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MADRAS RECORD OFFICE.

Government of Madras.

Public works DEPARTMENT.

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Letter from the Special Executive Engineer, Wynaad, to the Secretary to Government, Department Public Works, dated Wynaad, Luckady, 18th July 1867, No. 276:—

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2. I have been hitherto waiting for the skeleton map I indented for.

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Proceedings of the Madras Government, Public Works Department, 8th August 1867.

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Submits Report upon the various communications in Wynaad. } (Here enter 18th July 1867, No. 276.)

No. 201. ORDER THEREON, 8th August 1867, No. 2,410.

CIVIL WORKS, No. 28.

Ordered that these papers be forwarded to the Right Honorable the Secretary of State for India, with reference to his letter of the 24th December 1866, No. 24.

(True Extract.)

(Signed) J. H. M. SHAW STEWART, Major, R.E,

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There is also a branch road from Panamarum to Culpatty, turning off at the former place from the Manantoddy and Goodaloor road, and connecting it with that from the head of the Tambracherry ghaut to the Mysore frontier.

These constitute the Imperial lines of communications, which will each in turn be described in the following Report:—

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Report on the state of the communications in the Wynaad talook, with remarks on the climate, description of labour, and the difficulties encountered in the prosecution of Public Works, called for in G. O. No. 323, dated 1st February 1867.

WYNAAD DIVISION, MALABAR DISTRICT.

1. The Wynaad talook, bounded by the Coorg district on the north, the Neilgherry Hills on the south and south-east, the Mysore territory and the Western Ghauts respectively on east and west, being about eighty miles in length by fifty in breadth, is generally distinguished as North, South, and South-East Wynaad. No actual geographical or other boundaries mark out these divisions; but the distinctions are quite arbitrary, and generally recognized by the Post Office, from which the planters get their letters, or the Magistrate's Court, to which they bring their suits and plaints; Manantoddy, Vythery, and Goodaloor being the principal places in each division.

2. The chief outlet for the produce of North Wynaad lies through the Periah pass to Tellicherry; a minor ghaut, that of Cotiaddy, also taking some of the traffic.

The crops of South Wynaad are taken to Calicut, down the Tambracherry pass; and the Carcoor ghaut serves for the traffic of the south-east division.

Roads from the head of each of these places run very nearly due west to east to the Mysore frontier, a connecting line passing from Manantoddy, through the villages of Panamarum and Sultan's Battery, to Goodaloor and the Neilgherry Hills, parallel to, and at an average distance of twelve miles, from the frontier of Mysore, being continued on to Ootacamund by means of the Goodaloor ghaut, and passing near the Government Chinchona Plantations at Neddivuttum; a road is in course of formation to connect this route, at its other extremity, with the Coorg country, the line on that frontier being then taken up by the Mysore authorities.

Another road connects Manantoddy with Vythery and the Tambracherry ghaut, viâ Terriote; a bad line, which is of very little use to the district generally, and only serves for the few coffee plantations bordering on it here and there, the produce of which chiefly goes down the Tambracherry and Cotiaddy ghauts.

There is also a branch road from Panamarum to Culpatty, turning off at the former place from the Manantoddy and Goodaloor road, and connecting it with that from the head of the Tambracherry ghaut to the Mysore frontier.

These constitute the Imperial lines of communications, which will each in turn be described in the following Report:—

No. 1.—Periah Ghaut.

3. Following geographical order, I take, first, the Periah ghaut and the road from it to the Mysore frontier at Bowally.

When completed, this will be a very good road, and its construction has proved remarkably easy, but the approach to it from Manantoddy is, for the latter half, very bad, and will require extensive and costly alterations to make it a good road; and large sums will have to be paid to the proprietors of coffee estates for taking the altered line through their plantations, that being the only feasible direction to improve it.

I have not myself had time to examine the country sufficiently, but I learn that a line might have been taken, commencing near Dindimul, a point about ten miles nearer Manantoddy, which would have given an excellent trace for a new ghaut on a much easier gradient, than has been adopted, and would have avoided the bad approach. Making every allowance for the inaccuracies of the vague, general, and often random statements we have continually offered to us, I am of opinion that there is a likelihood of the above being pretty correct, as the configuration of the ground certainly looks favourable.

I have no doubt that the road would be more difficult of construction, and take a good deal longer; indeed it is a rare piece of good fortune to get a ghaut so easy to work, as the trace that Colonel Walker selected; nevertheless the old ghaut could, with a small supplement to the annual maintenance grant, have been put into such repair as would have answered all temporary purposes; all but the upper mile of it is even now in fair condition, and the worst would, with a few repairs, have compared favourably with the old Coonoor ghaut, along which carts have for many years been used, and which has so long been the only communication between the Neilgherry Hills and the Coimbatore district, from which the settlements on those hills derive their principal supplies.

To return to the new Periah ghaut, now in course of construction by Mr. K. F. Nordmann, the Assistant Engineer in charge of North Wynaad Range: it commences the descent from the same point as the old one, which it crosses four times; after finally leaving the latter, it goes down by a long spur, to a point on the road to Cannanore and Tellicherry, considerably beyond the foot of the old ghaut, and, by cutting off thereby a long bend, the length of the new road is but a couple of miles more than that of the old, although the average gradient of the one is about 1 in 18, and of the other 1 in 9. The general character of the work (as I have before said) is easy, comparatively little rock is encountered, the revetments required are not large, and there are no broad streams to be bridged; so far as the ghaut itself is concerned, there is little to be desired by way of improvement to the trace, the only pity is that the approach to its head is so bad. It was first commenced in December 1864; operations were suspended, in consequence of orders from Government, from 16th January 1866 until August of the same year, then resumed, and Mr. Nordmann hopes to have it open to a width of 12 feet before the monsoon; this, however, he does not feel certain about, but speaks with confidence of its completion to that extent in December of this year; I have doubts myself on the subject, as I fear the approaching monsoon will do a good deal of damage, and find out many soft parts of the work, necessitating repairs that must delay the opening; this, however, is a contingency, which in the case of all new roads, and especially ghaut roads, is generally to be expected in a climate such as this of the western coast. There will be all the more risk in this case, as with the object of opening up the road rapidly, the whole of the drainage has been carried over the road, instead of under it. The revetments are the parts I have the greatest misgivings about, as Mr. Nordmann (like the other Range Officers) has a subordinate establishment quite disproportioned to the extent of the works under his charge, and men entertained on the extra establishment are very seldom to be trusted to carry out work with that conscientiousness as to stability, so necessary on ghaut roads, in a climate like that of Malabar and Wynaad; as for the workpeople and Maistries, it is impossible for any thing to be worse; they will, one and all, take advantage of every moment when watchfulness is the least relaxed; not a man of them all feels the least real interest about, or pride in, the quality of the work he professes to do; nevertheless, for want of better we are compelled to trust somewhat, though as little as we can help, to this description of superintendence; neither the Range Officer nor his one Overseer can be omnipresent, and the natural consequence is "scamping work;" extensive monsoon damages; great loss of time and consequent inconvenience to the public, as well as a heavy expense to Government, far exceeding the salaries which would be well laid out for the services of a more numerous, and more efficient staff of subordinates.

The expenditure on this ghaut up to the end of January was Rs. 37,392-12-10, and up to the end of the official year Rupees 46,381-10-11, of which Rs. 27,460-2-0 were expended in 1866-67.

I would strongly recommend that, as soon as this ghaut is opened to a minimum width of 12 feet, operations should not be further pushed, but the expenditure limited to what can be done from the maintenance grants, and to such parts of the work absolutely necessary to ensure the security of the road. My reason for this is that in addition to the deficiency of proper superintendence, with so many other works going on in Wynaad, the supply of labour, at all times very limited, has too many demands on it and is unequal to them.

No. 2.—Road from head by Periah Ghaut to Manantoddy.

Leaving the Periah ghaut, the communication with Manantoddy is kept up by the road I have before alluded to; it is an old constructed line, and I believe, before the opening of the Periambady ghaut leading from Coorg to the coast, it formed part of the principal road from Mysore to Malabar.

The whole distance from the head of the ghaut to Manantoddy is twenty miles; it was once bridged and drained throughout, but both bridges and culverts have fallen into decay, and want re-building; part of the estimates for this purpose have been submitted and others are in course of preparation. The ten miles nearest to the head of the Periah ghaut consist of a series of ups and downs, exceedingly bad for cart traffic, with gradients in some places of 1 in 9, as bad as the old ghaut; it is absolutely necessary that the whole of this should be retraced, and also that considerable improvements should be made in the remaining portion of this road. Mr. Nordmann is of opinion that it would be better to retrace the whole from Manantoddy to Periah, but I myself consider that this would be a great and unnecessary expense. I think that, as soon as the Periah ghaut has been opened to a minimum of 12 feet, the improvement to the ten miles of this road nearest to it should be commenced, but not till then; always excepting of course such repairs as may

be absolutely necessary for keeping open the communication, in which category some of the bridges must be included. The expenditure on this road has been, till the end of the past official year, confined to maintenance grant; but an allotment of Rupees 5,800 appears in the Budget of the current year for building culverts.

No. 3.—Road from Manantoddy to Bowally. From Manantoddy to Bowally, length ten miles, is a continuation of the last described road; many parts of the old line were on very bad gradients, in fact almost prohibitory of cart traffic in the present day; though in former days, when bandymen were not so particular, plenty of use was made of it; even now, with the greater demands in quality of roads, it is not by any means impracticable. Mr. Nordmann has been engaged in improving various parts of the road where worst, and with the exception of the two miles nearest Bowally, very little difficulty now presents itself to the passage of carts. During the current official year of 1867-68, there is very little doubt but that the whole of the improvements will be completed. The expenditure up to the 31st of January was Rupees 1,358, and to the end of the official year Rupees 1,500; the allotment for the current year is Rupees 5,500.

No. 4.—From Manantoddy to Coorg frontier. The road from Manantoddy to the Coorg country is one particularly, and with much reason, desired by the planting community in the neighbourhood as a means of getting in supplies of grain, instead of depending for all they require on Mysore, which has also to meet the wants of both the other divisions of Wynaad, as well as a considerable share of the consumption on the Neilgherry Hills. Operations for the construction of this road were commenced in November 1865.

The whole of the trace has been cut out as a bridle-path, 4 feet wide; it commences at a point on the road from Manantoddy to Bowally, six miles distant from the former place, and its length is about ten miles; the construction will be easy, and the gradients good; four considerable streams will require bridging, but excellent foundations for piers and abutments present themselves, and there will be no difficulty in constructing these bridges. The road runs almost entirely through heavy timber jungle. Expenditure in 1865-66 was Rupees 1,033, in 1866-67 to the 31st January Rupees 3,239, and to the end of the official year Rupees 7,279. Besides the bridle-path before mentioned, two miles of the road have been widened to 12 feet, and one mile to 20 feet, with check and side-drains, it is in use throughout as a bridle-path. Mr. Nordmann expects that by the end of April next it will be opened to a minimum of 12 feet, but not permanently bridged—he gives until April 1870 for the final completion.

No. 5.—Manantoddy to Vythery, viâ Terriote. Road from Manantoddy to Vythery, viâ Terriote. It would be difficult to find a worse traced road than this, and that too when with the commonest intelligence a very tolerable line might have been obtained, passing through precisely the same general line of country, answering all the required purposes, on easy gradients, and very much shorter. Although with, I presume, the object not so much of connecting Manantoddy with Vythery, (for that is done viâ Culputty) as of passing through a country very well adapted for coffee cultivation, it was thought necessary to keep between the interior slopes of the western ghauts and the river that fulfils the part of the main drain to them, and to incur great expense owing to the number of bridges required by a road running across every feeding stream that brings the drainage down to the principal river, yet the proper line is so obvious to any one riding along the road, that it is quite disheartening to have anything to do with a work that is a discredit to every one who has anything to do with it. The fact is that so much money had been spent and wasted before the faults of the trace were recognized, and at the outset there was such a loud outcry for its speedy completion by some influential planters, who own properties on the line, that it would have required considerable boldness to have proposed to abandon what was acknowledged to be bad; and so, for some time past much good money has been thrown after bad, and will continue to be until time and a less pressure of work permit of the necessary alterations. However, being of opinion that it will for some years yet quite suffice for the requirements of the district, I would by no means advocate any extensive changes, as at present we have quite as many irons in the fire as we can look after. I intend, however, to propose one alteration near its Vythery end, which will reduce the distance to the head of the Tambracherry ghaut about three miles; properly speaking this will be no alteration, but an addition, cutting off a detour of nearly four-fifths of a circle. The work would only consist of widening out an existing present road belonging to a coffee estate, and building a bridge and two or three culverts; the actual new work would not be above a mile in length; moreover, it will necessarily form a portion of any future improvement of the whole line, which sooner or later will, I fancy, have to be undertaken. The entire length of this road, from Manantoddy to Vythery, is about thirty miles: I may safely say it need not have been more than twenty-five or twenty-six.

Up to the end of January last, the expenditure was Rupees 60,594, and since then, to 31st March, Rupees 63,146. Of eleven bridges on this line, four have been completed, four are in progress, and three not commenced. Of these last two are of 20 feet span each, and one of 40 feet. I have to add, that a portion of this road, viz., about five miles of the end nearest Manantoddy, was by direction of Colonel Walker, when Wynaad formed a part of his division, altered in such a manner that it will answer for the Imperial roads to Sultan's Battery and Culputty, and for the district road to the Cotiaddy ghaut viâ Korote. It is a very great improvement in every respect, avoiding a number of steep gradients and much low marshy ground; it is shorter both with respect to the Terriote and Sultan's Battery roads, and is also the commencement of a system, I hope to be able to extend, of making one road answer as many purposes as possible, thus decreasing first cost and economizing in the matter of future maintenance. One of the roads served in common with the Terriote road, by Colonel Walker's alteration, will be that from Manantoddy, viâ Panamarum to Culputty, and Sultan's Battery; for

No. 6.—Manantoddy to Panamarum. the former of which a trace has been made, and I hope to make use of most of this trace also for the road to Sultan's Battery; no expenditure beyond tracing has yet been incurred on this road. The old road to Panamarum runs very low, and close to the Manantoddy river, by which it is deeply flooded in heavy monsoon; near Panamarum the line is particularly low, after this road crosses a large unbridged

river and reaches Panamarum it divides into two branches, one to Sultan's Battery, and the other to Culputty; the commencement of both these roads is flooded during the monsoon, and the whole country is one vast sheet of water, communications being only kept up by boats, and sometimes entirely stopped; in 1865 no post could reach Manantoddy from Vythery for upwards of a fortnight.

No. 7.—Panamarum to Sultan's Battery. After emerging from this low ground the road to Sultan's Battery runs by somewhat steep gradients along a ridge, until it joins the Culputty and Sultan's Battery road, about two miles from the latter place; by an alteration, I propose to submit for approval, I expect to utilize the Culputty and Sultan's Battery road for some seven miles further, and have not more than about four or five miles of new road to make, in order to connect Panamarum, and by it Manantoddy to Sultan's Battery, all on excellent gradients, and coinciding for about seven miles with the Culputty and Sultan's Battery road at one end, and with the Panamarum and Culputty road at the other.

No. 8—Panamarum to Culputty. This latter only remains to complete the list of Imperial roads in North Wynaad; the greater part of it is very good, but near the Culputty end it is certainly as bad as it is possible for anything to be; in steepness it equals the worst parts of the old Tambracherry ghaut, whilst for foot-hold it is even worse; the new trace projected will avoid all this, and be a good road on easy gradients.

Vythery Range.

This is a new and a temporary Range, originally created by taking a part from each of the other two Ranges of Wynaad and adding the Tambracherry ghaut, formerly in Calicut Range; it is in reality just one line of road, extending fifty miles from the foot of the Tambracherry ghaut to the Mysore frontier, fourteen miles beyond Sultan's Battery, and comprises the communications of that part of the district known as South Wynaad.

The Imperial roads in the Vythery Range, although estimated for in various sections, actually are cut parts of one line; following, however, the Budget subdivision, they may be named as—

1. New road on Tambracherry ghaut.
2. Road from the head of the Tambracherry ghaut to Vythery.
3. Road from Vythery to Culputty.
4. Road from Culputty to Sultan's Battery.
5. Road from Sultan's Battery to the Mysore frontier.

Of these the whole have been retraced on easy gradients except No. 4, which has been left until the last, as it was comparatively a good road, in fact quite useable by carts, and only presenting two or three difficult ascents and descents; but I defer further particulars until I shall describe it in its regular order.

No. 9.—Tambracherry Ghaut. To commence with the Tambracherry ghaut, this work has been a long time in hand, but the difficulties encountered and those to be overcome are very great; they have been so often described that it is almost superfluous for me to go into a repetition, but when completed, I do think that Government will have no reason to consider the money or time expended have been unprofitably laid out, and that it will be a work which for solidity and permanence will bear comparison with anything yet constructed in this country.

It is, moreover, so centrally situated that I believe it will engross more than two-thirds of the whole traffic of Wynaad, and prove also the principal highway from the Mysore country to the western coast; it will certainly be necessary ultimately to widen it to the dimensions of a first class road; keeping this probability in view, I have taken care to have all work executed in the most substantial possible manner, so that once made there shall be no fear of any interruptions to traffic from damage done by rain or flood. It will also have a great advantage over both the Periah and Carcoor, in the very easy gradients of the roads forming approaches to its head. Commencing at Luckady, where the detachment of Sappers employed in its construction is stationed, it passes along the face of a steep precipice, out of the solid rock of which the road has to be cut; and the labour that has been required to obtain any foot-hold here may be imagined from the fact that,, to obtain a roadway of 9 feet in width, the rock has been scarped to a height varying from 20 to 30 feet in height. The enormous labour which would otherwise be required before the full breadth could be obtained is being lessened by cutting out a ledge below the level of the road and building up a strong revetment with the materials blasted from above. This is a stronger and more permanent mode of construction than what is sometimes adopted of supporting a revetment by bars of iron let into holes drilled in the rock, which at best can be regarded but as a temporary measure.

The great difficulties of the above nature met with in the construction of this ghaut continue more or less for nearly six miles of its length, of course not uninterruptedly, but I should say that the aggregate length of road formed by blasting and heavy revetment work cannot be less than two and a half miles. The amount of labour suitable for such work which can be procured, is very limited, and were it not for the valuable assistance of the Sappers, the ghaut could only be constructed at an enormous expense. It will yet take some time before the work will be thoroughly completed, but I confidently expect that will be sufficiently advanced to permit its use by carts before the end of the official year 1867-68. The entire length of the ghaut is seven and a half miles; the expenditure up to the 31st January was Rupees 70,362, and to the end of March Rupees 80,839. The carts belonging to the Public Works have for some time been able to carry up materials for five and a quarter miles of the ascent, but owing to there being no good halting place on the ghaut itself, I doubt if any use will be made of the road by native cart owners until it is open throughout, and the communication continued uninterrupted from Calicut to the Mysore country. The work on this ghaut has been carried out with rare good fortune, for in spite of the heavy and continual blasting operations we have never had a single serious accident from that cause, and only two of a fatal nature have taken place from any other.

The road leading from the foot of the Tambracherry ghaut to Calicut, though it does not actually form one of the communications in Wynaad, is so closely connected with those communications, that I feel myself at liberty to mention that it would be well if it were improved in many places, and metalled in some. During

wet weather it is nearly impassable for carts from the bad quality of its surface, all the repair appears to be done with laterite, and that of a soft description which works up into deep mud and does more harm than good.

No. 10.—Road from head of Tambracherry ghaut to Vythery, Culputty, Sultan's Battery, and Mysore frontier.

From the head of the Tambracherry ghaut the road runs pretty directly towards the Mysore country, passing through the principal villages of Vythery, Culputty, and Sultan's Battery. Its first section to Vythery is only about two and a quarter miles long, and from thence to Culputty, or more properly Chalapoyah, about six and a half more; the only two large rivers that have to be crossed are now being bridged: at Coonoth, by a bridge of 27½ feet high and of 3 spans of 40 feet each; at Culputty, by one of 30 feet high and 2 spans of 56 feet, both are to have masonry piers and abutments and timber superstructure, and both should be completed by the end of December next, when there will be nothing to prevent carts from plying throughout; indeed, there is no very serious difficulty even now during fair weather, my own carts constantly work along this road, as the ford over the Coonoth river is in no way bad, and a temporary bridge has been made over the Culputty river.

From Culputty or Chalapoyah the old road still forms the only communication, on this also the carts of the Public Works Officers have been used throughout this season; there are, however, several very bad gradients, and difficult places, which a new trace now in course of construction will do away with; the length of this trace will be about sixteen miles, the actual new part of it will not, however, exceed six or seven; it is expected to be open by the end of the official year so far as earthwork is concerned, and the rivers will be crossed by means of strong temporary bridges,

From Sultan's Battery to the Mysore frontier is a distance of twelve miles, the greater part of the road excellent, and the only obstacles two large rivers.

The bridging of these rivers was given out on contract to the firm of Messrs. Vertue, Minchin, & Co., and those gentlemen had agreed to complete the works by the end of this official year, 1867-68. Having found the work, however, much more difficult than in their inexperience of such matters they hold any conception of, and likely to turn out a serious loss, they have thrown up the contract; I am in hopes, however, of getting it taken up by another gentleman, who is a professional Engineer, and not so likely to fall into the mistakes which have led to Messrs. Vertue and Minchin not being able to work it at a profit.

A mistake about the true frontier line led to a good deal of labour being expended on work properly belonging to the Mysore authorities; the result being the construction of a strong temporary bridge and two and a half miles of road, which it appears are beyond our limits.

The superintendence and inspection of my own works have taken up too much of my time and attention for me as yet to personally satisfy myself of the state of the communications on the Mysore side of the frontier, or whether any thing is being done to connect Goondelpet with the road made up to, and beyond the Wynaad boundary; but if the work is not being proceeded with, I would beg respectfully to urge the advisability of its being represented to the Mysore Government, that till a good road has been made on their side our efforts will be utterly fruitless. If I might be permitted, I would also suggest the building of a good native chuttrum and second class travellers' bungalow for Europeans at the spot called Ooscotta, situated nearly midway between Sultan's Battery and Goondelpett. There is ample ground about there and excellent water, at present it is a long stage between the two places, thirty-five miles, and the want of a resting place is very much felt.

The expenditure on the whole line, from the Tambracherry ghaut to the Mysore frontier, including bridges, had, up to the 31st January 1867, amounted to Rupees 52,345; and up to 31st March, Rupees 60,433, but of this there is a sum of Rupees 3,346-11-11 expended on work within the Mysore limits, which I presume will be refunded.

I have every reason to expect that by the 31st March 1868 there will be nothing to prevent carts from plying throughout from Calicut to Goondelpett, so far as the works in this district are concerned.

South Wynaad Range.

There are two general lines, one from the foot of the Carcoor ghaut to Tippacadoo, and another crossing it from the Sultan's Battery to Goodaloor.

The former has been estimated for in three sections, viz., from Nadagany, the head of the Carcoor ghaut, to the foot of the latter, from Nadagany to Goodaloor, and from Goodaloor to Tippacadoo.

No. 11.—Carcoor Ghaut.

The first section of the Caroor ghaut is eleven miles in length, the gradient in no place exceeds 1 in 18, it is traced along a spur of the hills, and has no rivers to cross. There is not any considerable quantity of rock encountered, except in the third mile from the head, and again in the eighth mile, and the road, except in isolated places, is 18 feet wide. It is now passable throughout for carts, though a good deal of work yet remains to be done before the road can be pronounced safe and complete. The expenditure up to the 31st January was Rupees 47,448, and up to the end of the official year Rs. 51,046.

I believe the credit of tracing this ghaut belongs to Sub-Engineer, now Assistant Engineer and Honorary Captain, H. Bailey and the late Supervisor Campbell, and must have cost both much time and trouble. Situated as this ghaut is at the extreme corner, and the narrowest part of Wynaad, and a greater distance from the shipping ports, it is not one of such general utility as the other two, and I believe that the traffic on it will be limited. At present a good deal requires to be done to the roads leading from it to the coast, and until such improvements have been completed very little through traffic can be expected. Lieutenant Conningham, of the Royal Engineers, is the Officer now in charge, and he complains bitterly of the inferiority of his subordinate assistance; with a better class of this latter he could have had his work completed to the same extent, as now, a full year earlier, while the want of it has led to several failures in work which, had it been conscientiously supervised, ought not to have given way.

No. 12 —Head to Carcoor Ghaut to Goodaloor. The approach to the Carcoor ghaut is by the road from Goodaloor to Nadagany, eight miles long, the gradients are in many places much too steep, considerably more so than the ghaut; with the exception of the larger bridges, this road is completed, and traffic is kept up by means of good serviceable temporary bridges. The expenditure up to 31st January was Rupees 21,340, and up to the end of official year Rupees 27,305. Goodaloor itself is a scattered, unimportant collection of huts, rather unhealthy, and owes its existence to the necessity for a bazaar for the coffee estates; in the neighbourhood; a pass from it to Neddivuttum keeps up the communication between Wynaad and the Neilgherry Hills. The line to the Mysore country is continued on from Goodaloor to

No. 13 —Goodaloor to Tippacadoo. Tippacadoo, where it joins the main road from Bangalore to Ootacamund. With the exception of one or two places this trace is good, its length is eleven miles, and it has been for some time open for cart traffic, being completed with the exception of some of the masonry works. The expenditure on it up to 31st January was Rupees 36,706, and up to the end of the official year Rupees 38,382. There is a large traffic on this section of the road, bringing in supplies from the Goodaloor bazaar, and diverging in different directions, by cross roads, to various coffee estates.

No. 14.—Goodaloor to Sultan's Battery. The line from Goodaloor to Sultan's Battery remains to complete the list of communications in this range; about half of it has been made on a new trace, but I cannot say much in approval of what has been done, it is very steep, and still more circuitous, the natural consequence of taking the line over, I should say, about the highest saddle of the ridge between the two places it is intended to connect: the other half remains as it was. No expenditure has been incurred on it beyond maintenance for the last two or three years, and I would place the work on the same list as the Manantoddy and Terriote road as radically bad, and would recommend that, before proceeding with it, a more careful examination of the country should be made, to see whether it will not be a more judicious outlay of public money to spend it on an entirely new line, than on one that will never be satisfactory. It is a road also which does not pass through a country very favourable for coffee planting, and the traffic on it is almost *nil;* it appears to be scarcely used except by occasional travellers between North Wynaad and the Neilgherries. I propose, during the next working season, to carefully go over the whole of this part of the country, and satisfy myself as to which would be the most advisable direction in which to take this connecting link of all the Wynaad communications, its present unimportance makes a little delay of no consequence.

General Remarks.

Having gone in detail through the list of the various Imperial roads in Wynaad, I take permission to make a few general remarks, applicable to the state of labour, subordinate superintendence, description of works executed and matters connected therewith. A great deal has been said regarding the want of more rapid progress in supplying the requirements of the district in the way of practicable cart roads, and I would beg to point out that until the last four years the allotments for roads in Wynaad were very limited, and that just previous to that time there was a great influx of planters into the district, and very extensive increase was made in the amount of land brought under coffee cultivation: this naturally created strong competition for such labour as could be obtained, either in the locality or the neighbouring districts, and led not only to an almost reckless system of making advances to maistries and coolies, but to so much indulgence being shown to the latter in the matter of exacting a fair day's work, that the cooly soon learned his value, and any attempt to meet idleness by diminution of wages was at once encountered either by absconding without working out advances, or by going off to some other estate, where he was sure to be welcomed, and in all probability allowed more of his own way. A system like this, though it must have a serious effect on the profits of the planter, is attended with no results except such diminution, and I presume the margin is sufficiently large to allow it, and yet leave coffee planting a profitable undertaking; it could not, however, be tolerated in public work, without making all works enormously expensive, and so eating up the allotments of money for each year, with very little result to show for the expenditure; this evil must of course be still a good deal experienced, when, in order to reconcile the labourer to harder work, higher rates of pay are offered to him than he can get elsewhere, a necessity which cannot, under the circumstances, be avoided; nevertheless, higher rates of pay are not sufficiently successful to ensure us a supply of labour adequate to our wants, and without workmen it of course follows that progress must be slow. The cooly on the coffee estate gets five annas per day, and does pretty well as he likes, knowing he has his employer a good deal in his power; if the latter attempts to be strict, he at once gets a bad name, and will find his crop drying on the trees, and laying on the ground, for want of hands to pick it; he can therefore scarcely be blamed if he yields to circumstances. On the Public Works the cooly knows he must do as he is told, and that if he receives 7 or 8 Annas a day's wages, it is only on condition that he does a fair day's work; but, like the West Indian Negro, his wants are few, and he prefers an easy life to industry; if 5 Annas are sufficient to secure him the former, he does not care to earn more at a greater cost of exertion. Thus do we find our attempts to attract labour by higher pay not as successful as they might be. I have mentioned the system of advances, and of coolies absconding without working out what they may have received, this pernicious system has long been in full swing in Wynaad, and nothing can now be done without it. It is perhaps almost a legitimate item in coffee speculation that risk of such losses should be encountered, and the profits of the undertaking may fairly be charged with such risk; but Government have never admitted that principle in the matter of public work, and has always set its face against the system; in this, therefore, the Public Works Officer is at another disadvantage; he might, perhaps, by results plead justification, if he had any surety that his infringement of the rule would not be followed by the actual loss of the sums advanced, but this he has not. A very pressing demand has always been made by the coffee planting community for more stringent laws to regulate labour, but my own experience leads me to consider that the law as it now stands needs but very little alteration; and that it is the machinery for putting it into force that is defective: possibly a slight addition to the present law might be made with advantage, such, for instance, that the short imprisonment for taking advances, and then absconding, should not free the obligation to work them out; that the labourer should be punished for the offence in the first instance, and if he

still persists in his dishonesty, he should again be liable : but this, as well as all the clauses of the law, must remain a dead letter so long as the execution of a warrant is so great a rarity. Artizans and labourers engaged at a distance are generally so done by agency of a third person. Advances are asked, and with some show of reason, on the grounds that the workman must have funds for the support of his family during his absence; they are given; the recipient of the advance will sign a stamped receipt and agreement as stringent as it can be made (half a dozen of them if he is asked), he is so well aware of their little value that he seldom takes much interest in asking what he is signing; but either he never stirs from his village, or if he does come up to his work, he remains just so long as it suits him, or until he has found out some one else who, in return for his signature, will give him another advance. If the first employer thinks it worth while to pay a rupee for a warrant, the delinquent trusts either to being able to hide, or else, if found, a bribe to the peon will generally shut the latter's eyes, and the warrant remains unexecuted, until perhaps the employer accidentally finds out his whereabouts, and sends one of his own people to see the capture made. There are still other chances for the culprit, either some informality in the document he has signed, the leniency of the Magistrate, or else the desire of the employer rather to get the money back, or the work done, than to have him imprisoned; the law requires him to give security for the performance of the work if the employer insists on it, but in all probability the latter will yield to circumstances and waive that point rather than lose the advance: then comes the same thing over again. Even supposing imprisonment is inflicted, not unfrequently the labourer has counted the cost, and calculated whether it is worth his while to risk it. I have known instances where such people have taken advances from half a dozen employers, and never worked a day for one. It may very easily be conceived that when that system of swindling can be carried out, a mild sentence of imprisonment, which purges the offence, attended as it is by so many chances of being evaded, is scarcely a sufficient deterrent. The slight alteration which I ventured to suggest would, so far as the penalty goes, I believe be all that is required, and would be efficacious; but the reform that is really required is a greater certainty that warrants will be executed. I have entered at such length into this subject because it is one about which so much pressure has been brought to bear on Government, and on which my long residence in Wynaad has enabled me to collect every variety of opinion, and I have looked on it as equally affecting the interests of the planting community and of Government.

A very great hindrance to rapidity of progress exists from a cause much complained of by all Officers employed in Wynaad, viz., the deficiency of subordinate superintendence, I may say it is the chief obstacle. I have already touched on the subject, and merely now alludo to it in order to give it that prominence which I think it requires. It is this want that paralyzes all our exertions, large gangs of coolies are useless so long as the Range Officer has no one to look after their work, and no one on whom he can depend to carry out his orders; an untrustworthy man, as Acting Overseer, may show a good amount of work, but the chances are that wherever care is required as to stability, he has slurred it over, and the consequence is the failure of the work at the first trial to which it is subjected — loss of time, as well as money. I am convinced that a single Range Officer, with an Assistant, and a competent staff of subordinates, would do better than the present

establishment of a Superintending Officer and three Range Officers. The extra establishment in Wynaad, as a rule, is worse than useless, though it is the best to be obtained, for no one will take employment here who can get it elsewhere: and I believe that in spite of all possible vigilance on the part of the Range Officers, coolies are subject to oppression and fraud, which of course has the effect of driving them away from Government work, and getting the departmental employ a bad name.

Climate and high prices have, moreover, a certain effect in adding to our difficulties. I am not sure that the people we get as labourers care much for what we should consider comfortable lodgings; for if left to make their own arrangements, their mode of building is just the opposite to what we should adopt: ventilation they seem to have a horror of, and prefer to bring their roofs down as close to the ground as possible; but they certainly do not like to be continually shifting their quarters from place to place, as is absolutely necessary as a road progresses, and here the coffee estates compete with the public works at a great advantage; then again our work takes them away from the cleared localities, and frequently requires their living in out-of-the-way jungly places, where probably the water is bad, and fever more prevalent. It cannot be denied that many parts of Wynaad are extremely unhealthy, and certain classes of labourers appear more subject to sickness than others, carpenters and sawyers notably so; why this is I have been unable to discover, but results seem to establish the fact, indeed, lately it has been extremely difficult to get this description of artizan, nor can it be wondered at when the frightful mortality is known. One instance I brought to the notice of His Excellency the Governor on his late visit to Wynaad, that of a gang of sixteen sawyers engaged from the Cochin country by the Range Officer of North Wynaad. Thirteen of these died on the works of the Terriote road, and the remaining three crawled into Luckady, in a dying state, surviving but a few days. I don't know of any other case quite so bad as this, but in several others the mortality has been sufficiently great to account fully for the difficulty of getting men to face the risk, and to make one hesitate in purchasing progress at such a cost. I positively believe I am not coloring the case too highly, when I say that I believe there is not a single large wooden bridge on the road between Vythery and Manantoddy, in which each girder may not be said to have been put up at the average cost of a human life. Taken, therefore, solely as a point of humanity, I cannot but think that it is a question whether it is right to consult economy by persevering in building bridges of a material only to be procured at such a price. I have doubt also as to the true economy of the matter, apart from the above consideration, wood, always a perishable material, is more liable to decay in such a climate as this than it is under ordinary circumstances; and the constant repairs consequently required before very long make such bridges anything but cheap. If Government would approve of a large original outlay, I believe that ultimate saving would be effected by the adoption of iron in place of timber, and I should be very glad to receive directions to make the change, as I am sure the result would be satisfactory.

The above are some of the difficulties to be encountered in the execution of Public Works in Wynaad. I might add to them the frequent changes of

Range Officers, necessitated by sickness and other causes. I have myself been in Wynaad upwards of seven years, and in that time I have seen the Range Officers at Manantoddy changed no less than five times, and at this moment two out of three of the Range Officers are awaiting relief, unable any longer to serve in the district. It will readily be seen that such frequent changes must retard progress, in fact cause an entire dislocation in everything for the time being.

I have suggested two modes of accelerating progress: increase of efficient properly qualified subordinates, and change of material for bridges; I would have added working on the contract system, but that qualified contractors would not find it worth their while to take such contracts as we can afford to offer, while the experiment of giving out work to inexperienced hands, such as the planters, has proved a complete failure in cases where any thing beyond simple earth-work is concerned, and that description of work is one we have not much difficulty about. Wherever the contract system would be of real and effective assistance, the attempt has been eminently unsuccessful.

For masonry and other works the planters are unable to work within sixty per cent. of what we can do departmentally, and I believe that we could substitute iron for timber bridges at a less increase of cost, than by giving the latter out to such contractors as come forward with tenders, nor have they sufficient confidence in their powers of performing the work at all to bind themselves to any security as to time and other matters, usually made obligatory in all contracts.

I trust I shall be excused for having gone into more than the mere report on actual condition and progress of the communications in Wynaad called for from me, but the opportunity for bringing such points as I have gone into so seldom occurs, that I have been unable to resist the temptation of taking advantage of this one.

The report would have been sent in sooner, but that a very severe attack of illness interrupted me in the midst of the close personal inspection of the various works going on, by which I was procuring material for it; and since my recovery, the illness of the Vythery Range Officer has obliged me to undertake so much of his executive duties that I have not had much time on my hands for any thing else.

(Signed) R. B. KENNEDY, Captain,
Special Executive Engineer, Wynaad.

LUCKADY,
18*th July* 1867.

WYNAAD DIVISION.
MALABAR DISTRICT

Statement showing expenditure incurred on various lines of communication in Wynaad, to accompany Report from the Special Executive Engineer, Wynaad, dated —— 1867, called for in G. O. No 323, dated 1st February 1867

Works.	Amount of Estimate.	Number and date of sanction.	Expenditure up to 31st January 1867.	Expenditure during official year 1866-67	Expenditure up to 31st March 1867.	Remarks.
1	2	3	4	5	6	7
	Rs.		Rs.	Rs.	Rs.	
Periah Ghaut, new trace	78,000	G. O. No 1,947, dated 21st June 1866.	37,393	27,460	46,382	
Road from Manantoddy to Bowally... ...	10,000	G. O. No. 1,645, dated 23rd May 1866, and 280 of 1867-68.	1,358	1,509	1,509	Rupees 5,500 allotted in 1867-68.
Do. from do. to Coorg frontier	$\frac{5,000}{37,500}$	G. O No 26 A. 3,265 of 30th Oct. 1865, No. 2,570 of 16th Aug. 1866, No. 283 Budget of 1867-68.	4,272	6,246	*7,279	* Rupees 7,279 spent in 1865-66 and 1866-67 from Local Fund; but Rupees 17,500 is allotted in Imperial Fund Budget of 1867-68
Do. from do. to Vythery and Terriote. ...	60,600	G. O. No. 2,673, dated 23rd Aug. 1866.	60,594	21,691	63,146	No allotment during 1867-68.
Tambracherry Ghaut	1,46,413	G. O. No. 1,301, dated 12th May 1865.	70,362	20,000	80,839	Rupees 15,843 expended in Calicut Range.
Road from the head of the Tambracherry Ghaut to Vythery.	25,150	G. O. No. 3,471, dated 17th Nov. 1865.	17,034	7,790	17,595	
Road from Vythery to Culputty	41,400	G. O. No. 3,623, dated 14th Nov. 1866.	15,325	1,736	15,511	

Statement showing expenditure incurred on various lines of communication in Wynaad, &c.—*(Concluded)*

Works.	Amount of Estimate.	Number and date of sanction.	Expenditure up to 31st January 1867.	Expenditure during official year 1866-67.	Expenditure up to 31st March 1867.	Remarks.
1	2	3	4	5	6	7
	RS.		RS.	RS.	RS.	
Road from Culputty to Sultan's Battery ...	20,000	G. O. No. 3,763, dated 14th Dec. 1865.	1,962	782	2,069	
Do. from Sultan's Battery to Mysore frontier	30,000	G. O. No. 3,424, dated 26th Oct. 1866.	10,610	6,726	11,536	
Bridge over the Coonoth river	16,000	G. O. No. 3,471, dated 17th Nov. 1865.	7,414	4,800	10,152	
Kulputty Bridge	14,500	G. O. No 3,424, dated 26th Oct. 1866.	.....	3,570	3,570	
Carcoor Ghaut	1,07,400	G. O. No. 3,544, dated 23rd Nov. 1865.	47,448	15,929	51,016	
Carcoor Ghaut to Goodaloor	64,086	G. O. No. 1,807, dated 29th June 1865.	21,340	11,005	27,305	
Goodaloor to Tippacadoo	58,388	G. O. No. 1,807, do.	36,706	8,715	38,382	

LUCKADY,
18th July 1867.

(Signed) R. B. KENNEDY, Captain,
Special Executive Engineer, Wynaad.

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Special Executive Engineer's Office
Wynaad, Vaettiri P.O. 19th July 1867.

From

Captain R. B. Kennedy,
Special Executive Engineer
Wynaad.

To

The Secretary to Government, Madras

Sir,

I have the honor to submit the accompanying Statement called for in G. O. No. 823 dated 11th February 1867, and to state that the Road from Culputty to Sultan's Battery, the Road from Carcoor Ghaut to Goodaloor and Goodaloor to Tippacadoo, and such of the Bridges as are specified in the Statement are complete.

2. A Village Scheme has been sanctioned for the Wynaad Roads, under the Letter of the Chief Secretary to Government, No. [illegible] dated 15th instant.

I have &c.

(Signed) *R. B. Kennedy, Captain,*
Special Executive Engineer,
Wynaad.

Wynaad Division
Malabar District

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Report on the State of the Communications in the Wynaad Taluq, with Remarks on the climate, description of Labor, and the difficulties encountered in the prosecution of Public Works. called for in G.O. No 323 dated 1st February 1861

1. The Wynaad Taluq bounded by the Coorg District on the North, the Nilgherry Hills on the South and South-East, the Mysore Territory and the Western Ghauts, respectively on East and West, being about 80 miles in length, by 30 in breadth, is generally distinguished as North, South, and South-East Wynaad. No actual Geographical, or other boundaries, mark out these Divisions; but the distinctions are quite arbitrary, and generally recognized by the Post Office, from which the Planters get their letters, or the Magistrates Court, to which they bring their suits, and plaints; Manantoddy, Sultanbatty and Goodalore, being the principal places in each Division.

2. The chief outlet for the produce of North Wynaad, lies through the Perya Pass, to Tellicherry; a minor Ghaut, that of Velladdy, also taking some of the traffic.

The crops of South Wynaad are taken to Calicut, down the Vambaracherry Pass; and the Carcoor Ghaut serves for the traffic of the South.

South East Division

Roads from the Head of Coch

of these places run very nearly due West & East to the Mysore Frontier, a connecting Line passing from Manantoddy through the villages of Panamaram and Sultans Battery, to Goodalore and the Nilgiry Hills, parallel to, and at an average distance of 12 miles, from the Frontier of Mysore, being continued on to Cotacammud by means of the Goodalore Ghaut, and passing near the Government Cinchona Plantations at Neddivuttum, a Road is in course of formation to connect this Route, at its other extremity, with the Coorg country, the Line on that Frontier, being then taken up by the Mysore Authorities.

Another Road connects Manantoddy with Tyshery and the Tambrachery Ghaut, via Torrisha; a bad line which is of very little use to the District generally and only serves for the few Coffee Plantations bordering on it, here and there, the produce of which, chiefly goes down the Tambrachery, and Coliaddy Ghauts,

There is also a branch Road from Panamarum to Cullpally, turning off, at the former place, from the Manantoddy and Goodalore Road, and connecting it with that from the head of the Tambrachery Ghaut to the Mysore Frontier.

These, constitute the Imperial Lines of Communications, which will each in turn be described in the following Report.

3. Following Geographical order, I take first the Perian Ghaut, and the Road from it to the Mysore Frontier at Bowally.

When completed, this will be a very good Road, and its construction has proved remarkably easy, but the approach to it from Manantoddy is, for the latter half, very bad, and will require extensive, and costly alterations to make it a good Road; and large sums will have to be paid to the Proprietors of Coffee Estates, for taking the altered line through their Plantations, that being the only feasible direction to improve it.

I have not myself had time to examine the country sufficiently, but I learn that a line might have been taken, commencing, near Dundinnul, a point about 10 miles nearer Manantoddy, which would have given an Excellent Trace for a new Ghaut on a much easier gradient, than has been adopted, and would have avoided the bad approach: making every allowance for the inaccuracies of the vague, general, and often random

Random Statements we have Continually offered to us, I am of opinion that there is a likelihood of the above being pretty correct as the configuration of the ground certainly looks favorable.

I have no doubt that the Road would be more difficult of construction, and take a good deal longer, indeed it is a rare piece of good fortune to get a Ghaut so easy to work, as the Trace that Colonel Walker selected, nevertheless, the old Ghaut could, with a small supplement to the Annual maintenance Grant, have been put into such Repair as would have answered all temporary purposes; all but the upper mile of it, as even now, in fair Condition; and the worst would, with a few Repairs, have compared favorably with the old Coonoor Ghaut, along which carts have for many years been used; and which has so long been the only communication between the Neilgherry Hills and the Coimbatore District, from which the Settlements on those Hills derive their principal supplies.

To return to the new Peria Ghaut, now in course of construction by Mr. H. F. Nordmann, the Assistant Engineer in charge of North Wynaad Range; it commences the descent from the same point as the old one, which it crosses four times, after finally leaving the latter, it goes down by a long spur, to a point on the East to Cummanoor and Pollichory, considerably beyond the foot of the old Ghaut, and, by cutting off thereby a long bend, the length of the new Road is but a couple of miles more than that of the old, although the average gradient of the one is about 1 in 18, and of the other 1 in 9. The general character of the work (as I have before said) is easy, comparatively little Rock is encountered, the Revetments required are not large, and there are no broad streams to be bridged; so far as the Ghaut itself is concerned, there is little to be desired by way of improvement to the Trace; the only pity is, that the approach to its head is so bad. It was first commenced in December 1864; Operations were suspended in Consequence of Orders from Government from 16th January 1866, until August of the same year, then resumed, and Mr. Nordmann hopes to have it open to a width of 12 feet before the Monsoon; this, however, he does not feel certain about, but speaks with confidence of its completion to that extent in December of this year. I have doubts myself on the subject, as I fear the approaching Monsoon will do a good deal of damage, and find out many soft parts of the work, necessitating Repairs that must delay the opening; this, however, is a Contingency, which in the Case all new Roads, and

especially

especially Ghaut Roads, is generally to be expected in a climate such as that of the Western Coast. There will be all the more risk in this case, as with the object of opening up the Road, rapidly, the whole of the drainage has been carried over the Road, instead of under it, & the Revenues are the parks. I have the greatest misgivings about, as Mr. Nordman, (like the other Range Officers) has a subordinate Establishment, quite disproportioned to the extent of the works under his charge, and men entertained on the extra Establishment are very seldom to be trusted to carry out work with that conscientiousness as to stability, so necessary on Ghaut Roads, in a climate like that of Malabar, and Wynaad; as for the work people, and Maistries, it is impossible for any thing to be worse, they will, one, and all, take advantage of every moment when watchfulness is the least relaxed; not a man of them all feels the least real interest about, or pride in, the quality of the work he professes to do; nevertheless, for want of better we are compelled to trust somewhat, though as little as we can help, to this description of superintendence; neither the Range Officer, nor his one Overseer, can be omnipresent; and the natural consequence is, slumping work; extensive monsoon damages; great loss of time,

and consequent inconvenience to the Public; as well as a heavy expense to Government, for exceeding the Salaries, which would be well laid out for the services of a more numerous, and more efficient staff of subordinates.

The expenditure on this Ghaut up to the end of January was Rupees 37.392. 12 10 and up to the end of the Official year Rs. 46.381-10-11 of which Rupees 27.160-2-- were expended in 1866-67.

I would strongly recommend that, as soon as this Ghaut is opened to a minimum width of 12 feet, operations should not be further pushed, but the expenditure limited to what can be done from the Maintenance Grants, and to such parts of the work absolutely necessary to ensure the security of the Road. My reason for this is, that in addition to the deficiency of proper superintendence, with so many other works going on in Wynaad, the supply of labor, at all times very limited, has too many demands on it, and is unequal to them.

No 2.
Road from Periah Head by Periah Pass to Manantoddy.

Leaving the Coria Ghaut, the communication with Manantoddy is kept up by the Road I have before alluded to; it is an old constructed line, and I believe before the

the opening of the Perumbady Ghaut leading from Coorg to the Coast, it formed part of the principal Road from Mysore to Malabar.

The whole distance from the head of the Ghaut to Manantoddy is 20 miles; it was once ... bridged, and drained throughout, but both Bridges and Culverts, have fallen into decay, and want ... Rebuilding; part of the Estimates, for this purpose, have been submitted, and others are in course of preparation. The 10 miles nearest to the head of the Peria Ghaut consist of a series of ups and downs ... exceedingly bad for Cart traffic, with gradients in some places, as bad as the old Ghaut; it is absolutely necessary that the whole of this should be, Retraced, and also that Considerable improvements should be made in the remaining portion of this Road. Mr. Nordmann is of opinion that it would be better to Retrace the whole from Manantoddy to Peria, but I myself consider that this would be a great and unnecessary expense. I think that, as soon as the Peria Ghaut has been opened to a minimum of 12 feet, the improvement to the miles of this Road nearest to it should be commenced, but not till then; always excepting of Course, such repairs as may be absolutely necessary for keeping open the Communication, in which Category some of the Bridges must be included. The expenditure on this Road has been, to the end of the last Official Year, confined to Maintenance Grant; but an allotment of Rupees 5,800 appears in the Budget of the Current year for building Culverts.

No 3.
Road from Manantoddy to Bowaly.

From Manantoddy to Bowaly length 10 miles is a continuation of the last described Road; many parts of the old line were on very bad gradients, in fact almost prohibitory of Cart traffic in the present day, though in former days, when Bandymen were not so particular, plenty of use was made of it; even now, with the greater demands on quality of Roads, it is not by any means impracticable — Mr. Nordmann has been engaged in improving various parts of the Road where worst; and with the exception of the 2 miles nearest Bowaly, very little deficiency now presents itself to the passage of Carts. During the current Official Year of 1867.68, there is very little doubt, but that the whole of the improvements will be completed. The expenditure up to the 31st January was Rupees 1358— and to the end of the Official Year Rupees 1500—; the allotment for the current year is Rupees 5,500.

No 4
From Manantoddy to Coorg Frontier

The Road from Manantoddy to the Coorg Country is one particularly, and with much reason, desired by the Planting community in the neighbourhood as a means of getting in supplies of grain instead of depending for all they require on Mysore,

instead

instead of depending for all Stores, [illegible] which has also to meet the wants of both Eastern Division of Wynaad, as well as a considerable share of the consumption on the Neilgherry Hills. Operations for the construction of this Road were commenced in November 1865.

The whole of the trace has been cut out as a Bridle Path 4 feet wide, it commences at a point on the Road from Manantoddy to Sooloor 6 miles distant from the former place; and its length is about 10 miles, the construction will be easy, and the gradients good; four considerable streams will require bridging, but excellent foundations for Piers, and abutments present themselves, and there will be no difficulty in constructing these Bridges. The Road runs almost entirely through heavy timber jungle. Expenditure in 1865.66, was Rupees 1135—; in 1866-67 to the 31st January Rupees 3239—; and to the end of the Official year Rupees 7279—. Besides the Bridle Path before mentioned 2 miles of the Road have been widened to 12 Feet, and one mile to 20 feet, with Retrect, and Side Drains; it is in use throughout as a Bridle Path. The Landmarm Objects that by the end of April next it will be opened to a minimum of 12 feet, but not finished completely bridged Ravines until April 1870 for the final completion.

Road from Manantoddy to Vythery via Sooloor.

It would be difficult to find a worse traced Road than this, and that too when with the commonest intelligence a very tolerable line might have been obtained, passing through precisely the same general line of country, answering all the required purposes, on easy gradients, and very much shorter. Although, with I presume the object, not so much of Connecting Manantoddy with Vythery, (for that is done via Sultan's Bathery) as of passing through a country very well adapted for Coffee Cultivation, it was thought necessary to keep between the interior slopes of the Western Ghauts, and the River that fulfils the part of the Main Drain to Ocean, and to incur great expense owing to the immunber of Bridges required by a Road running across every feeding stream that brings the drainage down to the principal River, yet the proper line is so obvious to any one riding along the Road, that it is quite disheartening to have anything to do with a work, that is a discredit to every one who has anything to do with it. The fact is, that so much money has been spent, and wasted, before the faults of the trace were recognized, and at the outset there was such a loud outcry for its speedy completion, by

pp5

Manantoddy to Vythery via Sooloor

by some influential Planters who own properties on the Line, that it would have required considerable boldness to have proposed to abandon what was acknowledged to be bad, and so, for some time past, much good money has been thrown after bad, and will continue to, until time, and a few repairs & work, provid of the necessary alterations - However, being of opinion that it will for some years yet, suffice for the requirements of the District, I would by no means advocate any extensive changes, as at present, we have quite as many irons in the fire as we can work after. I instead, however, to propose one alteration near its Eytbery end, which will reduce the distance to the head of the Tambrachony Grant about 3 miles; in proposing this will be no alteration, but an addition, cutting off a detour of nearly four fifths of a circle, as shown in the accompanying sketch. The work would only consist of widening out an existing present Road belonging to a Coffee Estate, and building a bridge, and two or three culverts; the actual new work would not be above a mile in length; moreover, it will necessarily form a portion of any future improvement of the whole line, which sooner, or

later, will, I fancy, have to be undertaken. The entire length of this Road from Nuwarakoddy to Eytbery, is about 30 miles: I may safely say it will not have been more than 25 or 26.

Up to the end of January last the expenditure was Rupees 60594 - -, and since then to 31st March, Rupees 63146 - -. Of 11 Bridges on this Line, four have been completed, four are in progress, and three not commenced. Of these last two are of 20 feet span each; and one of 40 feet. I have to add, that a portion of this Road, viz about 5 miles of the end nearest Nuwarakoddy, was, by direction of Colonel Walker, when Agraad formed a part of his Division, altered in such a manner that it will answer for the Imperial Roads to Sultans Battery and Calpentty, and for the District Road to the Colliddy Ghaut via Karoke - It is a very great improvement in every respect, - avoiding a number of steep gradients, and much low marshy ground: it is shortly to be metalled with respect to the Peride and Sultans Battery Roads, and is also the commencement of a system, I hope to be able to extend, of making one road answer as many purposes as possible; thus decreasing first cost and economizing in the matter of future maintenance.

One

One of the Roads served in common with the ~~ground~~ Road, by Colonel Watkins, alteration, will be that from Manantoddy via Panamaram to Cullpully and the Sultans Battery; for the former of which a Trace has been made, and I hope to make use of most of this Trace also, for the Road to Sultans Battery: no expenditure beyond Tracing has yet been incurred on this Road. The old Road to Panamaram runs very low, and close to the Manantoddy River, by which it is deeply flooded in heavy Monsoons, near Panamaram. The line is peculiarly low, after this Road crosses a large unbridged River and reaches Panamaram, it divides into two branches, to Sultans Battery, and the other to Cullpully. The commencement of both these roads is flooded during the Monsoon, and the whole country is one vast sheet of water; Communications being only kept up by boats, and sometimes entirely stopped; in 1865, no post could reach Manantoddy from Tythory, for upwards of a fortnight.

After emerging from this low ground the Road to Sultans Battery runs by somewhat steep gradients, along a ridge, until it joins the Cullpully and Sultans Battery roads, about 2 miles from the latter place; by an alteration I propose to submit for approval, I expect to obtain the Cullpully and Sultans Battery Road for some seven miles further, and have not more than about 4 or 5 miles of new Road to make, in order to connect Panamaram, and by it, Manantoddy, to Sultans Battery, all on excellent gradients, and coinciding for about seven miles with the Cullpully and Sultans Battery Road at one end, and with the Panamaram and Cullpully Road at the other.

This latter only remains to complete the list of Imperial Roads in North Wynaad; the greater part of it is very good, but near the Cullpully end, it is certainly as bad as it is possible for anything to be; in steepness, it equals the worst part of the old Tambrachery Ghaut; unlike for foot hold, it is even worse, the new trace projected will avoid all this, and be a good Road on easy gradients.

Tythory Range.

This is a new and a temporary Range, originally created by taking a part from each of the other two Ranges of Wynaad, and adding the Tambrachery Ghaut, formerly in Calicut Range; it is in reality, just one line of Road extending 60 miles from the foot of the Tambrachery Ghaut to the Mysore Frontier, 14 miles beyond Sultans Battery, and comprises the communications of that part of the District ~~Kurcoor~~ as South Wynaad.

One of the Roads named in connection with the Panamaram Road, by Colonel Watkins, altration, will be that from Manantoddy via Panamaram to Cullpully, and Sultans Battery; for the former of which, a Traces has been made, and I hope to make use of most of this Trace also, for the Road to Sultans Battery; no expenditure beyond Tracing has yet been incurred on this Road. The old Road to Panamaram runs very low, and close to the Manantoddy River, by which it is deeply flooded in heavy Monsoons; near Panamaram, the line is particularly low, after this point crosses a large unbridged River and reaches Panamaram, it divides into two branches, one to Sultans Battery, and the other to Cullpully. The commencement of both these roads is flooded during the Monsoon, and the whole country is one vast sheet of water; Communications being only kept up by boats, and sometimes entirely stopped; in 1865, no post could reach Manantoddy from Tythory, for upwards of a fortnight

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No 7.
Panamaram to Sultans Battery

further, and have not more than about 4 or 5 miles of new Road to make, in order to connect Panamaram, and by it, Manantoddy, to Sultans Battery, all on excellent gradients, and coinciding for about seven miles with the Cullpully and Sultans Battery Road at one end, and with the Panamaram and Cullpully Road at the other.

This latter only remains to complete the list of Imperial Roads in North Wynaad; the greater part of it is very good, but near the Cullpully end, it is certainly as bad as it is possible for anything to be; in steepness, it equals the worst parts of the old Tambrachery Ghaut; unbuilt for foot hold, it is even worse, the new Trace projected will avoid all this, and be a good Road on easy gradients.

No 8
Panamaram to Tythory Range

Tythory Range.

This is a new and a Temporary Range, originally created by taking a part from each of the other two Ranges of Wynaad, and adding the Tambrachery Ghaut, formerly in Calicut Range; it is in reality, just one line of Road extending 60 miles from the foot of the Tambrachery Ghaut to the Mysore Frontier, 16 miles beyond Sultans Battery, and comprises the Communications of that part of the District known as South Wynaad.

No 9
Sultans Battery to Mysore Frontier

The Imperial Roads in the Tyttery Range although Estimated for in various sections, actually are but parts of one Line; following however the Budget subdivision, they may be named as.

1 New Road on Tambrachery Ghaut.
2. Road from the Head of the Tambrachery Ghaut to Tyttery.
3. Road from Tyttery to Cullpatty.
4. Road from Cullpatty to Sultans Battery.
5. Road from Sultans Battery to the Myesre frontier.

Of these the whole have been traced on easy gradients except No 4 which has been left until the last as it was Comparatively a good road in fact quite useable by carts and only presenting two or three difficult ascents and descents but I defer further particulars until I shall describe it in its regular order.

To commence with the Tambrachery Ghaut No 1. Tambrachery Ghaut

This work has been a long time in hand, but the difficulties encountered and those to be over come are very great; they have been so often described, that it is almost superfluous for me to go into a repetition, but when completed, I do think that Government will have no reason to Consider the money, or time expended, have been unprofitably laid out: and that it

which for solidity, and permanence, will bear Comparison with any thing yet Constructed in this Country.

It is moreover so Centrally situated that I believe it will engross more than two thirds of the whole Traffic of Wynaad, and prove also the principle highway from the Mysore Country to the Western Coast. it will certainly be necessary ultimately to make it to the dimensions of a first class Road. Keeping this probability in view, I have taken care to have all work executed in the most substantial possible manner, so that once made, there shall be no fear of any interruptions to Traffic from damage done by Rain or flood. It will also have a great advantage over both the Peria and Corcor in the very easy gradients of the Roads forming Approaches to its head. Commencing at Lucbadie where the Detachment of Sappers employed in its Construction is stationed it grapes along the face of a steep precipice, out of the solid rock of which, the Road has to be cut; and the Labor that has been required to obtain any foot hold here may be imagined from the fact that to obtain a Roadway of 9 feet in width the rock has been scarped to a height varying from 20 to 30 feet in height. The enormous Labour which would otherwise be required before the full breadth could otherwise be obtained is being Opened by Cutting out a ledge below the level of

of the Road and building up a strong Revetment with the materials blasted from above. This is a stronger and more permanent mode of Construction than what is sometimes adopted, of supporting a Revetment by bars of iron let into holes drilled in the rock; which at best, can be regarded but as a temporary measure.

The great difficulties of the above nature met with in the Construction of this Ghaut continue more or less for nearly six miles of its length; of course not uninterruptedly, but I should say that the aggregate length of Road formed by Blasting and heavy Revetment work cannot be less than 2½ miles. The amount of labour suitable for such work which can be procured, is very limited; and were it not for the valuable assistance of the Sappers, the Ghaut could only be constructed at an enormous expense. It will yet take some time before the work will be thoroughly completed, but I confidently expect that will be sufficiently advanced to permit its use by Carts before the end of the Official year 1867.68. The entire length of the Ghaut is 7½ miles; the expenditure up to the 31st January was Rupees 70.362. and to the end of March Rupees 80.839. The Carts belonging to the Public Works have for some time been able to carry up materials for 5¼ of the ascent, but owing to there being no good halting place on the Ghaut

Ghaut itself, I doubt if any use will be made of the Road by Native Cart owners until it is open throughout, and the Communication continued uninterrupted from Calicut to the Mysore Country. The work on this Ghaut has been carried out with rare good fortune, for in spite of the heavy and continual blasting operations we have never had a single serious accident from that cause; and only two of a fatal nature have taken place from any other.

The Road leading from the foot of the Tamarachorry Ghaut to Calicut, though it does not actually form one of the Communications in Wynaad, is so closely connected with those Communications that I feel myself at liberty to mention that it would be well if it were improved in many places, and metalled in some. During wet weather it is nearly impassable for carts from the bad quality of its surface. All the repairs appears to be done with Laterite, and that of a soft description which works up into deep mud, and does more harm than good.

10.

Road from head of Tamarachorry Ghaut to Bytury, Culpetty, Sultan's Battery and Mysore Frontier.

From the head of the Tamarachorry Ghaut the Road runs pretty directly towards the Mysore Country, passing through the principle villages of Bytury, Culpetty and Sultan's Battery. This first Section to Bytury, is only about 2½ miles long; and from thence to Culpetty, or more properly Chalapoyal

Chalapoyah, about 6½ more; the only two large Rivers that have to be roped are now being bridged; viz. Coonte by a Bridge of 27½ feet height, and of 36 spans of 40 feet each. at Cullusty by one of 30 feet high and two spans of 56 feet; both are to have Masonry Piers and abutments, and Timber superstructure; and both should be completed by the end of December next. When there will be nothing to prevent carts from plying throughout; indeed there is no very serious difficulty even now during fair weather; my own Carts constantly work along this Road, as the Ford over the Coonoth River is in no way bad, and a temporary bridge has been made over the Cullusty River.

From Cullusty or Chalapoyah the old Road still forms the only communication; on this also the carts of the Public Works Officer have been used throughout this season; there are however several very bad gradients, and difficult places, which a new trace, now in course of construction, will do away with; the length of this Trace will be about 16 miles, the actual new part of it will not, however, exceed six or seven; it is expected to be open by the end of the Official year, so far as earth work is concerned; and the Rivers will be croped by means of strong temporary bridges.

From Sultan's Battery to the Mysore Frontier is a distance of 12 miles, the greater part of the Road excellent, and the only obstacles 2 large Rivers.

The Bridging of these Rivers was given out on Contract to the firm of Messrs Forbes and Murchison & Co., and those Gentlemen had agreed to complete the works by the end of this Official year 1867-68. Having found the work, however, much more difficult, than in their experience of such matters they had any conception of, and being to turn out a serious loss, they have thrown up the Contract; I am in hopes, however, of getting it taken up by another gentleman who is a Professional Engineer, and not so likely to fall into the mistakes which have led to Messrs Forbes and Murchison not being able to work it at a profit.

A mistake about the true frontier line, led to a good deal of labour being expended on works in property belonging to the Mysore authorities, the result being the construction of a strong temporary bridge and 2½ miles of Road which it appears are beyond our limits.

The superintendence and inspection of my own works have taken up too much of my time, and attention, for me, as yet to personally satisfy myself of the state of the communications on the Mysore side of the Frontier, or whether any thing is being done

done to connect Goondelpett with the Road made upto, and beyond the Wynaad boundary, but if the work is not being proceeded with, I would beg respectfully to urge the advisability of its being represented to the Mysore Government, that till a good Road has been made on their side, our efforts will be utterly fruitless. If I might be permitted, I would also suggest the building of a good native Choultrum, and 2nd Class Travellers Bungalow for Europeans, at the spot called Coscotta, situated nearly midway between Cottanis Battery and Goondelpett. There is ample ground about there, and excellent water at present it is a long stage between the two places, 35 Miles. and the want of a resting place is very much felt.

The expenditure on the whole line from the Tumbrachenny Ghaut to the Mysore Frontier including Bridges, had upto the 31st January 1867 amounted to Rupees 52,345, and upto 31st March, Rupees 60,433. but of this there is a sum of Rupees 3346-11-11 expended on work within the Mysore limits, which I presume must be refunded.

I have every reason to expect that by the 31st March 1868 there will be nothing to prevent carts from plying throughout from Calicut to Goondelpett so far as the works in this District are concerned.

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South Wynaad Range.

There are two general lines one from the foot of the Carcoor Ghaut to Tipputtacadoo and another keeping all from Cottanis Battery to Goodalore. The former has been estimated in 3 sections viz: from Nadagany the head of the Carcoor Ghaut to the foot of the latter from Nadagany to Goodalore and from Goodalore to Tipputtacadoo

No 11

Carcoor 9½ Miles

The 1st Section the Carcoor Ghaut is 11 miles in length, the gradient in no place exceeds 1 in 18. it is traced along a spur of the Hills and has no rivers to cross. There is not any considerable quantity of Rock encountered except in the 3 mile from the head, and again in the 8th mile and the Road except in isolated places is 18 feet wide. It is now passable throughout for carts though a good deal of work yet remains to be done before the Road can be pronounced safe and complete. The expenditure upto the 31st January was Rupees 12331. and upto the end of the official year Rupees 15929.

I believe the credit of tracing this Ghaut belongs to Sub Engineer now Assistant Engineer and Overseer Mr. James M Bailey and the

The Sub Superviser Campbell and myself have cost both much time and trouble; Situated as this Chauk is at the extreme Corner and the narrowest part of Wynaad, and a greater distance from the Shipping Ports, it is not one of such general utility as the other two, and I believe that the Traffic on it will be limited. It's Ghaut a good deal requires to be done to the Roads leading from it to the Coast, and until such improvements have been completed very little Through Traffic can be expected.

Lieutenant Bonningham of the Royal Engineers is the Officer now in charge and he complains bitterly of the inferiority of his subordinate assistance, with a better class of this latter he could have had his work completed to the same extent as now a full year earlier, while the want of it has led to several failures in work which, had it been conscientiously supervised, ought not to have given way.

No 12.

The Approach to the Carcoor Ghaut is by the Road from Goodaloor to Nadagany 8 Miles long. The gradients are in many places much too steep Considerably more so than the Ghaut.

Road to Carcoor Ghaut

Ghaut with the exception of the larger Bridges, this Road is Completed, and Traffic is kept up by means of good Serviceable temporary Bridges. The expenditure up to 31st January was Rupees 21340 20430 and up to end of Official Year Rupees 27,305. Goodaloor itself is a scattered unpretentious Collection of huts, rather unhealthy, and was it's existence to the necessity for a Bungalow for the Coffee Estates in the neighbourhood a Sepoy from it no. Veddoocattum keeps up the Communication between Wynaad and the Nilgiris Hills. The line to the Mysore Country is Continued on from Goodaloor to Cherracadoo where it joins the main Road from Bungalow to Colacamund Distt. The exception of one or two places this Trace is good, its length is 11 Miles and it has been for some time open for Cart Traffic being Completed with the exception of some of the Masonry works. The expenditure on it up to 31st January was Rupees 36.706 7039 and up to end of the Official year Rupees 38.382 8715. There is a large Traffic on this Section of the Road bringing in Supplies from the Goodaloor Bungalow where diverging in different directions by rough Roads to

No 13.

Goodaloor to Cherracadoo

to various Coffee Estates.

The line from Goodalore to Cullens Ballory remains to complete the list of communications in this Range (about half of it has been made on a New Trace but I cannot say much in approval of what has been done; it is very steep and still more circuitous; the natural consequence of taking the line over I should say about the highest saddle of the Ridge between the two places it is intended to connect: the other half, remains as it was. No expenditure has been incurred on it beyond maintenance for the last two or three years, and I would place the work on the same list as the Marantoddy and Torriatte Road as radically bad, and would recommend that before proceeding with it a more careful examination of the Country should be made to see whether it will not be a more judicious outlay of public money to spend it on an entirely new line, than on one that will never be satisfactory. It is a Road also which does not keep through a Country very favorable for Coffee planting

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planting, and the traffic on it is almost nil. It appears to be scarcely used except by occasional travellers between North Wynaad and the Neilgherries. I propose during the next working season to carefully go over the whole of this part of the Country and satisfy myself as to which would be the most advantageous direction in which to take the connecting link of all the Wynaad Communications, the present unimportance makes a little delay of no consequence.

General Remarks

Having gone in detail through the list of the various Imperial Roads in Wynaad, I take permission to make a few general Remarks applicable to, the state of labor, subordinate Superintendence, description of works executed, and matters connected therewith. A great deal has been said regarding the want of more rapid progress in supplying the requirements of the District in the way of practicable cart roads, and I would beg to point out that until the last four years, the allotments for Roads in Wynaad were very limited, and that just previous to that time, there was a great influx of Planters into the District, and very

continuous

extensive increase was made in the Amount of land brought under Coffee cultivation: this naturally created strong competition for such labor as could be obtained, either in the locality, or the neighbouring Districts, and led not only to an almost reckless system of making advances to Tradsmen, and Coolies, but to so much indulgence being shown to the latter in the matter of exacting a fair days work, that the Cooly soon learned his value and any attempt to meet it even by diminution of wages was at once encountered either by absconding, without working out advances, or by going off to some other Estate where he was sure to be welcomed, and in all probability allowed more of his own way. A system like this though it must have a serious effect on the profits of the Planter is attended with no results except such diminution, and I presume the margin is sufficiently large to allow it, and yet leave Coffee planting a profitable undertaking; it could not however be tolerated in public work without making all works enormously expensive, and destroying the allotments of money for each year, with very little result to show for the expenditure; this evil must of course be still a good deal

that experienced, when, in order to reconcile the laborer to harder work, higher tasks & pay are objected to him than he can get elsewhere, a necessity which cannot under the circumstances be avoided; the certain & higher rates of pay are not sufficiently successful to ensure us a supply of labor adequate to our wants; and without work men it of course follows, that progress must be slow. The Cooly on the Coffee Estate gets 5 Annas per day, and does pretty well as he likes, knowing he has his employer a good deal in his power; if the latter attempts to be strict, he at once get a bad name, and will find his Cooly staying on the trees, and staying on the ground, for want of hands to pick it; he can therefore scarcely be blamed if he yields to circumstances on the Public Works, the Cooly knows he must do as he is told, and that if he receives 7 or 8 annas a day wages, it is only on condition that he does a fair days work, but, like the West Indian Negro, his wants are few, and he prefers an easy life to industry: if 5 Annas are sufficient to secure him the former, he does not care to earn

earn more at a greater Cost of exertion. Thus do we find our attempts to attract Labor by higher pay not as successful as they might be. I have mentioned the System of advances, and of Coolies absconding without working out what they may have received; this pernicious System has long been in full swing in Wynaad, and nothing can now be done without it. It is perhaps almost a legitimate item in Coffee speculation that risk of such losses should be encountered; and the profits of the undertaking may fairly be charged with such risk; but Government have never admitted that principle in the matter of Public Work, and has always set its face against the System; in this, therefore, the Public Works Officer is at another disadvantage; he might perhaps by results plead justification, if he had any surety that his infringement of the rule would not be followed by the actual loss of the sums advanced; but this he has not. A very pressing demand has always been made by the Coffee Planting Community for more stringent laws to regulate labor, but my own experience leads me to consider that the law as it now stands, needs but very little alteration; and that it is the machinery for putting it into

force, that is defective: possibly a slight addition to the present law might be made with advantage, such for instance, that the short imprisonment for taking advances and then absconding should not free the obligation to work them out; that the Laborer should be punished for the offence in the first instance; and if he still persists in his dishonesty, he should again be liable: but this, as well as all the clauses of the Law, must remain a dead letter, so long as the execution of a warrant is so great a rarity. Arrizans, and Laborers, engaged at a distance, are generally so done by agency of a third person; advances are asked, and with some show of reason, on the grounds that the workman must have funds for the support of his family during his absence; they are given, the recipient of the advance will sign a stamped Receipt, and agreement as stringent as it can be made, (half a dozen of them if he is asked) he is as well aware of their little value that he seldom takes much interest in asking what he is signing; but either he never stirs from his village, or if he does com-

mence

up to his work, he remains just so long as it suits him, or until he has found out some one else who, in return for his signature, will give him another advance: if the first employer thinks it worth while to pay a Rupee for a warrant, the delinquent trusts either to being able to hide, or else, if found, a bribe to the Peon will generally shut the latters eyes, and the warrant remains unexecuted, until perhaps the employer accidentally finds out his whereabouts, and sends one of his own people to see the Capture made: there are still other chances for the culprit, either some informality in the document he has signed, the leniency of the Magistrate, or else the desire of the employer rather to get the money back, or the work done, than to have him imprisoned: the Law requires him to give security for the performance of the work, if the employer insists on it, but in all probability, the latter will yield to circumstances and waive that point, rather than lose the advance: then comes the same thing over again. Even supposing imprisonment is inflicted, not unfrequently the laborer has costed the cost, and calculated whether it his worth his while

to resist it. I have known instances where such people have taken advances from half a dozen employers, and never worked a day for one; it may very easily be conceived that when that system of swindling can be carried out, a mild sentence of imprisonment which purges the offence, attended as it is by so many chances of being evaded, is scarcely a sufficient deterrent. The slight alteration which I ventured to suggest, would do far as the penalty goes, I believe be all that is required, and would be efficacious; but there is more than that is really required, is a greater certainty that warrants will be executed. I have entered at such length into this subject because it is one about which so much pressure has been brought to bear on Government, and on which my long residence in Wynaad has enabled me collect every variety of opinion; and I have looked on it as equally affecting the interests of the Planting Community, and of Government.

A very great hindrance to rapidity of progress exists from a cause, much complained of by all officers employed in Wynaad, viz: the deficiency of subordinate superintendence; I may say it is the chief obstacle, I have already touched

touched on the subject, and merely now alude to it in Order to give it that prominence which I think it requires; it is this want that paralyses all our exertions; large gangs of Coolies are useless so long as the Range Officer has no one to look after their work and no one on whom he can depend to carry out his orders: an untrustworthy man as Acting Overseer, may show a good amount of work, but the chances are that wherever care is required as to stability, he has skinned it over and the consequence is the failure of the work at the first trial to which it is subjected; esp of time, as well as money. I am convinced that a single Range Officer, with an assistant, and a competent staff of subordinates, would do better than the present Establishment of a Superintending Officer, and 3 Range Officers. The extra Establishment in Wynaad, as a rule, is worse than useless; though it is the best to be obtained; for no one will take employment here, who can get it elsewhere: and I believe that in spite of all possible vigilance on the part of the Range Officers, Coolies are subject to oppression and fraud which of course has the effect of driving them away from Government work, and getting the Departmental employ a bad name.

Climate and high prices have moreover a certain effect in adding to our difficulties; I am not sure that the people we get as labourers care much for what we should consider comfortable lodgings; for if left to make their own arrangements, their mode of building is just the opposite to what we should adopt; ventilation they seem to have a horror of, and prefer to bring their roofs down as close to the ground as possible; but they certainly do not like to be continually shifting their quarters from place to place, as is absolutely necessary as a road progresses; and here the Coffee Estates come in with the Public works at a great advantage; there again as soon as work takes them away from the cleared localities, and frequently requires their living in out of the way jungly places, where probably the water is bad, and fever more prevalent. It cannot be denied that many parts of Wynaad are extremely unhealthy, and certain classes of labourers appear more subject to sickness than others. Carpenters and sawyers notably so; why this is I have been unable to discover, but results seems to establish the fact: indeed lately it has been extremely difficult to get this description of artizan; nor can it be wondered at when the frightful mortality is known.

One

one instance I brought to the notice of His Excellency the Governor on his late visit to Wynaad. that of a gang of 16 sawyers engaged from the Cochin Country by the Range Officer of North Wynaad. 13 of these died on the works of the Torriole Road, and the remaining 3 crawled into Cochadie in a dying state, surviving but a few days. I dont know of any other case quite so bad as this. but in several others the mortality has been sufficiently great to account fully from the difficulty of getting men to face the risk; and to make one hesitate in purchasing progress at such a cost. I positively believe I am not coloring the case too highly, when I say that I believe there is not a single large wooden bridge on the road between Vythery and Manantoddy in which each girder may not be said to have been put up at the average cost of a human life - Taken therefore solely as a point of humanity, I cannot but think that it is a question whether it is right to consult economy by conservatism in building bridges of a material only to be procured at such a price; I have doubt also as to the true economy of the matter, apart from

from the above consideration, wood, always a perishable material, is more liable to decay in such a climate as this, than it is under ordinary circumstances; and the constant repairs consequently required, before very long make such bridges anything but cheap - If Government would approve of a large original outlay, I believe that ultimate saving would be effected by the adoption of iron in place of Timber, and I should be very glad to receive directions to make the change as soon as the result would be satisfactory.

The above are some of the difficulties to be encountered in the execution of Public Works in Wynaad. I might add to them the frequent changes of Range Officers necessitated by sickness and other causes. I have myself been in Wynaad upwards of 7 years and in that time I have seen the Range Officers at Manantoddy changed no less than five times and at this moment two out of three of the Range Officers are awaiting relief unable any longer to serve in the District It will readily be seen that such frequent changes must retard progress in fact cause an

entire

entire dislocation in everything for the time being.

I have suggested two modes of accelerating progress increase of efficient properly qualified subordinates, and change of Material for Bridges, I would have added working on Contract System, but that qualified contractors would not find it worth their while to take such contracts as we can afford to offer, while the experiment of giving out work to inexperienced hands, such as the Planters, has proved a complete failure in cases where anything beyond simple earth work is concerned; and that description of work is one we have not much difficulty about. Wherever the Contract System would be of real, and effective assistance, the attempt has been eminently unsuccessful.

For Masonry and other works the Planters are unable to work within sixty per cent of what we can do departmentally, and I believe that we could substitute Iron for timber bridges, at a less increase of cost, than by giving the latter out to such Contractors as come forward with tenders; nor have they sufficient confidence in their powers of performing the work at all, to bind themselves to any security as to time, and other matters usually made obligatory in all Contracts.

I trust I shall be excused for having gone into more than the mere Report on actual condition and progress of the Communications in Wynaad called for from me, but the opportunity for bringing such points as I have gone into so seldom occurs, that I have been

been unable to resist the temptation of taking advantage of this one.

The Report would have been sent in sooner, but that a very severe attack of illness interrupted me in the midst of the close personal inspection of the various works going on by which I was procuring material for it; and since my recovery, the illness of the Tytaleng Range officer has obliged me to undertake so much of his executive duties that I have not had much time on my hands for anything else.

Robt. G. Kennedy. Capt.
[illegible]

Approved
Ootacamund
15th July 1857

Wynaad Division
Malabar District

Statement shewing expenditure incurred on various lines of Communication in Wynaad to accompany Report from the Special Executive Engineer, Wynaad, dated 1867, called for in G.O. No. 323 dated 1st February 1867.

Works	Amount of Estimate	Number and date of Sanction	Expenditure up to 31st January 1867	Expenditure during Official year 1866-67	Expenditure up to 31st March 1867	Remarks.
1	2	3	4	5	6	7
Periah Ghaut to New Town.	78,000	G.O. No. 1947 dated 21st June 1866.	27.393	27.460	46.382	
Road from Manantoddy to Coorg Frontier	10,000	do No. 1645 dated 3rd May 1866. No. 280 of 1867-68.	1,358	1509	1,309.	Rs. 200 allotted in 1867-68
do from do to Coorg Frontier.	5000 37,600	do No. 2626 of 30th Oct. 1865 No. 2570 of 16th Oct. 1866 No. 283 Budget of 1867-68	4.272	6.246	7.279	*Rs. 7,279 Amount in 1865-66 and 1866-67 from Local Fund Imperial Rupees 17,560 is allotted in Imperial Fund Budget 1867-68.
do do to Tythery and Terriole	60,600	No. 2873 dated 23rd Nov. 1866.	60.594	21691	63.146	Bathalum Clearing 1867-68.
Tamboochery Ghaut	146.413	No. 1301 dated 12th May 1865	70.362	2000	80 839	Rs. 15,843 expended in Lieut Ranger.
Road from the Head of the Tamboochery Ghaut to Tythery.	25 150	do No. 3491 dated 17th November 1865	17.034	7790	17 590	

Works	Amount of Estimate	Number and Date of Estimate	Expenditure up to 31st January 1866	Expenditure during the year 1866-67	Expenditure up to 31st March 1867	Remarks
1	2	3	5	6	7	
Road from Tythery to Culpuddy.	41.400	No. 3623 d/14 November 66	15.325	1.736	15.511	
do. from Culpuddy to Sultans Battery	20.000	No. 3763 d/14 December 65	1.962	782	2069	
do. from Sultans Battery to Mysore frontier	30.000	No. 3422 d/26 October 1866	10.610	6726	11.536	
Bridge over the Coonoor River	16.000	No. 3471 d/17 November 65	7.414	4800	10.152.	
Culpuddy Bridge	14.500	No. 3424 d/26 October 66	"	3570	3570	
Carcoor Ghaut	107.400	No. 3544 d/23 November 65	47.448	15929	51.046.	
Carcoor Ghaut to Goodalore	64.086	No. 1807 d/29 June 1865	21.340	11.005	27.305	
Goodalore to Kiskacadoo	58.388	No. 1807	do	36.706	8.715	38.382.

Special Ex. Engineers office
Ryacaud, Dec. 1867

Robt. St. Kennedy Captain
Special Ex. Engineer

Public Works Department.

Sep 22/10

PROCEEDINGS of the MADRAS GOVERNMENT.

Under date the [illegible]

Read the following

From the Secretary to Govt. Public Works Department.

(Here enter No. 276 dated 18th July 1867.

Ordered that these papers be forwarded to the Right Honorable the Secretary of State for India with reference to his letter of the 24th Dec. 1866. No. 24.

To Captn Hennessy

Sept. 9/8/67

Rec'd 21/11

Read the letter from the Secretary of State for India in Council No. 24 dated 24th December 1866 forwarding a copy of a letter from the Government of India No. 276 dated 18th July 1867 with its enclosures on the subject of the Report of the Commissioners appointed to enquire into the causes of the failure of the Godavery Anicut.

Rec'd 8th August 67 No 200

P. W. 1867. Department.

Prof Cotlipse in August
No. 2410

Dated 8th August 1867

Forwarding to the Home Govt. the Report on Roads in Nyriaad submitted by the Special Executive Engineer.

No. 200-201