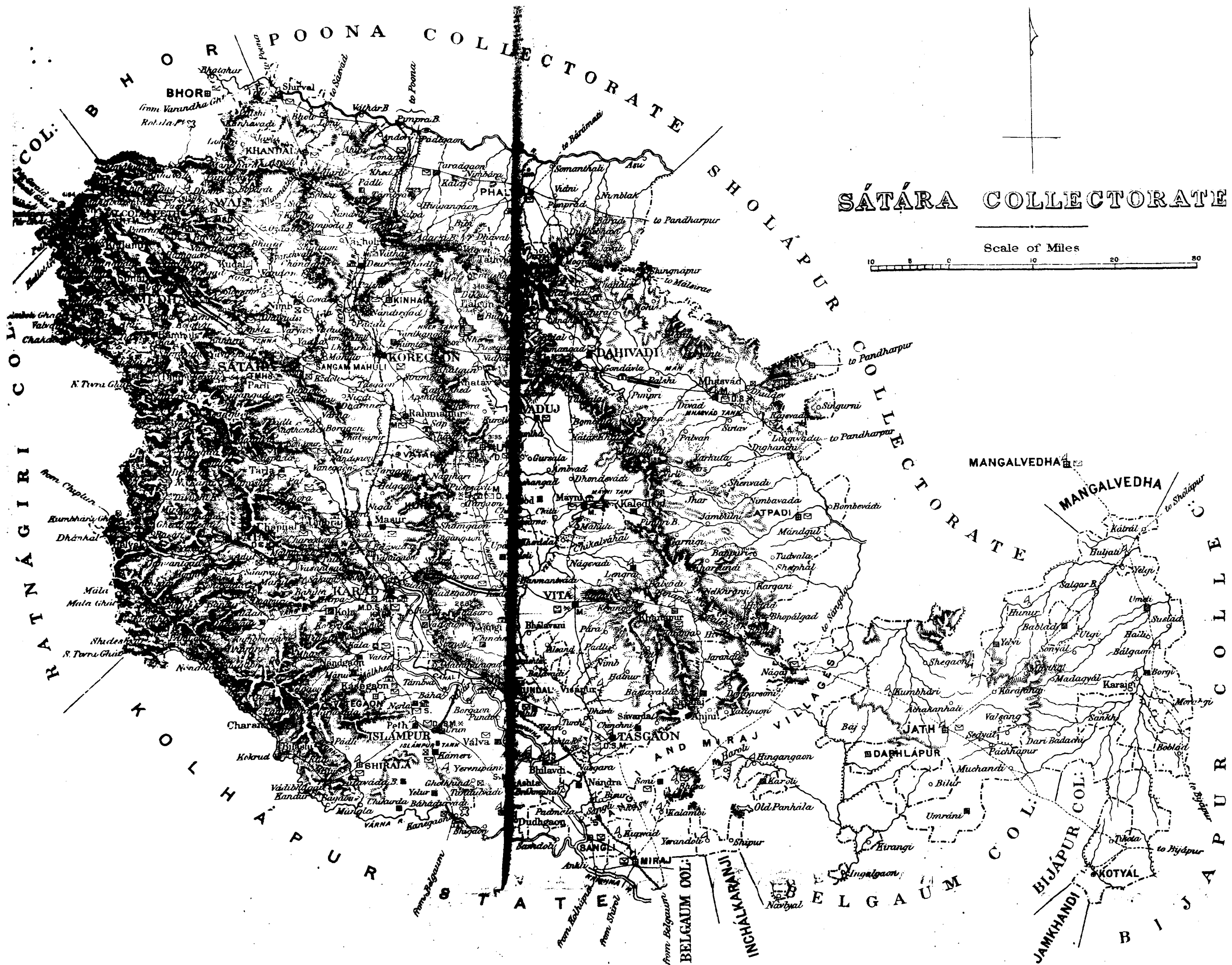


WHETHER CONSTRUCTING IMPROVING OR METAL BREAKING.	NAME OF ROAD	WHEN OPENED D. M. Y.	WHEN CLOSED D. M. Y.	AVERAGE NO OF PEOPLE MAINTAINED	TOTAL EXPENDITURE RS
Metal breaking	Provincial Alibag Campoli Road Section from Dharamtar to Campoli	13-9-97	19-10-97	636	2695
Do.	Dharamtar Mahad Road Section from Nagotna to Mahad	13-9-97	8-10-97	13	32

REFERENCE

- Taluka Head Quarters
- ⊕ Petha Head Quarters
- Subdivision Head-quarters and
- * Chief Trade Centres
- ▲ Place of Pilgrimage and Fair
- Travellers' Bungalow
- District Do.
- ☐ Post Office
- T Telegraph Office
- M Municipality
- H Hospital
- D Dispensary
- S Town School
- ⊖ Ferry
- ⌒ Bridge
- Toll
- ⊖ Fort
- Light House
- ⊖ Port
- Metalled Roads
- Moorined Roads
- Kacha Roads or Cart Tracks
- Railway open & Railway Station

Govt Photozinc. Office Poona, 1898



WHETHER CONSTRUCTING IMPROVING OR METAL BREAKING	NAME OF ROAD OR TANK	WHEN OPENED	WHEN CLOSED	AVERAGE NO OF PEOPLE MAINTAINED	TOTAL EXPENDITURE
Breaking Metal	Satara Padli road	4-3-97	10-5-97	4932	47907
Do	Poona Bungalow road	22-11-96	21-5-97	5948	124826
Constructing	Road from Ashta to Ashta road station	10-2-97	2-6-97	2638	25325
Breaking Metal	Karad Chiplun road	10-2-97	3-7-97	2507	31873
Do	Karad Nagaz road	6-12-96	8-11-97	4926	2997
Improving	Do	6-12-96	8-11-97	4926	130228
Breaking Metal & Stacking Metal	Satara Mahableshwar road	9-12-96	13-7-97	3210	10791
Do	Do	9-12-96	13-7-97	3210	69689
Improving	Takari Islampur road	14-12-96	13-8-97	2761	57003
Constructing	Satara Pandharpur road	25-8-97	15-11-97	4178	28675

REFERENCE

- Subdivision Head-quarters
- Market Town or Bagir Village
- Subdivision Head-quarters and Market Town
- Petty Division Head-quarters
- Petty Division Head-quarters and Market Town
- * Chief Trade Centres
- ▲ Place of Pilgrimage and Fair
- Travellers Bungalow
- District Do
- Head Post Office
- Sub Post Office
- Branch Do
- T Telegraph Office
- M Municipality
- H Hospital
- D Dispensary
- S Town School
- Ferry
- Bridge
- Toll
- Fort
- Made Road
- Railway open
- Railway Station
- © 517. Heights above mean Sea level

APPENDIX 0.

Statement giving details regarding Relief
Centr

District	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of Work done at ordinary rates of construc- tion.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
	Provincial Communications.		Rs.	Rs.		
Do.	Construction of new roads.	Kuslumb - Yermala road diversion.	30,563	15,849	New diversion road in black soil and morum 22 feet wide at top and in one foot of average embankment.	Will be of per- manent utility only the Pathri Tank completed.
	Local Communications.					
Do.	Improvements and repairs of existing roads.	Improving and me- talling Karmāla- Aljāpur road and stacking metal thereon for repairs.	43,090	20,300	Improving surface, easing gradients and collection of metal and morum.	These roads not impor- tant and the ex- penditure can be consid- ered as of ter- tiary utility.
Do.	Do.	Improving and me- talling Karmāla- Jātegaon road and stacking metal thereon for re- pairs.	49,394	25,700	Do.	
	Provincial Communications.					
Do.	Improvements and repairs of existing roads.	Improving and me- talling Poona-Hy- derabad road, Sec- tion III (between Sholāpur and Tān- duldvādi) and stack- ing metal thereon for repairs.	96,794	43,387	Improving section, easing gradient and collecting met- al and morum.	This is a work permanent util
Do.	Do.	Improving and me- talling Kuslumb- Yermala road and stacking metal thereon for repairs.	20,500	10,851	Improving surface, easing gradient and collecting met- al and morum.	Do.
	Local Communications.					
Do.	Improvements and repairs to existing roads.	Improving road from Sholāpur to Bārsi.	26,298	20,404	Improving section, easing gradient and collecting mu- rum.	Do.

Notes supplied by the Executive Engineers,
Division.

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
These remarks apply generally to all works in the Sholāpur District.			
Portion of the existing road about 4 miles in length will be submer- ged on completion of the Pathri Tank. The diversion was therefore undertaken to replace the portion that would be swamped.	Classification and division into gangs were made according to the Bombay Famine Code, Sections 70 to 76. Towards the close of the famine the classification was made by Special Civil Officers. Each gang consisted of from 50 to 60 workers and was under a Muccadam. Gangs were for- med of workers from the same village and of the same caste as far as possible. Each kār- kūn was given charge of 4 or 5 gangs having one writing Muccadam under him. Earth- work was tasked as per Ap- pendix III, page 54 of the Bombay Famine Code, and the full tasks in metal breaking were 8 to 10 cubic feet for A class men, and 5 to 6 cubic feet for A class women. In- stances of performing full tasks and earning full wages were rare. Hence fining to the limit of minimum wages had to be resorted to, but this had no effect on the idle and lazy who were satisfied with mini- mum wages. Each upper subordinate was put in charge of numbers varying from 5,000 to 14,000, and was assist- ed by Sub-overseers and Mais- tries working under him. There was generally a Sub- overseer or a Maistry for every 1,500 workmen.	Workers on arrival were huddled as far as possible. When ow- ing to the rapid increase of numbers, hutting materials were difficult to obtain, the people were made to live in regularly marked out camps until the huts were built. Wells were cleared and fresh wells often dug to increase the supply of water. Where the water was scarce or at a dis- tance from the works, water carts or tanks in carts were used to bring the drinking water on to the camp. Low caste people were either given separate wells or they were served with water by high caste coolies. All nāla beds and wells were guarded to prevent the fouling of the water. Each camp was gene- rally made large enough to accommodate about 1,000 work- ers. Huts were put up in lines and they were generally of the dimensions and size shown in Appendix IV, page 55 of the Famine Code. Generally five members of each family lived in one hut. Police guards were employed in each camp to guard treasure and to pre- vent abuses, petty thefts, &c. Conservancy arrangements were carefully looked after, workmen being employed in sufficient numbers to keep the camp sites clean. The grain supply was generally ample. Firewood for fuel was collected by labourers from adjacent fields and forests without much difficulty.	Those who came to the relief works in the ear- lier months of the fa- mine were in good phy- sical condition and they continued in the same state till the close of the famine, and no fal- ling off in condition was noticed. Those who came to the works after February 1897 were rather emaciated and weakly, but they im- proved physically after being sometime on the works. There were no deaths from starvation.
These are not important roads, but no other works were then available in the Karmāla Tāluka. They were therefore undertaken to provide work in the early part of the famine.			
This road is an important road with good traffic, but partly metalled. It was therefore proposed to metal and improve the whole length.			
This is an important road leading to the Nizām's frontier with a heavy traffic. The work was undertaken to provide employment for work- ers from the Bārsi Tāluka.			
This is an important road and was the first work started to provide em- ployment for workers from Bārsi and Sholā- pur Tālukas.			

Classification.	Name of Work.	Amount of Famine Expenditure.	Value of Work done at ordinary rates of construction.	Nature of Work.	Utility of Work.	
2	3	4	5	6	7	
<i>Local Communications—continued.</i>		Rs.	Rs.			
Sholapur— <i>continued.</i>	Improvements and repairs to existing roads.	Improving road from Jeur to Temburni.	16,291	9,378	Improving road section, easing gradient and collecting murum.	A work of temporary and doubtful utility.
Do.	Do.	Improving and metalling Karmāla-Boregaon road and stacking metal thereon for repairs.	26,186	12,531	Improving surface, easing gradient and collecting metal and murum.	A work of permanent improvement.
Do.	Do.	Improving and metalling Kurduvādi-Temburni road and stacking metal thereon for repairs.	48,807	17,490	Improving section and collecting metal and murum.	Do.
Do.	Do.	Improving the Sholapur - Pandharpur road.	42,121	19,000	Easing gradient, excavating catch water drains and collecting murum; length of the road is 27½ miles.	Although this work would never have been undertaken in ordinary circumstances, it may be considered as of permanent use.
<i>Provincial Communications.</i>						
Do.	Improvements and repairs to existing roads.	Improving and metalling Poona-Hyderabad road, Section I (from the river Bhima to the river Sina) and stacking metal thereon for repairs.	63,503	13,100	Collecting metal only. The length of the road is 45 miles.	Of permanent utility.
<i>Local Communications.</i>						
Do.	Improvement and repairs to existing roads.	Improving and metalling Pandharpur-Jānani road and collecting metal thereon for repairs.	3,36,146	96,500	Collecting hard murum. The length of the road is 42 miles.	This is a useful work which will much improve the road.

DIX 0—continued.

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
This is not an important road, but was taken in hand as there were no suitable works in the southern part of the Karmāla Taluka.		.....	.....
This road has a fair amount of traffic from the Nizām's frontier. In the absence of other important work in the Karmāla Taluka, this work was undertaken to give employment for relief workers.		.....	.....
This was one of the first works started in the Mādha Taluka where work was much wanted to give employment to relief workers.		.....	.....
This is a principal road to a place of pilgrimage. The work was undertaken to improve the present condition of the road and to give work to relief workers in the Sholapur, Mādha and Pandharpur Talukas.		.....	.....
The work was started suddenly to provide labour for relief workers who had been taken over from Civil Agency Works closed by order of Government.	At the commencement of famine, non-working children under 7 years of age were paid cash allowances instead of cooked food, but later on, a kitchen was opened on every work in charge of the Special Civil Officer where cooked food was given to non-working children and other dependants. This system of management was observed on all relief works in this district with the exception of the Mhasvad Tank Canal and A'shti Tank berm. On the last two works, the limited piece-work system was introduced. The rates of piece-work were	.....	.....
This was one of the first works started and was for the purpose of providing work to applicants in the Malsiras, Pandharpur and Sāngola Talukas.		.....	.....

APPENDIX

District.	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of Work done at ordinary rates of construc- tion.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
			Rs.	Rs.		
holápur— continued.	<i>Local Communications.</i>	Improvement and repairs to existing roads.	3,42,010	83,400	Easing gradients, excavating side gutters and catch water-drains and collecting murum and metal. The length of the road is 45 miles.	This is a useful work which will much improve the road.
Do. ...	Do. ...	Improving and metalling road from Sàngola to Akluj and stacking metal thereon for repairs.	51,296	15,600	Excavating gutters and catch water-drains and easing gradients. The length of the road is 34 miles.	A useful work permanently improving the road.
Do. ...	Do. ...	Improving and metalling Mohol-Pandharpur road and stacking metal thereon for repairs.	1,22,064	59,000	Improving surface, easing gradients and collecting metal and murum. The length of the road is 24 miles.	Do. ...
	<i>Provincial Communications.</i>					
Do. ...	Collecting metal	Collecting metal for 10 years' repairs to Bársi-Yedsi road.	63,061	35,650	Collecting metal...	Permanently useful works.
Do. ...	Do. ...	Collecting metal for 10 years' repairs to Yedsi-Tadwala road.	13,053	9,603		
	<i>Local Communications.</i>					
Do. ...	Collection of metal	Stacking metal for 10 years' repairs on Jeur-Karmála road.	35,479	18,634	Collecting metal	A very useful work as the road is important one.

DIX 0—continued.

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
The work was started to give work to workers of Málsiras and Pandharpur Tálukas.	so arranged that able-bodied persons could earn by them A class wages for all working days and Sunday wages and allowances for non-working children and dependants. This limited piece-work system did not prove very successful, as the people had become demoralized by having been previously on regular task works carried on under Code rules. Good work-people, however, earned proper wages. The piece-work system is now being introduced on Pathri and Mangi Tanks. It has had the effect of driving away from the works all who were really not in need of any relief.	.....	.....
This was opened suddenly for the same reason as the Sholápur-Hyderabad road.	Every large work had a Hospital attached to it which was in charge of a medical officer or subordinate. The Hospital Assistant or Assistant Surgeon in charge looked after the medical wants of the workers and establishments, and was also useful in supervising sanitation and water-supply arrangements.	.....	.....
This work was opened to provide for relief workers of the Mádhá and Pandharpur Tálukas.		.....	.....
These two roads connect Bársi Town with important cotton marts in the Nizám's territory, such as Latur, &c., and carry a very heavy traffic. They are repaired annually and maintained as metalled roads. Metal collection for future years was therefore undertaken on them to provide employment for relief workers.		.....	.....
This is an important metalled road. Metal collection for future years' repairs was therefore undertaken to give employment to workers in the Karmála Táluka.		.....	.....

District.	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of Work done at ordinary rates of construc- tion.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
	<i>Imperial Railways.</i>		Rs.	Rs.		
Sholapur— <i>continued.</i>	Embankments and cuttings.	Earth-work on the Bársi Station-Pan- dharpur Railway.	5,04,934	2,70,000	Embankment in murum and earth and cutting in earth, soft and hard murum and rock.	This is a continu- of the Bársi I Railway and nects Bársi with Pandha an important of pilgrimage. length of the is 32 miles the Bársi I Railway Com have expr their willing to take over earth-work normal rates.
Do. ...	Do. ...	Earth-work on Pan- dharpur-Sán g o l a Railway.	2,91,653	1,80,000	Embankment in earth and soft murum and cutting in earth, hard and soft murum and rock.	The line is an e sion of the described towards Sá The total leng 19 miles. It fulness will de on the ra being exte which is some doubtful.
	<i>Imperial Irrigation.</i>					
Do. ...	Water-supply.—Con- struction of storage tank for Irrigation.	Constructing Pathri Tank.	3,03,107	89,400	Constructing earth- en dam across the Pathri Nála to form a reservoir.	The work will a water-supp the Bársi and will also as an Irrig tank.
Do. ...	Do. ...	Constructing tank at Mangi.	2,04,336	50,688	Constructing an earthen dam across the Kawta River.	When comp this will be ful irrigation in Karmála which frequently drought.
Do. ...	Dam and earth-work.	Repairs to Ekrúk Tank and Canal.	53,782	17,629	Clearing silt and widening and rais- ing canal banks.	A work of p nent utility.
Do. ...	Do. ...	Draining and filling in the pool of water behind the Ekrúk Tank Dam.	2,400	1,180	Filling in the pool with earth, murum, &c.	Do.

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
The work was selected for giving suitable work to large numbers of relief workers hither- to employed on metal breaking.			
It was taken up as being likely to be a useful work in the future and better than the metal breaking work hitherto taken in hand. It was started somewhat late in the famine after the Bársi-Pandharpur line had been commenced.			
This work was undertaken in preference to road works in the taluka, which were stopped.			
This work was undertaken in preference to road works which were closed on the opening of tank works.			
This work which consists of earth-work entirely was undertaken to give employment to weavers of Sholapur.			
The work was specially selected for the weavers of Sholapur for whom metal breaking on roads was considered unsuit- able.			...

District.	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of Work done at ordinary rates of construc- tion.	Nature of Work.	Utility of Work.
1	3	3	4	5	6	7
Sholapur — <i>concluded.</i>	<i>Imperial Irrigation—contd.</i> Dam and Canals earth-work.	Strengthening and improving the banks of the Mhas- vad Tank Canal.	Rs. 18,023	Rs. 11,700	Clearing silt and raising and streng- thening Canal banks.	A work of perma- nent utility.
Do. ...	Do. ...	Adding a berm in rear of a portion of Ashti Tank Dam.	5,196	1,600	Adding an earthen berm behind the dam with longitu- dinal and cross drains filled in with dry stones.	Do. ...
Ahmednagar	<i>Provincial Communications.</i> Collection of metal.	Collecting metal on the Násik-Poona road.	49,295	13,361	Breaking metal...	All these works are of permanent uti- lity.
Do. ...	Do. ...	Collecting metal on Nagar-Malegaon road, Section B, in Kopargaon Taluka.	1,48,158	28,389		
Do. ...	<i>Local Communications.</i> Collection of metal.	Collecting metal on Kolhar-Bari road.	2,35,003	80,782		
Do. ...	Do. ...	Collecting metal on Belapur Station Feeder Road.	43,158	9,650		
Do. ...	Do. ...	Collecting metal on Loni-Belapur road.	49,841	12,687		
Do. ...	Do. ...	Collecting metal on Nevasa-Belapur road.	93,986	12,289		
Do. ...	Improvements and repairs of existing roads.	Improving the An- nághát road from Nagar to the bound- ary of Nagar Taluka.	76,786	28,958	This work consists of earth embankment on portions of the road and murum surfacing some parts and improv- ing the nála dips.	A work of perma- nent improvement

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
The work was started to give additional work in the Sàngola and Pan- dharpur Talukas. The work itself is useful and would have had to be done sooner or later.	.....	.....	
This work was started as it was actually required to strengthen the dam.	.....	.....	
Breaking metal was first chosen as relief work in this district. It formed a good test as the workers, men, women and children disliked it. The metal will all be used in future years for road repairs.	The metal breaking was carried out by Public Works Agency and the people were paid by task work by gangs, each of about 50 workers. The ticket system was for a time tried, a ticket being given to each worker for each basket of metal; but it was abandoned as it afforded unlimited power to the karkuns issuing tickets to show favouritism. There was also a distance test. Work- ers were not taken on within five miles of their villages.	The workers were all hutted and residence in camp was com- pulsory. The huts were of bamboo matting, but during the monsoon gunny bags were used for hutting. Huts of this material stood the rain well and were also easily moved when camps had to be shifted.	<i>Condition of Work</i> The workers gen- erally were healthy and was never much sickly in any camp was there any epidemic
This road is of local im- portance to facilitate communication within the Collectorate.	.....	Water-supply was chiefly managed by the Civil Depart- ment. Earthen pots were used and filled by Bhists. Pre- cautions were taken to prevent the water being fouled by work- ers. Wells were also hired and special men told off to draw the water.	

District.	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of Work done at ordinary rates of construc- tion.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
			Rs.	Rs.		
Ahmednagar —contd.	<i>Excluded Local Fund. Water-sup- ply.</i> —Construction of storage dam. (Earth-work.)	Reservoir at Kápur- vadi in connection with the water- supply to the town of Ahmednagar.	1,03,455	36,271	.....	A work of perma- nent utility much needed.
	<i>Imperial Irrigation.</i>					
Do. ...	Repairs and addi- tions to dams and canals.	Clearing the bed of Lákh Canal.	14,735	12,859	This work consisted of clearing the bed for its whole length, i.e., 26 miles. The material was uti- lized in raising the banks which had sunk in many places to below flood level.	This is a work of permanent utility.
Do. ...	Canal excavation ...	Constructing Ojhar Right Bank Canal.	1,900	1,418	This is a new canal, the only work done was Survey, lining out and con- struction of huts.	.....
	<i>Local Communications.</i>					
Do. ...	Construction of new roads.	Nevása-Shevgaon- Bodhegaon road.	1,82,427	58,105	.....	A work of perma- nent utility.

IX 0—continued.

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
The reason for selecting this work is that the Nagabai aqueduct which supplies the town of Ahmednagar generally runs dry in years of deficient rainfall as it did last year in June, July and August, and that the duct had to be fed by drawing water from wells near its course by bullock power and running the water into the duct.	The work was in charge of an upper subordinate, and the workers were paid by task work.	<i>Sanitation.</i>—Trenches were dug for sanitary purposes at each camp, being about 200 yards from the camp. <i>Grain.</i>—The grain was supplied by private traders, shops being opened in each camp. Firewood was obtained from the Forest Department where practicable, and the workers found their own fuel when situated far from villages. There were Hospital Assistants at each camp and accommodation was provided for hospitals.	
.....	The work was in charge of a temporary Assistant Engineer. The workers were paid by limited piece-work.	Huts were erected for all workers. Water-supply was good and ample.	
.....	The work was in charge of an Assistant Engineer.	.....	
Work was undertaken to facilitate communication within the Collectorate.	Carried out by Public Works Agency under a Sub-Engineer. The work was carried out by task work by gangs, each of about 50 workers.	The workers were all huddled and had to live in camps. The camps were moved from time to time as the work progressed. Water was supplied by the Civil Department and the cost was charged to works. There were grain shops in each camp where the camp was more than a mile from the village. The workers found their own fuel. There was one central hospital for all camps.	

District.	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of Work done at ordinary rates of construc- tion.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
Ahmednagar —continued.	Local Communications— continued.		Rs.	Rs.		
	Construction of new roads.	Khorda-Shrigonda road, Section I, between Jámkhed and Khorda.	1,15,152	33,813	.....	A useful work to permanently im- prove communi- cation.
Do. ...	Do. ...	Section II, between Sina River and Jámkhed.	64,351	21,450	.....	
Do. ...	Do. ...	Khorda-Játégaoon road.	22,929	2,824	.....	It is doubtful if this road will be ever completed.
Do. ...	Do. ...	Road from Mahijal- gaon to the Sholá- pur frontier.	5,933	717	.....	This work will pro- bably disappear.
Do. ...	Do. ...	Constructing miles Nos. 37 to 40 of the Nagar-Miraj- gaon-Sholápur road from a cleared track to an un- bridged murum road.	10,267	3,970	.....	This will be a useful road to open up local traffic.

DIX O—continued.

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
This road was constructed to facilitate communi- cation with the railway for Jámkhed Taluka.	The work was in charge of an Assistant Engineer and was carried out by task work by gangs, each of about 50 wor- kers.	Camps were made about 5 miles apart. All workers were hut- ted and had to live in camp, nearly all camps were near running water and there was not much difficulty about water-supply. Grain was sup- plied by private enterprise, shops being opened in each camp. Trenches were dug for sanitary purposes, but the people could not be got to use them. There was, however, never much sickness at any camp. There was one central hospital.	
The road is intended to open up communica- tions by cart between the town of Bhoir in the Nizam's territory and the town of Khar- da in the Jámkhed Tá- luka via the Mohori Ghat.	The work was under an Assist- ant Engineer and there was only one camp at Mohori. Owing to the famine ceasing little had been done before work was stopped.	The huts in this camp were all of sacking and stood the rain very well. The supply of water was from a running stream.	Owing to this work being kept open after other works were closed, it attracted the residents of all the famine camps in the taluka and when the work was finally closed on the 15th Nov- ember 1897, there were about 250 workers in camp. The people were not emaciated, though very badly off for clothes; just before closing the work, a grant of clothing was made from the charit- able fund to all women who had been at least 5 months on famine works. These num- bered about 115. A Sári and a Kampli (country blanket) were given to each.
This road is to facilitate communication with the railway via Karwalla and Jeur Station.	.....	.....	
	The earth-work and murum barrelling were constructed in the early part of the famine, after which the people were all assembled in two large metal breaking camps at Mahijal- gaon.	Please see remarks below of materials).	under Head C (Collection

O—continued.

District.	Classification.	Name of Work.	Amount of Famine Expenditure.	Value of Work done at ordinary rates of construction.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
Ahmednagar—continued.	<i>Local Communications—continued.</i>		Rs.	Rs.		
	Construction of new roads.	Improvements to Kharda-Shrigonda road.	269	...	.....	.....
Do. ...	Improvements and repairs of existing roads.	Special repairs to Nagar-Shevgaoon road, Section B.	1,15,739	33,551	The repairs consisted of embanking the road where required and collecting metal and spreading it.	A work of permanent utility.
Do. ...	<i>Provincial Communications.</i>					
	Collection of metal	Nagar-Paithan road.	1,51,058	21,739	Breaking metal...	All these are works that will be permanently useful.
	Do. ...	Imampur Ghát to Toka road.	49,833	11,154		
Do. ...	Do. ...	Nagar-Malegaon road.	1,37,671	57,125		
Do. ...	<i>Local Communications.</i>					
	Collection of metal	Khospuri-Islampur road.	8,122	2,666		
Do. ...	<i>Provincial Communications.</i>					
	Collection of metal	Nagar-Shirur road.	33,446	8,730		
Do. ...	<i>Local Communications.</i>					
	Collection of metal	Nagar-Shevgaoon road.	43,993	8,943		
Do. ...	Do. ...	Kharda-Shrigonda road.	19,296	4,616		
Do. ...	Do. ...	Nagar-Karmala road.	41,832	11,382		
Do. ...	Do. ...	Shrigonda-Kaste road.	6,174	1,552		
Do. ...	Do. ...	Pimpri Station Feeder road.	20,885	6,636		

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
.....			
This road was undertaken to improve the existing road which was much cut up.	The work was carried on departmentally by task work gangs of about 50 workers. The metal breaking was for a time carried on by ticket system by issuing a ticket for each basket broken and this turned out more work.	The workers were hutted and compelled to live in camps. The huts were of bamboo matting and sacking. The huts were shifted from place to place as the camps were moved, and consequently the bamboo matting suffered much damage. The water arrangements were latterly made by the Special Civil Officer.	The relief workers were in good health and the Civil Department distributed occasionally clothes from the Charitable Fund.
Breaking metal was chosen as a staple famine relief work in this district. It formed a very good test as the people—men, women and children—all dislike it. The metal will all eventually be used on road repairs.	Metal breaking was carried out by Public Works Department Agency and the people were paid by task work by gangs of about 50 men. For a time, the ticket system was tried, a ticket being given to each worker for each basket of metal, and this produced a much better outcome of work than the gang system. The workers were all hutted and were compelled to live in camp. Anyone not sleeping in the camp was liable to be turned off the works. There was also a distance test. Workers were not employed within 5 miles from their houses. The huts were at first all of bamboo matting as being cheapest. By July 1897, the supply of bamboo matting both in the district and in Bombay was exhausted and it being the monsoon, no fresh supply could be imported. Huts were then made of sacking, the ordinary gunny bags used by native merchants for their grain. This made very good huts which stood the rain well. It was further very easily transported from place to place when camps had to be moved. There was great and unavoidable waste of bamboo matting when a camp was moved. The	The workers nearly always came on to the works before they were in any degree emaciated, but when on the works they were anxious to do as little as possible. In consequence they were nearly all soon drafted into the C class and barely did the task of that class. However, they all kept very healthy on C class wages and there was never any epidemic in any of the camps. Towards the end of the famine some emaciated	

District.	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of Work done at ordinary rates of con- struction.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
Ahmednagar —concluded.	Local Communications —continued.		Rs.	Rs.		
	Imperial Irrigation.					
Do. ...	Constructing stor- age dam (earth- work).	Construction of storage dam for irrigation. I. Visapur Tank.	34,029	8,756	The work consists of an earthen dam more than a mile long and 70 feet high at the high- est point, with an irrigation canal about 15 miles long. It was not sanctioned till the famine was nearly over; so little has been done.	This is a work of permanent utility.

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
	bamboo matting suffered much damage by wind. The gunny bag huts kept out rain better than the bamboo matting. Tarring was tried both on bamboo matting and on sacking, but proved too expensive for general adoption. The camps were at first small camps, each of a few hundred workers scattered along the roads, but as the numbers of those demanding relief increased, the people were gradually contracted into larger camps. <i>The water-supply</i> was chiefly managed by the Civil Department. A common arrangement was for a row of large earthen pots to be placed in some convenient position near the camps. These pots were filled by Bhistis with <i>pukhal</i> bullocks and over the pots was placed a mucadam whose business it was to see that they were not contaminated in any way. Sometimes the workers were not allowed to fill their private vessels from public pots, and men were especially appointed to fill the workers' vessels. This was in order to prevent the public supply being fouled. This regulation was also extended to wells, and special men were appointed to draw water, and no private vessel was allowed to be dipped into the well. <i>System of sanitation.</i>—Trenches were provided, but these were not generally used. The sanitary authorities prescribed that the trenches should be 600 feet (200 yards) to the leeward of the camp. This distance appears to be too great. The workers certainly considered it to be too far to be convenient. It was possible to keep the camp itself clean. But the workers would not use the trenches. <i>Grain</i> was supplied by private enterprise. Traders were always allowed to open shops on the works and usually built their own huts. The site for the shops was selected and was usually chosen so that the police guard might be between the grain shops and the tool-shed.		workers came demand- ing relief. And in one or two cases, the system was tried of having a receiving camp near a taluka head-quarter town, where there was already a hospital and a Hospital Assistant. Any weakly or emaciat- ed people were detained at this camp and the healthy ones were draft- ed on to some big work. The numbers of emaci- ated people were never very large. At Shri- gonda, there were once 40 emaciated people when 3,000 had been drafted from there to the Visapur Tank. Cases of emaciation were mostly amongst babies.
a work is intended to be a famine protection work. It would benefit the Shrigonda Taluka.	The work was under an Assist- ant Engineer. The people were paid by task work by gangs of about 50 men. The work being earth-work, the people took readily to it and C class tasks were easily en- forced.	The huts were mostly of gunny bags. <i>Water-supply</i> was from three wells for the use of which the owners were paid. <i>Sanitation.</i>—Besides the prin- cipal latrines near the main camp, other smaller latrines were constructed near the works and this proved very useful in keeping the site of the actual work clean. <i>Grain.</i>—Four or five traders opened shops in the camp, but the people also went to the villages of Pimpalgaon, Pisa and Visapur. Firewood was obtained from the Forest De- partment from Babul woods between Pimpalgaon, Pisa and Balwandi.	No workers were received at Visapur. They were all drafted from the receiving camp at Shrigonda. All weak or sickly persons were kept at Shrigonda; so only healthy workers came on to the work. The work was much interrupted by rain.

District.	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of Work done at ordinary rates of construc- tion.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
	<i>Local Communications.</i>		Rs.	Rs.		
Násik District	Collection of materials.	Khándesh and Nízám's frontier.	66,982	22,581		
	<i>Provincial Communications.</i>					
Do.	Collection of materials.	Bombay-Agra road.	87,126	38,810		
Do.	Do.	Násik-Poona road.	1,17,740	1,01,000		
Do.	Do.	Málegaon-Manmád.	64,826	38,715		
Do.	Do.	Manmád-Kopargaon.	22,788	10,965	Metal breaking ...	All these are works of permanent utility.
Do.	Do.	Nándgaon-Aurangabad.	53,718	41,520		
	<i>Local Communications.</i>					
Do.	Collection of materials.	Násik, Dindori and Kalwan.	4,525	1,430		
	<i>Provincial Communications.</i>					
Do.	Collection of materials.	Sati Ghát Harsul ...	388	150		
	<i>Imperial Irrigation.</i>					
Do.	Embankment and metal for the existing dam.	Wághad Tank ...	26,424	11,873	Dam embankment, metal breaking.	Useful work ...
Do.	Constructing a storage reservoir (Earth-work).	Khirdi Sathe Tank...	55,831	13,269	Dam embankment building.	Permanently useful work.
	<i>Excluded Local Funds.</i>					
Do.	Miscellaneous improvement (Water-supply).	Wasali Tank ...	15,675	9,330	Puddle trench excavation and a little dam embankment.	Do. ...
Do.	Do.	Peint Tank ...	3,497	2,586	Silt excavation ...	Do. ...
	<i>Imperial Irrigation.</i>					
Do.	Constructing storage tank with earthen dam.	Maládevi Tank in the Ahmednagar District executed by the Executive Engineer, Násik.	76,164	19,735	Puddle trench excavation and a little miscellaneous work.	A work of permanent utility.

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
Conveniently situated in respect to distressed population.	Tasking by piece-work ...	Hutting, water-supply, sanitation arrangements made by Public Works Department. Cooked food in kitchen by Civil Department.	Condition of workers excellent.
		Hutting, water-supply and sanitation arrangements made by Public Works Department. No kitchen.	
		No camp, no kitchen.	
These works were selected on account of their forming protective works when completed and as they were conveniently situated with respect to the affected area.	Tasking by piece-work	Hutting, water-supply, sanitation by the Public Works Department. No kitchen.	Condition of workers good during fair weather; fair during rains.
	Do.	Hutting, water-supply and sanitation by Public Works Department. Kitchen and hospital by Civil Department.	Condition of workers excellent.
	Tasking	Hutting, water-supply and sanitation by Public Works Department. Cooked food in kitchen and hospital by Civil Department.	Condition of workers excellent in fine weather. Good in rains.
	Do.	Water-supply and sanitation by Public Works Department. No kitchen.	Condition of workers fair.
This work was selected to employ on more useful work distressed people previously put on metal breaking.	Do.	Hutting, water-supply and sanitation carried out by Public Works Department. Cooked food in kitchens and hospitals by Civil Department.	Condition of workers excellent in fair weather. Fair during rains.

District.	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of Work done at ordinary rates of construc- tion.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
	<i>Provincial Communications.</i>		Rs.	Rs.		
Khândesh Dis- trict.	Collection of metal ...	Metal collection at Morána for Dhulia- Surat road repair.	43,056	14,702	Breaking metal ...	All these works at of permanent ut- lity.
Do. ...	Do. ...	Metal collection at Songir for Bombay- Agra road.	6,923	4,971		
Do. ...	Do. ...	Metal collection at Sakri for Dhulia- Surat road, 1st coat.	3,901	3,035		
Do. ...	Do. ...	Metal collection at Derabardi for Dhulia-Chálisgaon road.	3,757	1,656		
	<i>Provincial.</i>					
Do. ...	Collecting metal ...	Metal collection at Nándra for G. I. P. Railway.	8,475	3,737		
	<i>Local Communications.</i>					
Do. ...	Collection of metal...	Metal collection at Khadkinalla for -- (a) Neri-Ajanta road, 1st coat.	7,875	3,340		
		(b) Neri-Ajanta road repairs.	7,875	3,340		
		(c) Current Repairs to Jalgaon- Jámner road. Neri to Jám- ner repairs.	20,996	8,840		
		(d) Current Repairs to original.	14,614	4,091		
Do. ...	Do. ...	Metal collection at Mehrun for Jal- gaon-Jámner road, Jalgaon to Neri repairs.	23,162	11,890		
Do. ...	Collection of metal ...	Metal collection at Anjala for -- (a) Anjala-Dhus- kheda road.	13,289	6,201		
		(b) Bhusával-Yával road.	11,526	5,378		
Do. ...	Do. ...	Metal collection at Udhali for -- (a) Sánda Gatha and Udhali road repairs.	12,979	5,047		
		(b) do. original.	13,159	5,158		
Do. ...	Do. ...	Metal collection at Wanjára for Amal- ner-Párola road.	8,471	2,496		

IX O—continued.

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
The works were selected on account of their being conveniently situated with respect to the distressed area.	Each famine work was in charge of an upper or lower subordinate, who was a sub-divisional officer and who had his office on the spot. Musters were closed on Wednesday, completed on Thursday and for each muster the amount required was counted out to the Cashiers on completion of each muster; and payment was made at once by them. The code tasking system was in force, the whole gang being fined to the minimum wage for short task, but when after due warning the tasks still fell short, the wages paid were in proportion to the task done. By this measure a healthy tone was maintained and idleness was minimised. If any individual did the proper task he was promoted to a higher class, but if he continuously failed to do the task, then he was paid proportionate wage of the class, but not put in a lower class.	The water-supply was good and obtained from existing wells or wells sunk on the river banks. There was no difficulty in getting firewood. Grain-dealers had shops at each camp, but many people preferred to obtain their grain supplies from the town.	Very few people from outside territory came to Khândesh works. Gang tasking gave fair results; individual tasking was found to be impossible. Children, when properly selected with due regard to their age and constitution, gave a fair outturn of work. But age alone was no criterion.

APPEN

District.	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of Work done at ordinary rates of construc- tion.	Nature of Work.	•Utility of Work.
1	2	3	4	5	6	7
	<i>Local Communications</i> —continued.		Rs.	Rs.		
Khândesh District— continued.	Collection of metal...	Metal collection at Sarola for Bodvad-Edlabad road.	22,084	6,246	} Breaking metal ...	These works are permanent utility.
Do. ...	Do. ...	Metal collection at Dhulia for Dhulia Station road.	386	109		
	<i>Railways.</i>					
Do. ...	Embankments and cuttings.	Constructing Amalner-Dhara ngan Railway earth-work.	43,167	25,115	Earth-work...	A permanently useful work.
	<i>Provincial Communications.</i>					
Do. ...	Construction of new roads.	Constructing Sakri-Gorda road.	5,258	...	} Road making ...	These works were probably not completed in the near future, and it is doubtful if the work done will not have deteriorated so as to be of no value.
Do. ...	Construction of new roads.	Constructing Sindkheda-Gorana road.	2,890	...		
Do. ...	Do. ...	Constructing Nandurbár-Taloda road.	1,055	...		
Do. ...	Do. ...	Constructing Amalner-Párola road.	868	...		
Do. ...	Improvements and repairs to existing roads.	Special repairs to Bodvad-Edlabad road.	4,554	...		
	<i>Imperial Irrigation.</i>					
Násik Irrigation.	Constructing storage reservoir. Earthen dam.	Chankápur reservoir.	3,621	1,253	} These works consisted of breaking metal for concrete and earth-work of earthen dams and canals.	These works were intended to extend irrigation in the upper Girna valley and likely to be remunerative.
Do. ...	Canal excavation ...	Girna Left Bank Canal.	32,846	15,604		

(cxxi)

DIX 0—continued.

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
(Same as overleaf).			
.....			
.....			
.....			
These works were selected to concentrate labour.	These works were under an As- sistant Engineer with a tempo- rary Sub-Overseer and Overseer. Gang task system was in vogue. A certain task was set for the gang and when that was not done, fines were imposed on the whole gang.	Hutting with bamboo matting according to the Code was pro- vided on the tank work which was closed by the beginning of rains. The river and wells in the neighbourhood supplied good and abundant water. The trench system was introduced and strict discipline was main- tained. Food-grain shops were on the works. The supply of fuel was sufficient.	Health of the people good.

District.	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of Work done at ordinary rates of construc- tion.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
Chándesh Irrigation— continued.	<i>Imperial Irrigation—contd.</i>		Rs.	Rs.		
	Construction of storagetank. Earthen dam.	Constructing Talvada Tank.	367	...	Earth-work for extension of irrigation.	Of no permanent utility.
Do. ...	Repairs and additions to Irrigation dams and canals.	Special repairs to Jámda Left Bank Canal.	2,841	1,863	Earth-work such as re-making broken banks, silt clearance, &c. Floods had damaged the canal and it was put in order.	These works are improvements of a permanent character.
Do. ...	Do. ...	Special repairs to Jámda Right Bank Canal.	1,572	1,589		
Do. ...	Do. ...	Repairs and extension of Wadgaon flood embankment.	3,720	3,086		
Do. ...	Repairs and additions to dams and canals.	Improvements to the Kasára Channel.	3,534	2,486	Cutting side slopes and earth-work of channel. Silt clearance, repairs to Bank channel, &c.	Of permanent utility
Do. ...	Do. ...	Improvements to Sháhádá Channel.	13,441	12,844	.....	Do.
Do. ...	<i>Excluded Local Fund.</i>					
Do. ...	Miscellaneous improvements. Water-supply.	Improvements to the Jalgaon water-supply.	3,709	1,457	Diversion of waste weir channel, &c.	Do.

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
.....	This was under an Assistant Engineer and a temporary Overseer. It was subsequently abandoned owing to the commencement of Tápti Valley Railway work.	.....	
As being specially suitable for famine.	The Sub-Overseer in charge of canals managed this work in addition to his ordinary duties. Gang task system in vogue.	The people provided themselves with huts and aid was given when materials fell short. The Girna supplied water. Trench system strictly enforced. Grain was available to meet requirements. There was no want of fuel experienced. The people provided themselves from neighbouring waste lands.	
A project for improvements and repairs to the channel had been prepared as an ordinary work; when it was found necessary, the items suitable for famine were utilized as relief works.	An Overseer was in charge with a temporary Sub-Overseer under him.	Same as for Jámda Canals above.	
Similar to Kasára project, this Sháhádá channel project had been got up as an ordinary work, but was utilized as a relief work when famine pressure became heavy in the taluka.	An Overseer was in charge with a Sub-Overseer. Gang task system was in force.	At first, the people provided themselves with shelter, but when the rains approached huts were provided of bamboo matting dammed and covered with foliage procurable in the locality. Gunai River supplied the men with water. Trench system enforced. Grain shops on the work. Fuel sufficient.	
Opened as a relief work when distress increased in East Khándesh.	Do.	... The work having been started just when the rains commenced, a fairly water tight camp of huts was made by using gunny bags well dammed. Trench system was strictly enforced. Well water was used for drinking purposes.	

District.	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of Work done at ordinary rates of con- struction.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
Poona District.	<i>Local Communications.</i>	Improvements and repairs to existing roads.	Rs. 71,928	Rs. 32,597	Collecting metal and murum.	All works of permanent utility.
Do.	<i>Provincial Communications.</i>	Collection of metal.	31,310	15,918	Collecting metal on Poona-Sholapur road.	
Do.		Improvements and repairs to existing roads.	1,27,791	29,569	Improvements to Poona-Nasik road.	
Do.	<i>Local Communications.</i>	Construction of new roads.	83,031	44,151	Constructing Bara-mati-Nira Station road.	
Do.	<i>Provincial Communications.</i>	Collection of metal.	21,324	6,290	Collecting metal on Bombay road.	
Do.	<i>Local Communications.</i>	Collection of metal.	49,605	6,076	Collecting metal on Ghoda-Ambe gaon road.	Works of permanent utility.
Do.	Do.	Do.	12,270	2,298	Collecting metal on Junnar-Narayana gaon road.	

DIX O—continued.

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
The work was convenient for people in the Indapur Taluka.			Condition of workers everywhere good. No complaints were received. No cases of fraud or dishonesty.
The work was convenient for people in eastern portion of Poona District.			
Selected for giving employment to people in Khed and Junnar Talukas.	Under Public Works Department subordinates in charge of their respective subdivisions and the general superintendence of Captain Scudamore, R.E., Assistant Engineer. Task work was adopted. Piece-work was not tried.	Huts were provided. Camp sites were selected near good water. Grain and firewood supply was looked after by the Collector. Sanitation was everywhere attended to. It was the duty of sub-divisional officers to pay particular attention to water-supply and sanitation.	
This was selected to give employment to people in the south of the district, and will be an important feeder road to the Southern Maratha Railway Station at Nira.			
Selected for giving employment to people of Haveli and Malval Talukas.			
Selected for giving employment to people in Khed Taluka.	These works were in charge of Public Works Department subordinates in charge of their respective sub-divisions and under the general superintendence of Captain Scudamore, R.E., Assistant Engineer. Task work was adopted.	Huts were provided. Camp sites selected near good water. Grain and firewood supply was under the Collector's supervision. Sanitation everywhere attended to. It was the duty of the Sub-Divisional Officer to pay particular attention to water-supply and sanitation.	Condition of workers everywhere good. No complaints were received. No cases of fraud or dishonesty known.
Selected for giving employment to people in the Junnar Taluka.			

District.	Classification.	Name of Work.	Amount of Famine Expenditure.	Value of Work done at ordinary rates of construction.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
Poona Irrigation.	Imperial Irrigation. Construction of storage tanks, earthen dam.	Shetphal Tank (opened in February 1897 and still in progress.)	Rs. 3,15,339	Rs. 1,46,305	Excavation in soil, murum and rock for puddle trench, puddle filling and a small part of embankment.	The tank is very useful in itself, being intended as a Protective Irrigation Work receiving its supply from the Nira Canal in the monsoon and supplementing the supply of that canal in other seasons for irrigation at its tail.

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
This was selected as being situated in one of the centres of the famine-stricken area near the boundary between the Poona and Sholapur Districts; it was convenient for drafting people from both districts.	Work was in charge of an Assistant Engineer. Kitchen under a Civil officer, camp management and sanitation under another Civil officer and an Assistant Surgeon. All tasking has been by the gang. Code tasks were imposed but were imperfectly worked up till end of September, when orders were given to fine down below the minimum wage if necessary. There has been a slight improvement since. Piece-work is only being introduced now and it is too early to report on it.	Water-supply was obtained from the Nira Canal and stored in cisterns. Wood and grain supplies have been satisfactory.	Condition of workers was good all through. There were a few cases of cholera and of emaciation among children owing to diarrhoea. Health in the camps generally fair due chiefly to good water-supply.

APPEN

Southern

District.	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of Work done at ordinary rates of con- struction.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
Bijapur	Imperial Irrigation.	Construction of earthen storage dam.	Rs. 26,071	Rs. 3,400	Puddle trench excavated to an average depth of 16 feet below level ground. Rock nowhere met with. No item of work has been completed.	It is probable that this work will have much deteriorated before funds will be available to finish these tanks.
Do.	Do.	Sangoji tank	25,799	1,409	Puddle trench on the left flank was in progress. The greatest depth to which it has been excavated does not exceed 6 feet. No item of work has been completed on this work.	Do.
Do.	Provincial Communications.	Collection of metal...	29,719	15,973	Metal has been collected in 12 miles and is sufficient for 10 $\frac{1}{2}$ miles for 10 years.	A work of permanent utility.
Do.	Do.	Collecting metal and kankar for Bijapur-Honvad Road, 24 miles.	42,094	14,301	Metal has been collected in 11 miles, i.e., in miles 1 to 8, 10, 11 and 18 and on quarries in miles 7 and 10.	Do.
Do.	Improvements and repairs to existing roads.	Collecting metal for, and improving the Bagalkot-Kagedoni Road, 18 miles.	70,986	31,036	Collection of metal for the whole length of the road is completed. The road has been completely improved from mile 81 to 87 and the remainder partially improved.	The road has been permanently improved.
Do.	Local Communications.	Collection of metal...	81,811	15,751	Metal has been collected by the roadside in miles Nos. 1 to 4, 7, 8, 9 to 13 and on quarries in miles Nos. 1, 3 and 11.	A work of permanent utility.

DIX O—continued.

Division.

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
<i>These remarks apply generally to all Works in the Bijapur District.</i>			
Generally the works carried out by famine labour were selected mainly in view of the convenient provision of employment.	The whole district was in charge of an Executive Engineer and was divided for the greater part of the time into five sub-divisions. The head-quarter sub-division was small, never having more than two works in progress and was in charge of an Upper Subordinate except in September and October 1897, when it was in charge of a Junior Assistant Engineer. Of the other four sub-divisions, the two largest having about five large works in each were in charge of Executive Engineers and the two others having three or four works each in charge of Senior Assistant Engineers.	The hutting accommodation at the beginning of the year was insufficient, but further large orders for hutting material were given and in about May and June sufficient accommodation was provided, but there was some difficulty in maintaining it, owing to the continual shifting of camps which damaged or destroyed much material and to many camps having to be burned or partially burned on account of cholera. In July when the great increase in numbers took place the material in hand was insufficient to accommodate all, and although much fresh material was purchased, it did not arrive in time, and consequently a large balance of unused material was left when works were closed at the end of October.	The enforcement of sanitary measures was one of the greatest difficulties that the Public Works Department had to contend with during the famine. As it was, mukadams were kept on every camp to seek out any cause of offence and remedy it, and the camps were thus kept generally fairly inoffensive.
	Each work was, as a rule, in charge of an Upper Subordinate, though in some cases, when these were not obtainable, Lower Subordinates were put in charge, and those whose ability warranted it were subsequently left in charge after sufficient Upper Subordinates were obtainable.	The works were sub-divided into sections in charge of a Lower Subordinate or experienced Maistri who worked as assistant to the subordinate in charge. The general average was about 2,000 workers to one Lower Subordinate or experienced Maistri.	Every camp was provided with water from wells and bhistis were always appointed to serve water to the people while at work.
	Workers were divided into gangs of about 50 each under a ganger and one karkun was appointed on an average to four gangs.	As far as possible one cashier was appointed to each sub-division of a work, i.e., for about 2,000 workers. The karkun having after daily morning muster entered the number of workers in a book in a prescribed form given to each ganger calculated the amount of task from the standard task	

District.	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of Work done at ordinary rates of construc- tion.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
	<i>Local Communications —continued.</i>		Rs.	Rs.		
Bijapur— <i>continued.</i>	Improvements and repairs to existing roads.	Improving Huvin Hippargi-Telgi Road, <i>via</i> Bágewá- di, 1st Section, from Huvin-Hip- pargi to Bágewádi, 1 to 7 miles.	138,715	10,621	Earth-work complet- ed. The road has been complet ed with the exception of harder surfacing for 3 miles.	A work of permanent utility.
Do. ...	Do. ...	Improving Huvin- Hippargi-Telgi Road, 2nd Section, 12 miles.	1,20,549	42,549	Earth-work and mur- am collection and spreading has been completed. Rolling has been done all along the road. Metal has been col- lected sufficient for 4½ miles. The ex- isting road has been improved with the exception of a de- viation.	The road has been permanently im- proved.
Do. ...	Constructing roads.	new Constructing Bádá- mi-Mudkavi Road, 27 miles.	1,39,442	62,160	The first 7 miles of the road already existed before the famine. Of the next 20 miles, 14 miles are completed and 6 are incomplete.	This is a useful feeder road from Mudka- vi to Bádámi Rail- way Station.
Do. ...	Constructing roads.	new Constructing Mudde- bihál-Nalatwad Road, 12½ miles.	1,78,989	66,694	Of the total length of the road, 2½ miles lie in the Ni- zám's Territory and 10½ miles have been completely finished with three drains and 18 dry masonry level-crossings. Metal has been collected.	This is the continua- tion of a feeder road from Almatti Sta- tion on the South- ern Marátha Rail- way to Muddebihál on to Nalatwad.
Do. ...	Improvements and repairs to existing roads.	Improving Muddebi- hál-Talikot Road, 15 miles.	1,47,096	61,667	The whole length of the road except the crossing of the Don is finished with lime kankar and murum for surfac- ing. At worst places, dry stone dips have been pro- vided. The made road is 14½ miles long. Metal has been collected most- ly along the road.	This road has been permanently im- proved.

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	14
	given him by the subordinate in charge, and the book was then given in charge of the ganger who was responsible for the presence of his gang as entered in the book. Tasks were set out as follows :— In the case of metal-break- ing, two parallel lines, six feet apart, were marked out on the ground in front of the gang and at the end of the day the workers brought the metal they had broken and stacked it between the two lines to a height of one foot giving a mean width of five feet, and the kárkun having measured the length of the heap entered the quantity in the ganger's book. Each day's heap was kept separate and at the end of the week the measurements were checked by a subordinate and the daily heaps carried away and stacked by the road- side. In the case of earth-work, gangs were generally sub-divided into small parties of 6 to 8. The calculation of tasks in this case is a little more intricate than in the case of metal col- lection and the subordinate in charge therefore usually worked out an average task for each person having due regard to the proportion of men, women and children on the work, and the task for each gang or party could thus be easily calculated by the kárkun. In setting out the task it was usual to set out a certain width to be excavated one foot deep and the length was measured at the end of the day. In the collection of muram the measurements were taken of the heaps stacked at the road-side which were all of standard size. At the end of the week the subordinate in charge would allot the fines, by the help of		

District.	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of Work done at ordinary rate of con- struction.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
	<i>Local Communications — continued.</i>		Rs.	Rs.		
Bijapur— continued.	Improvements and repairs to existing roads.	Improving Indi-Shir- dhon Road, 26½ miles.	2,17,774	47,831	The whole length of the road from mile 1 to 10 has been completed. The metal will have to be spread and rolled. 10½ miles of the re- mainder of the length have been embanked and bar- relled with muram. Portions of the ex- isting road in 14th and 22nd miles are in good condition. Metal has been col- lected on the road and at quarries.	This road has been permanently im- proved.
Do. ...	Improvements and repairs to existing roads.	Improving Indi- Sindgi Road, 1st Section, 1 to 19 miles.	93,267	23,880	The road has been embanked and par- tially barrelled. Boulders have been collected for metal in miles 16 to 19.	Do. ...
Do. ...	Do. ...	Improving Indi- Sindgi Road, 2nd Section, 12½ miles.	1,13,621	37,168	The whole length of the road was com- pleted and metal collected at the road-side and quar- ries.	Do. ...
Do. ...	Do. ...	Improving Telgi- Kolhar Road, 10 miles.	77,041	45,109	The earth-work and muram have been completed.	Do. ...
Do. ...	Do. ...	Improving Deur-Hip- pargi-Talikot Road, 1st Section, 19 miles.	1,79,450	57,703	Earth-work and mu- ram surfacing com- pleted. Metal has been collected for a short portion.	Do. ...
Do. ...	Do. ...	Improving Deur-Hip- pargi-Talikot Road, 2nd Section, 11 miles.	80,252	16,235	The whole was finish- ed with lime kan- kar and muram surfacing. Bad nálas were pro- vided with dips. Metal collected on about a mile.	Do. ...
Do. ...	Constructing new roads.	Constructing Huvin- Hippargi-Talikot Road, 17½ miles.	1,57,430	73,534	Entirely a new road. Earth-work complet- ed. Muram spread and a few miles rolled. Metal has been collected.	A new road; will open up the District.

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
	tables provided from the Exe- cutive Engineer's Office. In regard to payments to work- ers, from the beginning of the year, as a rule, sufficient small change was obtainable in the Treasuries to allow of payments being made without delay, but owing to the fact that nearly the whole of the payments were made in sums of less than a rupee, it was rarely possible to obtain sufficient for paying each individual separately and consequently payments were frequently made by groups. This was held objectionable both by the Examiner and the Revenue Department, but it could not be avoided. Weekly payments were made generally by cashiers. The market day for the locality was the holiday for the work and a week's pay- ment was regularly finished before the holiday.		

District.	Classification.	Name of work.	Amount of Famine Expendi- ture.	Value of work done at ordinary rates of construc- tion.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
Sátára—contd.	Provincial Communications— continued.	Collection of metal... Collecting metal on Karad-Chiplun Road.	31,682	6,616	Metal has been broken and partly stacked at road-side	A work of permanent utility.
Do.	Do.	Collecting metal on Karad-Nagaz Road.	2,997	782	Do.	The Karad-Nagaz road has been improved by easing gradients, &c., and metal for repairs has been collected. This will be of permanent utility.
Do.	Improvements and repairs to existing roads.	Improving Karad-Nagaz Road.	1,46,010	20,112	Embankments and cuttings. Side gutters. Metalling 16 feet width. Collecting metal, muram and sand.	
Do.	Collection of metal...	Collecting metal on the Sátára-Mahábaleshwar Road.	10,791	2,698	Metal has been collected.	
Do.	Improvements and repairs to existing roads.	Improving Sátára-Mahábaleshwar Road.	66,526	18,981	Metal and muram collection. Diversion of road. Catch-water drains. Embankments and cuttings.	
Do.	Local Communications.	Collection of metal... Collecting metal on the Sátára-Padli Road.	47,846	4,626	Metal has been collected at road-side and quarries.	This is a road with heavy traffic and the work is of permanent utility.

DIX O—continued.

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
This work was started to give additional facilities to people in need of relief in the Ghát tracts, especially in the Koyna valley where the distress was probably more acute than anywhere else in the Sátára district. The road has a heavy traffic and a reserve of metal will be of use hereafter. The Karad-Nagaz road improving and metalling works were selected to provide for the eastern parts of the district as they were within about 24 miles of all parts of the district except the hilly tract. These were selected to relieve the rush on the Poona-Bangalore road. The work was useful inasmuch as the road was in great need of improvement and it was situated right in the hill tract and was easily accessible to people in the Jávli Taluka. As there is heavy traffic on this road from Sátára to the Railway Station and as the surfacing metal was very thin, it was decided to open this work and draft workers to it from the Kashil Camp on the Poona-Bangalore road.	of the stone. For boulder stone, or large pebble-shaped stones found in nála beds the lower limit was made applicable and for quarried stones the task varied from the lower limit to the higher. For one quarry at Kashil on the Poona-Bangalore road, where the stone was exceptionally hard the task was fixed at the lower limit as in the case of boulder stone. For miners in the quarries special men were selected, who were paid special rates at 3 annas a day. A miner usually drilled 2 holes a day from 18 to 24 inches, but no task was exacted as the supply of miners was limited and if they deserted the work there would have been no employment for the mass of the labourers. They, however, worked satisfactorily and gave no trouble. <i>Fining</i>—From the commencement of the works it was evident that the labourers looked upon the relief works as a system of more or less gratuitous relief where they might do merely a nominal amount of work, but in accordance with rule 79 (c) and 87 (a) much patience was exercised and continual warnings given before the introduction of fines. At last, however, it became clear that more stringent measures must be taken as labourers were not doing more than from 10 to 17 per cent. of the task. Accordingly orders were issued by the Executive Engineer on 6th January 1897, regulating the wages from minimum wages to full wages according to the work done, starting with a minimum wage for gangs that performed less than $\frac{1}{4}$ task, and it was at the same time directed that when less than 75 per cent. of task was done the gangs should be re-classified by reducing Class A to Class B. It soon, however, became apparent that labourers were perfectly content with		* This includes Rs. 26,303 on account of gratuitous relief to dependants on workers on this as well as other works in this district.

APPEN

District.	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of work done at ordinary rates of con- struction.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
Sátara—contd.	Local Communications— continued. Construction of new roads.	Constructing road from Ashta to Ashta Road Station.	24,845	7,233	Embankment. Mu- ram collected and spread. Metal col- lected.	A new railway feeder road.
Do.	Do.	Constructing Takari- Islampur Road.	55,550	16,063	Embankment. Cut- ting in muram and boulders. Collect- ing and spreading muram.	A new railway feeder road which will be most useful.
Do.	Improvements and repairs to existing roads.	Improving Sátara- Pandharpur Road.	25,390	8,992	Embankment im- proved. Catch- water drains exca- vated. Muram col- lected.	The gradients have been permanently improved and the work is one of per- manent utility.

DIX O—continued.

Reasons for selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
In view of the distress along the western ghát it was considered that more relief works were needed at the foot of the hills and accordingly this work and the Karad-Chiplun road were opened. This work was opened to relieve the pressure on the Poona-Bangalore road. It was within easy distance of the hill country and Shirala Petha where distress was being felt. Owing to the scarcity of early kharif rain during July and August 1897 in the Man Taluka accompanied by unfavourable reports of the condition of the people there it was decided to open a relief work on this road. The road was never before properly made and the work was a useful one.	minimum wages and further steps had therefore to be taken. Accordingly a new scale of fines was introduced by the Executive Engineer on the 21st February in which the fining was continued below minimum. In order to introduce the fining gradually only $\frac{1}{3}$ of the fine due was inflicted the first week and $\frac{2}{3}$ the second week till in the third week the full fine was exacted. On March 20th, a more stringent scale of fine was issued to come in force on 29th March in which 70 per cent. of task was required to be done for receipt of minimum wage. In this scale a large class was entered including all those who did from 30 to 60 per cent. of task who were to receive only three-fifths of minimum wage, while below 30 per cent. of task the wages were the same as before. The object of change was two-fold. (a) to fix the task for minimum wage in closer proportion to the value of the work done and (b) to induce all to do more than 60 per cent. of task by fixing the wages for those who did less than 60 per cent. at what was thought would be an unsatisfying wage and to encourage still better work by rendering the transition from one class to another easy after the 60 to 70 per cent. task had been performed, together with substantial increase of wages as the labourers passed from one class to the next above it. There was some delay in putting the new scale into force pending the receipt of approval by the Commissioner, but it came into general use about 18th April 1897. A modification of this scale of fines worked out by the Superintending Engineer was subsequently introduced.		

District.	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of work done at ordinary rates of construc- tion.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
			Rs.	Rs.		
Belgaum	<i>Imperial Irrigation.</i> Construction of stor- age reservoir with earthen dam.	Constructing Taosi tank.	2,39,120	89,792	Excavating puddle trench and filling it partly.	This work will be of no utility until the tank is completed.
Do.	<i>Local Communications.</i> Collection of metal...	Breaking metal for the road from Gokák Road Station to Nargund.	50,573	30,923	Collecting, breaking and stacking metal.	A work of perma- nent utility.
Do.	Construction of new roads.	Road from Gokák Road Station to Gokák (Section II mills to Gokák).	5,803	4,677	Embankment and collection of metal.	This is a very useful new road in conti- nuation of the pre- sent feeder road.
Do.	Collection of metal...	Breaking metal for the road from Ma- noli to Saundatti.	5,717	3,803	Collecting, breaking and stacking metal. Clearing side berms.	A useful work ...
Do.	Collection of metal...	Breaking metal for the road from Dhárwár to Hongal via Saundatti to Gurl Hosur.	12,824	5,877	Breaking and stack- ing metal.	Do. *

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
	Orders were given on 8th May to introduce the Superintending Engineer's scale on all works in the week commencing 17th May and this scale of fines re- mained in force till the closing of relief works, being modified of course in accordance with the price of grain. It will thus be seen that from 21st February payment was practi- cally by piece-work, the people being paid according to the work done, but the cost of work varying according to the pro- portion of classes A., B., C. and D. in the various gangs as well as of men, women and children. It was in fact a system of piece- work with the rates for work done proportioned to the capabi- lities of the labourers.		
This work was selected to relieve pressure in the Bijápur district where the distress was so severe that it was thought that there could be no difficulty in draft- ing large numbers of re- lief workers if necessary over 40 or 50 miles.			
This was opened to provide work for those in need of it.			
Do. ...			
Do. ...			
Do. ...			

District.	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of Work done at ordinary rates of con- struction.	Name of Work.	Utility of Work.
1	2	3	4	5	6	7
	<i>Local Communications —continued.</i>		Rs.	Rs.		
alg a u m— concluded.	Constructing new roads.	Constructing Shed- bal-Athni Road.	28,047	15,982	New road. Em- bankments and cut- tings. Collection of muram and met- al.	This will be a very useful feeder road.
Do. ...	Do. ...	Constructing Hon- vad-Athni Road.	50,012	25,420	New road. Em- bankments and cut- tings. Collecting and spreading mu- rum.	Do. ...
	<i>Provincial Communications.</i>					
arwār ...	Collection of metal...	Collecting metal on Kārwar-Bellāry road. Section from Gadag to Hesrur.	21,765	16,248	Metal collection ...	A work of utility ...

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
The question of the construction of this work was under consideration for many years as a most necessary connecting link between the important Taluka Town of Athni and its nearest Railway station on the Southern Marātha Railway. This work was taken up as a work to which Bijāpur labour could be diverted, the distress in that District being so severe that it was difficult to find sufficient useful work there for the people.	.....	.....	
Provision of labour for those in need of it.	The system adopted in this district was what is known as the Gang task work system, and this continued until almost the closing of operations when, under the orders of the Superintendent Engineer, the intermediate piece-work system was rigidly enforced. The workers were divided into suitable gangs of men, women and children, and comprising about 70 members in all, care being taken to see that in earthwork the proportions of diggers and carriers were maintained. In the case of metal collection the workers were permitted to arrange among themselves who were to fetch boulders, who to break the metal and who to carry the broken stuff to the stacks. The object of this arrangement was that when people became tired of one kind of labour they could rest the particular muscles which had been exercised by engaging in another form of labour. To arrive at the day's task for the gang the simplest method was found to be to fix on what experience showed to be	Every attention was paid to the sanitation of the camps and the health of the working parties, and it is satisfactory to know that not a case of cholera or other epidemic disease occurred on any work in charge of this Department. Cholera did appear at Dambal on the Gadag-Hesrur Road, but not while work was in progress within the limits of the town. The Assistant Engineer took prompt measures for keeping all people who came from Dambal aloof from the other workers, and the disease did not spread.	<i>These remarks apply generally to all works in the Dhārwar District.</i>

District.	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of work done at ordinary rates of construc- tion.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
Dhárwār— concluded.	<i>Provincial Communications</i> —continued.		Rs.	Rs.		
	Collection of metal...	Collecting metal on the Hubli-Sholá- pur Road.	311	234	Metal collection ...	A work of utility ...
	<i>Imperial Irrigation.</i>					
Do. ...	Construction of feeder channels, Earth-work.	Dambal tank feeder channel.	402	300	Earth-work ...	This is a small work of permanent uti- lity.
Do. ...	<i>Local Communications.</i>					
Do. ...	Construction of new roads.	Constructing Nar- gund-Gokák Road.	8,326	6,244	Embankment ...	This road is the ex- tension of the Go- kák-Nargund road in the Belgaum District, which has been completed. It is a very useful road connecting Nargund with Go- kák Railway Sta- tion.

Reasons for Selection.	General management including tasking, &c.	Camp management.	REMARKS.
8	9	10	11
Provision of labour for those in need of it. Do. ... This is the portion remaining incomplete of the Nargund-Gokák road. The portion of it in the Belgaum District had been completed, but it stopped abruptly on the Dhárwár boundary. The want of a connecting link had long been felt. It is one of the most useful works executed in the Dhárwár District.	a good rate for the work in course of execution; the total wages that would be earned during the day were known and the quantity of work of the value of the amount of wages at the fixed rate could easily be calculated. This task was then marked on the ground and the people shown what they would be expected to do before they could be permitted to leave work. They were told at the same time that they would be permitted to go as soon as the task was finished. Some gangs were able to push on so fast that they were able to leave work by 5-30, but others were obliged to work till sundown. Fines were, whenever possible, avoided and never inflicted unless there was wilful laziness and neglect of work. Wages were practically fixed by the Collector, for he gave orders as to those to be paid on Civil Agency works, and these were followed on Professional Agency Works. They were fixed in such a way as to be slightly higher than those allowed in the Famine Code to A class labourers, but on the other hand the labourers were required to support all persons dependent on them and no poor houses or kitchens were opened. This system worked admirably. It proved economical, and under it the labourers have remained cheerful and contented, and there has been no sign of falling off in condition. A short time before the works closed the intermediate piece-work system was introduced, but it did not last long enough to permit of a decided opinion being given with regard to it. The workers were divided into small gangs and paid according to the actual work executed, subject to a certain maximum.		

B 98—37 an

District.	Classification.	Name of Work.	Amount of Famine Expendi- ture.	Value of work done at ordinary rates of construc- tion.	Nature of Work.	Utility of Work.
1	2	3	4	5	6	7
	<i>Provineial Communications.</i>		Rs.	Rs.		
laba	... Collection of metal...	Collecting metal on Alibag-Campoli Road. Section from Dharamtar to Cam- poli.	2,700	1,020	Metal collection at quarries.	The materials collect- ed would be re- quired for the ne- cessary repairs to the road.
o.	... Do. ...	Collecting metal on Dharamtar-Maha d Road. Section from Sakeli Khind to Mahad.	32	2	Metal collection ...	Do. ...

Reasons for Selection.	General management including tasking. &c.	Camp Management.	REMARKS.
8	9	10	11
The works were selected with a view to gauge the extent of scarcity prevailing in the neighbouring portion of the district, and also with due regard to their utility, the materials being re-quired for the neces-sary repair of the roads during the ensuing monsoon.	The works were started on the regular task-work system laid down in the Famine Code. The Alibag-Campoli road metal work which had first been taken up as a test work was subsequently converted into a regular relief work. For the first 15 days the num-bers went on increasing and rose on 27th September 1897 to 1,410, but they began to fall off almost from the next day, and from the 6th to 18th October there were only, on an average, 171 in all on the work, when they left it owing to the commencement of the harvest season. Generally the labourers were all fairly strong and able-bodied persons and belonged to classes ordi-narily employed on field or forest labour. The work was not, of course, of the precise nature to which they were usually accustomed, but they displayed this time a passive determination to do as little as possible, and from the first to last did but a small portion of the tasks allotted. Firm-ness having to be shown to get them to do any work at all, only minimum wages were paid for the time being, but with no better results. The modified piece-work sys-tem was introduced from 11th October and was in operation till the work was virtually closed finally on the 19th idem.	.....	

APPENDIX P.

Statement showing the daily average numbers of men, women and children among relief workers in the last week of each month.

District.	Last week of December 1896.				Last week of January 1897.				Last week of February 1897.			
	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.
Sholapur ...	17,065	19,809	9,454	46,328	19,398	24,739	11,728	55,865	24,156	30,191	15,794	70,141
Ahmednagar ...	36.84	42.76	20.40	...	34.72	44.28	21.00	...	34.44	43.04	22.52	...
Poona ...	5,594	7,915	2,713	16,222	9,991	15,317	6,546	31,854	18,397	27,648	12,558	58,603
Nasik ...	34.40	48.79	16.72	...	31.37	48.08	20.55	...	31.40	47.18	21.42	...
Satara ...	3,781	5,050	1,421	10,252	6,060	7,510	3,504	17,074	5,498	6,451	3,565	15,514
Khândesh ...	36.88	42.26	18.86	...	35.49	43.29	20.52	...	35.44	41.58	22.98	...
Bijapur ...	4,424	5,607	2,377	12,408	6,983	8,707	3,600	19,290	7,966	10,286	4,609	22,861
Dhârwar ...	35.65	45.19	19.16	...	36.20	45.13	18.67	...	34.84	45.00	20.16	...
Kolaba ...	5,706	3,296	2,286	11,288	7,291	6,397	4,518	18,206	10,883	8,224	6,089	25,196
	50.55	27.20	20.25	...	40.05	35.14	24.81	...	43.19	32.64	24.17	...
	...	...	...	878	4,462	7,967	3,988	16,417	6,043	10,883	6,198	23,130
	...	...	...	...	27.18	48.53	24.29	...	26.13	47.07	26.80	...
	11,332	17,703	9,280	38,315	14,268	24,908	19,106	58,282	15,085	24,916	15,672	55,673
	22.58	46.23	24.19	...	24.48	42.73	32.79	...	27.10	44.75	28.15	...
	563	802	437	1,802	404	838	583	1,915	790	1,283	978	3,051
	31.24	44.51	24.25	...	25.80	43.76	30.44	...	25.30	42.05	32.05	...
	550	504	225	1,279	885	722	125	1,732	...	...	...	...
	43.00	39.40	17.60	...	51.10	41.69	7.21	...	...	...	...	...
	...	...	...	...	...	...	...	...	...	...	...	...
	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	49,015	60,686	28,193	138,772	60,832	97,105	53,698	220,635	88,818	119,888	65,463	274,169
	35.95	43.73	20.32	...	31.65	44.01	24.34	...	32.40	43.72	23.88	...

NOTE.—The figures in italics show the percentage of the numbers in each class to the total number of workers.

APPENDIX P—continued.

District.	Last week of March 1897.				Last week of April 1897.				Last week of May 1897.			
	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.
Sholapur ...	26,440	32,747	19,447	78,634	30,330	38,425	23,313	92,068	27,316	34,476	21,216	83,008
	33.62	41.65	24.73	...	32.94	41.74	25.32	...	32.91	41.53	25.56	...
Ahmednagar ...	18,931	27,731	12,161	58,823	17,817	25,999	11,620	55,436	14,112	20,206	10,061	44,379
	32.18	47.15	20.67	...	32.14	46.90	20.96	...	31.73	45.53	22.68	...
Poona ...	4,076	4,731	2,126	10,933	6,411	8,950	4,602	19,963	7,110	9,997	5,243	22,350
	37.28	43.28	19.44	...	32.11	44.83	23.06	...	31.81	44.73	23.46	...
Nasik ...	7,799	9,818	4,189	21,806	7,019	9,051	3,664	19,734	6,396	8,046	3,459	17,901
	35.77	45.02	19.21	...	35.56	45.89	18.55	...	35.73	44.95	19.32	...
Satara ...	10,959	10,516	6,984	28,759	7,783	7,588	5,268	20,639	3,105	3,859	2,514	9,478
	33.10	37.61	24.29	...	37.71	36.77	25.52	...	32.76	40.72	26.52	...
Khândesh ...	8,165	12,944	7,799	28,908	6,833	9,858	5,596	22,287	4,915	8,110	4,616	17,641
	28.24	44.78	26.98	...	30.66	44.23	25.11	...	27.86	45.97	26.17	...
Bijapur ...	14,693	24,548	15,203	54,444	14,518	24,079	15,007	53,604	13,093	20,103	12,670	45,866
	26.99	45.08	27.93	...	27.08	44.92	28.00	...	28.55	43.83	27.62	...
Belgaum ...	1,280	2,151	1,691	5,122	2,362	3,973	3,116	9,451	2,422	3,923	3,324	9,669
	25.00	41.99	33.01	...	24.99	42.04	32.97	...	25.05	40.58	34.37	...
Dhârwar ...	168	316	127	611	94	153	26	273	228	322	62	612
	27.49	51.72	20.79	...	34.43	55.05	9.52	...	37.26	52.61	10.13	...
Kolaba ...	...	...	...	...	...	...	...	...	147	108	43	298
	...	...	...	...	...	...	...	...	49.33	36.24	14.43	...
Total ...	92,511	125,802	69,727	288,040	93,167	128,076	72,212	293,455	78,844	109,150	63,208	251,202
	32.12	43.67	24.21	...	31.75	43.64	24.61	...	31.39	43.45	25.16	...

NOTE.—The figures in italics show the percentage of the numbers in each class to the total number of workers.

APPENDIX P—continued.

District.	Last week of June 1897.				Last week of July 1897.				Last week of August 1897.			
	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.
Sholapur ...	24,999 33-13	31,507 41-75	18,957 25-12	75,463 ...	28,239 34-93	34,171 42-27	18,436 22-80	80,846 ...	28,847 35-48	34,437 42-36	18,009 22-16	81,293 ...
Ahmednagar ...	10,673 32-94	14,589 45-02	7,144 22-04	32,406 ...	20,304 33-95	27,223 45-51	12,282 20-54	59,809 ...	17,328 35-07	22,254 45-03	9,839 19-90	49,421 ...
Poona ...	5,223 33-02	7,120 45-02	3,473 21-26	15,816 ...	3,869 35-44	4,728 43-31	2,320 21-25	10,917 ...	5,044 37-68	5,742 42-89	2,601 19-43	13,387 ...
Násik ...	3,879 36-58	4,872 45-94	1,853 17-48	10,604 ...	2,611 35-19	3,075 44-08	1,150 16-53	6,836 ...	1,406 38-40	1,651 45-10	604 16-50	3,661 ...
Sátára ...	2,476 31-79	3,249 41-71	2,064 25-50	7,789 ...	3,699 34-75	4,217 39-62	2,727 25-63	10,643 ...	2,377 33-82	2,815 40-05	1,836 25-13	7,028 ...
Khándesh ...	2,354 25-11	4,477 47-76	2,543 27-13	9,374 ...	2,330 25-03	4,116 45-51	2,538 23-26	8,984 ...	614 30-52	886 44-04	512 25-44	2,012 ...
Bijápur ...	15,358 26-25	25,793 44-07	17,373 29-68	58,524 ...	26,293 28-54	38,660 41-96	27,183 29-50	92,136 ...	35,858 30-19	48,524 40-84	34,424 28-97	1,18,806 ...
Belgaum ...	1,546 24-91	2,575 41-50	2,084 33-59	6,205 ...	3,566 25-81	5,401 40-61	4,832 32-58	13,299 ...	4,861 28-53	6,779 39-79	5,396 31-68	17,036 ...
Dhárwár ...	11 13-41	62 75-61	9 10-98	82 ...	554 26-19	1,263 59-72	298 14-03	2,115 ...	1,235 35-89	1,726 50-17	480 13-94	3,441 ...
Kolába ...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	66,519 30-76	94,244 43-58	55,500 25-66	216,263 ...	91,465 32-02	122,854 43-02	71,266 24-96	285,585 ...	97,570 32-95	124,814 42-13	73,701 24-89	296,085 ...

NOTE.—The figures in italics show the percentage of the numbers in each class to the total number of workers.

APPENDIX P—concluded.

District.	Last week of September 1897.				Last week of October 1897.				Last week of November 1897.				Last week of December 1897.			
	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.
Sholapur ...	25,208 35-18	30,468 42-52	15,978 22-30	71,654 ...	8,123 35-19	9,690 41-97	5,274 22-84	23,087 ...	2,692 34-63	3,333 42-87	1,749 22-50	7,774 ...	3,080 35-18	3,843 43-89	1,832 20-93	8,755 ...
Ahmednagar ...	25,779 34-07	34,779 45-96	15,109 19-97	75,667 ...	2,708 33-39	3,754 45-28	1,649 20-33	8,111 ...	...	...	...	...	...	...	...	...
Poona ...	5,730 37-85	6,513 43-02	2,897 19-13	15,140 ...	3,518 37-05	4,027 42-42	1,950 20-53	9,495 ...	...	...	...	4,660 ...	2,188 35-84	3,199 52-40	718 11-76	6,105 ...
Násik ...	1,141 41-06	1,286 46-28	352 12-66	2,779 ...	...	...	...	...	...	...	...	...	...	...	...	...
Sátára ...	3,686 35-10	4,238 40-37	2,575 24-53	10,499 ...	1,845 35-94	2,085 40-62	1,203 23-44	5,133 ...	...	...	...	...	...	...	...	...
Khándesh ...	311 25-98	530 44-28	356 23-74	1,197 ...	...	...	...	...	...	...	...	...	...	...	...	...
Bijápur ...	19,496 27-44	30,046 42-29	21,511 30-27	71,053 ...	1,183 25-01	2,072 45-55	1,293 28-44	4,548 ...	212 23-55	408 45-33	280 31-12	900 ...	134 17-18	393 50-39	253 32-43	780 ...
Belgaum ...	4,244 28-44	5,981 40-09	4,695 31-47	14,920 ...	656 33-33	959 48-73	353 17-94	1,968 ...	254 32-48	390 49-87	138 17-65	782 ...	254 35-88	336 47-45	118 16-67	708 ...
Dhárwár ...	797 31-89	1,333 53-34	369 14-77	2,499 ...	135 33-01	189 54-63	22 6-36	346 ...	...	...	...	...	...	...	...	...
Kolába ...	...	...	...	228 ...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	86,392 32-61	115,174 43-36	63,842 24-03	265,636 ...	18,168 34-49	22,776 43-22	11,744 22-29	52,688 ...	3,158 55-39	4,131 29-26	2,167 15-35	14,116 ...	5,658 34-60	7,771 47-53	2,921 17-57	16,348 ...

NOTE.—The figures in italics show the percentage of the numbers in each class to the total number of workers.

APPENDIX Q.

Statement showing the cost of extra Establishments employed in connection with the Famine in the years 1896-97 and 1897-98.

ESTABLISHMENTS.										REMARKS.
District.	3 Land Revenue.	11 Forest.	15 Post Office.	18 General Administration.	19 B. Jails.	20 Police.	24 Medical.	Total Establishment.		
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.		
Ahmednagar ...	22,660 10 5	(b) 17,059 10 11			125 10 10	8,657 8 8	4,452 7 3	35,896 5 2	(a) Salary of Mr. N. K. Thadnadar on duty under the Chairman, Executive Committee, I. F. Charitable Relief Fund. (b) Salary of Mr. Shuttleworth and his establishment. (c) In the Secretariat and the Accountant General's Office. (d) Includes the cost of establishment in the Office of the Sanitary Commissioner and salaries of extra Hospital Assistants. The correct cost of the latter cannot, however, be ascertained separately from those on account of the plague. (e) Includes item marked (d).	
Khândesh ...	986 9 7		.....	.....	797 6 1	16,641 15 3	1,147 13 0	19,523 11 11		
Násik ...	2,928 9 6		.....	.....	256 5 3	13,466 1 5	839 3 1	17,490 3 3		
Poona ...	5,559 2 5		.....	.....	.....	12,727 8 6	1,516 1 2	19,802 12 1		
Sátára ...	3,081 7 0		.....	.....	178 8 0	2,729 6 9	.....	5,987 5 9		
Sholápur ...	16,789 12 10		.....	.....	.....	14,268 12 6	2,100 4 1	33,158 13 5		
Belgaum ...	1,549 1 1		451 0 0	.....	.....	3,896 8 2	830 0 0	6,726 9 3		
Bijápur ...	22,513 2 11		.....	.....	.....	11,584 5 11	1,693 8 11	35,791 1 9		
Dhárwár ...	2,047 6 4		.....	.....	.....	189 15 0	.....	2,237 5 4		
Kolába ...	806 4 1		.....	.....	.....	1,222 14 1	.....	2,029 2 2		
Ratnágiri ..	.....	.....	.....	.....	23 12 3	.....	23 12 3			
Elsewhere ...	(a) 2,038 11 4	.....	(c) 14,264 1 7	.....	.....	(d) 1,535 5 4	(e) 34,897 13 2			
Total ...	80,910 13 6	17,059 10 11	451 0 0	14,264 1 7	1,355 14 2	85,408 12 6	14,114 10 10	2,13,564 15 6		

NOTE.—The cost of extra establishments employed in the Public Works Department is not shown in this Statement as that Department could not furnish the figures in time.

APPENDIX R.

Statement showing the numbers of persons receiving relief in Native States.

Native State and kind of relief.		January 1897.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Daily average during the entire period.	
Southern Maratha Country.	Relief workers	1,076	14,820	19,446	24,175	32,979	34,921	27,844	27,017	27,817	30,660	13,733	...	23,265	
	Dependants	3,808	8,808	6,657	8,981	12,774	14,413	11,129	12,321	12,788	15,004	5,893	...	9,553	
	Gratuitously relieved	138	138	235	457	608	1,732	2,322	3,777	4,302	5,844	3,478	...	2,155	
	Total daily average	5,022	14,818	26,136	33,613	46,014	51,066	41,295	43,045	46,407	51,508	23,106	...	34,973	
	Total units	10,044	29,630	758,598	641,164	1,610,490	1,429,568	1,156,360	1,506,575	1,299,396	1,442,224	808,710	...	...	
Malkot.	Relief workers	48	495	574	602	610	864	641	327	725	1,081	517	189	59	519
	Dependants	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Gratuitously relieved	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total daily average	68	495	574	602	610	864	641	327	725	1,081	517	189	59	519
	Total units	1,904	17,325	16,072	18,856	21,350	24,192	17,948	11,445	20,300	30,268	18,095	5,292	2,065	...
Malkot.	Relief workers	13	537	351	612	509	1,064	912	176	299	409	331	183	53	457
	Dependants	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Gratuitously relieved	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total daily average	13	537	351	612	509	1,064	912	176	299	409	331	183	53	457
	Total units	261	21,400	26,180	30,724	26,425	33,992	29,904	10,395	10,080	14,112	15,330	6,300	2,065	...
Malkot.	Relief workers	...	...	...	...	...	166	343	241	109	129	...	...	197	
	Dependants	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Gratuitously relieved	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Total daily average	...	...	...	...	...	166	343	241	109	129	...	...	197	
	Total units	...	...	...	...	...	4,648	12,005	6,748	3,052	4,515	...	...	...	
Malkot.	Relief workers	...	342	461	428	738	882	255	83	97	50	...	...	330	
	Dependants	...	58	218	145	264	373	10	...	...	...	...	...	100	
	Gratuitously relieved	...	9	30	39	97	108	42	69	289	172	20	...	77	
	Total daily average	...	359	709	620	1,079	1,363	307	152	886	222	20	...	507	
	Total units	...	12,565	11,452	19,852	21,780	30,212	38,164	10,745	4,356	9,408	7,770	560	...	
Malkot.	Relief workers	...	...	...	...	73	156	62	...	...	...	...	...	41	
	Dependants	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Gratuitously relieved	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Total daily average	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Total units	...	...	...	...	...	2,884	3,124	7,875	7,616	6,048	2,415	140	...	
Malkot.	Relief workers	1,157	16,172	21,213	25,850	33,917	37,540	28,210	29,165	32,356	14,764	372	112	21,040	
	Dependants	368	3,896	6,715	9,203	12,919	14,677	12,231	13,788	15,004	5,891	...	...	8,168	
	Gratuitously relieved	10	218	376	614	1,163	1,999	4,103	5,204	6,394	3,826	67	6	2,040	
	Total daily average	3,535	20,286	28,304	35,667	47,999	54,316	44,716	48,157	53,754	24,481	439	118	31,255	
	Total units	98,980	710,010	792,512	998,676	1,679,965	1,620,848	1,252,048	1,559,040	1,348,396	1,505,112	856,835	12,292	4,130	...

APPENDIX S.

Statement showing the total expenditure on Famine Relief.

1-4353
2-4353
9696

GOVERNMENT EXPENDITURE ON FAMINE RELIEF.								LOANS AND ADVANCES.						
	II.	III.	IV.	V.	VI.									
	Salaries and Gratuities of Officers.	Relief Works in charge of Civil Officers.	Relief Works in charge of Public Works Department.	Relief to people employed otherwise than on Relief Works.	Gratuities Relief.	Miscella- neous.	Total.	Expenditure incurred by District Local Boards on Famine Relief.	Expenditure incurred by Municipa- lities on Famine Relief.	Expenditure incurred out of the Indian Famine Char- itable Relief Fund.	Total Expenditure (Columns 8 + 9 + 10 + 11).	Under the Land Improve- ment Loans Act.	Under the Agriculturists Loans Act.	Total.
	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Sholapur ...	33,089	1,07,485	30,73,542	75,172	3,83,219	...	36,72,507	13,308	8,593	3,80,182	40,74,590	3,71,310	2,20,883	5,92,193
Ahmednagar ...	47,171	62,957	20,57,949	43,695	3,93,483	21	26,05,276	19,936	...	2,73,410	28,98,622	6,58,726	2,33,778	8,92,504
Poona ...	8,874	51,877	7,42,727	74,687	3,73,390	...	12,51,555	14,643	...	53,025	13,19,223	3,79,175	2,26,452	6,05,627
Satara ...	5,899	7,428	5,71,272	6,085	73,801	...	6,64,485	...	...	97,742	7,62,227	3,68,978	1,35,575	5,04,553
Nasik ...	3,047	7,020	6,29,321	1,340	40,094	...	6,80,828	19,105	18,667	60,562	7,79,162	1,53,425	49,799	2,03,224
Khandesh ...	3,654	1,56,593	3,66,071	3,955	41,013	1,707	5,72,993	25,556	...	86,000	6,84,549	1,62,671	93,830	2,56,501
Bijapur ...	44,080	53,030	24,06,986	1,41,232	2,28,580	171	28,74,079	11,635	13,752	4,25,528	33,24,994	9,31,400	4,06,955	13,38,355
Belgaum ...	8,904	5,000	4,07,517	53	23,042	448	4,44,967	5,384	17,259	8,247	4,75,857	4,08,550	26,539	4,35,089
Dhule ...	349	41	34,873	20,269	...	...	55,532	2,39,207	4,172	6,978	3,05,889	2,92,780	1,07,578	4,00,358
Kolaba ...	88	...	2,724	...	5,675	...	8,487	3,152	...	...	11,639	55,120	16,114	71,234
Total ...	1,55,155	4,51,440	1,02,92,982	3,66,488	15,62,297	2,347	1,28,30,709	3,51,928	62,443	13,91,674	1,46,36,752	37,82,135	15,17,503	52,99,638

(21)