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MADRAS RECORD OFFICE.

Government of Madras.

Public works **DEPARTMENT.**

G.O. No. 1053 Press / Mis.

201-03

Dated 10-1 1870.

Not to be folded or roughly handled

No. 201. Read the following letter from the Consulting Engineer for Railway's, to the Secretary to Government, Public Works Department, dated Madras, 19th November 1869, No 382 —

In the Order of Government, dated 20th September 1869, No 3,063, I was directed to report upon the following points with reference to the Madras Railway.

(1.) The requirements of the Bangalore Branch in respect of wood fuel;

(2) The sources whence this supply is drawn at present,

(3) The cost of fuel at the different fuel stations on the main lines and on the Bangalore Branch, and —

(4) The prospect of a permanent supply of the quantity required for working the main lines and the Bangalore Branch.

2 In reply to that order, I have the honour to submit the accompanying letter * from the Agent of the Madras Railway, giving cover to a report from the Acting Locomotive Superintendent, in which the required information is embodied

*No 647, dated 11th November 1869

3. With reference to the first point, it will be seen that Mr Collinson estimates the present requirements of the Bangalore Branch at 7,049 tons of firewood per annum

4 As regards the sources of supply, it is stated that about 1,600 tons are obtained annually from the jungles near Poodoor, on the south side of the Branch; and that the remainder is drawn chiefly from the Amboor jungles in North Arcot, and partly from the Tripatore jungles in Salem

5 The present cost of firewood at the different fuel-stations on the Madras Railway is as follows, stated in round numbers :—

—	Names of Fuel stations	Number of miles distant from Madras	Cost of firewood					
			Per 1,000 lbs			Per Ton		
			Rs	A	P	Rs	A	P.
	South-West Line							
	Arconum	43	2	10	6	6	0	0
Private	Amboor*	113	1	10	0	3	10	0
Government	Vaniembaddy*	123	2	6	0	5	5	0
Do	Mullapoorum	180						
Do	Shevaroy Hills	192	2	2	0	4	12	0
Do	Salem	207						
	Erode	243	2	12	0	6	3	0
	Coimbatore	302	1	12	0	3	15	0
Private	Palghaut*	332	1	6	3	3	2	0
	North-West Line							
	Tripetty	84	2	2	0	4	12	0
Government	Ballapully*	97	1	14	0	4	3	0
Do	Coodoor*	109	2	2	0	4	12	0
	Cuddapah	162	2	12	6	6	4	0
	Condapoor	210	3	6	6	7	10	0
	Gooty	258	4	0	0	9	0	0
	Bangalore Branch.							
	Jollarpett	132	2	0	0	4	8	0
	Coopum	154	2	8	0	5	10	0
	Bangalore	217	4	0	0	9	0	0

The stations to which a cross (*) is prefixed are those to which firewood is brought direct from the jungles, and the word "Government" or "Private", denotes whether the jungles, from which each station is supplied, are the property of the State, or of private persons.

6 The prospect of obtaining a permanent supply of firewood in quantity sufficient for working the various lines of the Madras Railway is, I regret to say, very poor. With the exception of the extensive tracts of natural forest in the neighbourhood of Conjeeode and Palghaut, from which the western section of the South-West Line is supplied, the whole of the jungle in the immediate neighbourhood of the railway is fast disappearing. In most places, as Mr Collinson remarks, no sooner is the land partially cleared, than it is handed over to the ryots for cultivation, so that the sources of supply are decreased in size year by year In the few places where the partially cleared land is left to itself, the work of reproduction is far too slow to keep pace with the ever-increasing demand for firewood And the natural supply of firewood has not as yet been supplemented to any sufficient extent by artificial plantations In some districts small fuel reserves have lately been formed, but these are on a very limited scale, and from some cause or other they have hitherto been far from successful. With regard to the largest reserve near Walliar, it will be seen that Mr. Collinson states that the greater part of the wood now growing "is of a very porous description and quite unsuitable for use in locomotive engines." On the Bangalore Branch, so far as I can learn, no attempt at artificial planting has yet been made, though I observe that Mr Collinson states that the country adjoining the branch was examined two years ago by the Locomotive Superintendent in company with the Deputy Conservator of Forests for Mysore, and that about 1,300 acres of suitable land were selected

7. When addressing you lately,* I did myself the honour to press upon the notice of Government, the importance which I attached to the immediate formation of plantations and fuel reserves, upon a large scale, in those parts especially of the Presidency which are, or are likely to be traversed by railways. I need not again enlarge upon this subject, but it would be impossible to represent too strongly the urgent necessity, as it seems to me, for the measure. I am aware that the Conservator of Forests takes a different view, and considers that in place of attempting to form plantations equal in extent to the area of land which is now annually denuded, tramways should be constructed to reach the more distant forest tracts, and to penetrate further and further as denudation progresses Major Beddome proposes to confine planting operations to dry timberless tracts, such as that round Gooty, in which, however, he states they will be most expensive. I cannot say that this proposal commends itself to me as a provident or economic mode of meeting the difficulty.

* In letter No 117, dated 8th April 1869

8. Major Beddome requested me, a short time ago, to lay before the authorities of the Madras Railway a proposal to construct a tramway from Ballapully to the foot of the adjacent hills, and another from Palghaut or Coimbatore to the foot of the Annamallays The Agent and the Locomotive Superintendent stated in reply that they considered the proposal to be altogether premature, urging as an alternative measure the importance of replanting those tracts of natural jungle which lie near the Railway, as they are cleared This has always seemed to me a point of great importance, and in addition to the independent formation of large plantations, I beg to suggest the advisability of some check being placed upon the cultivation of natural jungle tracts lying near the lines of railway If not replanted, they should be conserved, and the process of reproduction assisted. I observe that in his letter to Government, dated the 1st June 1869,* the Conservator of Forests suggested that it would be advantageous to Government to lease certain tracts of forest belonging to Zemindars and others I trust that some measure of this kind will be adopted, if only with the view of bringing under some degree of control the felling operations in those forests, in which at present the work of destruction is carried on in a reckless and improvident manner.

* *Vide* G O, Revenue Department, 19th July 1869, No 2,093

From the Agent and Manager of the Madras Railway Company, to the Consulting Engineer for Railways, dated Madras, 11th November 1869, No 647

In accordance with the request contained in your letter of the 21st of September, No 454, arising out of Order of Government, No 3,063, dated the 20th September, I have the honour to enclose, for the information of the Government of India, a copy of a report† from the Acting Locomotive Superintendent, furnishing information with regard to the requirements of the Bangalore Branch in wood fuel, the sources whence the supply is drawn at present, the cost of fuel at different fuel stations of the main lines and the Bangalore Branch, and the prospect of a permanent supply to meet the requirements of the railway

† No 227, 10th November

2 Mr Collinson, you will perceive, advocates strongly the immediate formation of fuel reserves, contiguous to the line of railway, and as I have reason to believe that you concur with the Railway authorities in the expediency of such a step, will simply express a hope that the measure, involving important results to the railway, will have your countenance and support

3 You will not fail to observe that the seignorage paid to the Government during the ten months, ended October 1869, amounted to no less a sum than Rupees 40,582

From the Acting Locomotive Superintendent, to the Agent and Manager of the Madras Railway Company, dated Perambore Works, 10th November 1869, No 227.

I have the honour to forward the following reply to the Consulting Engineer's letter, No 454 of the 21st September, and to his reminder No 525 of the 21st October

2 The letter from the Officiating Secretary to the Government of India, to the Secretary to the Government of Madras, Public Works Department, (Railway,) dated the 8th September, (covered by the Consulting Engineer's first above quoted) asks for information on the following points —

(1) The requirements of the Bangalore Branch in wood fuel.
(2) The sources whence it is at present drawn
(3) Its cost at the different fuel stations, and,
(4) The prospect of a permanent supply

Information is also asked on the two latter points respecting the two (South-West and North-West) Main Lines of this railway

(1)—*The requirements of the Bangalore Branch in wood fuel.*

3 During the six months ending with August last, the miles run on the Bangalore Branch were 91 105, but the average is a little more, say 100 000 If this be multiplied by the average number of pounds of wood consumed per mile run over the whole railway during the three half-years ending the 30th of June last, and the product converted into tons, it follows that 3,524½ tons of wood fuel are required on the Bangalore Branch for every 100,000 miles run or 7,049 tons per annum

(2)—*The sources of supply*

4 The Government jungles on the south side of the Branch near Poodoor have hitherto furnished us with about 1,600 tons per annum, but the supply is uncertain, and, as the jungles on

the north side of the railway belong to the Zemindar of Congoondy, who, so far has declined to place them at our disposal, except upon terms to which at present it is not necessary to accede the balance required for the branch has been chiefly drawn from the Amboor jungles in the North Arcot Collectorate, and a small quantity from the jungles east of Tripatore

5 The wood fuel obtained from Amboor is conveyed by railway to Jollarpett, (the junction of the Bangalore Branch) where the greater part of it is put on the engines for consumption, a small portion being sent on by railway to the Fuel Depôts at Coopum and Bangalore

(3)—*Its cost at the different Fuel stations*

6 At Amboor it costs Rupees 1-10-0 per 1,000 lbs for running wood, and Rupees 1-7-0 for lighting wood, which is of a smaller size than that used for running The Company has not hitherto paid any seigniorage at this depôt directly, but indirectly, to a certain extent, it has done so through the contractors, who state that they pay the Village authorities for the wood they take from Government jungles, but this, as well as their other statement that they obtain the greater part of the wood from private jungles, is denied by the Collector of North Arcot, (Mr J D Robinson,) and he has, in consequence, placed an embargo upon a large quantity which they have delivered, but have not been paid for at this station Wood taken from Amboor to Jollarpett by train, costs Rupees 38 per train of 20 vehicles or including loading, unloading and supervision, about 6 annas per 1,000 lbs, assuming each vehicle to carry 8,000 lbs, so that the Amboor running wood costs the Company at Jollarpett, Rupees 2 per 1,000 lbs, at Coopum Rupees 2-8-0, and nearly Rupees 4 delivered at Bangalore

(4)—*The prospect of a permanent supply*

7 On the Branch itself, there is no prospect of a permanent supply The jungle near Poodoor is becoming exhausted, and will soon cease to afford the small quantity which it has hitherto done A supply might be obtained for a few years from the jungles belonging to the Zemindar of Congoondy, but, as already observed, he declines to accept the terms which have been offered to him

8 The jungles which have hitherto supplied Amboor, and thence the greater part of the wood consumed on the Branch are, I hear, being rapidly cleared, and the land put under cultivation, and, therefore, taking a review of all the sources whence the Branch has been, or is likely to be supplied, I am led to the conclusion that there is no prospect whatever of a permanent supply, unless very extensive reserves are planted wherever land is available contiguous to the line and suitable for the growth of firewood The natural forest in the neighbourhood of Amboor and Poodoor, comparatively dry districts, does not appear to be capable of re-producing itself sufficiently fast to meet our wants, even if it were allowed to do so, but, as stated above, the land around Amboor like that in the neighbourhood of Coodoor on the North-West Line (to which I directed your attention in my letter to your address, No 197 of the 8th ultimo,) is no sooner partially cleared than it is handed over to the ryots for cultivation

9 The point now under consideration is, you will perceive, a most important one It affects the future cost of working the Branch, and any extensions beyond Bangalore, to a very large extent In fact, unless planting operations be resorted to promptly, there can be no doubt that, within a few years, we shall have no alternative but to consume coal and coke much more largely than we have hitherto done

10 About two years ago, Mr Wright, in company with the present Deputy Conservator of Forests for Mysore and Coorg, (Lieutenant G J Vansomeren,) examined the country adjoining the Branch, north and west of the Colar Road Station, but, as there is no official record of their proceedings, I am unable, in Mr Wright's absence, to state positively what was the result of their proceedings I have heard that they selected about 1,300 acres of suitable land in places between Colar and Malloor, but I am afraid nothing further has been done in the matter

North-West Line

11 The cost of firewood at Coodoor with seigniorage is Rupees 2-2-0 per 1,000 lbs, train charges to Cuddapah raise it to Rupees 2-12-6, to Condipoorum, Rupees 3 6-6, to Ghooty, Rupees 4

12 The cost at Ballapully and thereabouts with seigniorage, is Rupees 1-1-0 per 1,000 lbs, taken southwards by train, to Tripetty, say 20 miles, it costs Rupees 2 2-0, to Arconum Junction, Rupees 2-10-6.

13 The supplies of wood fuel for this line are almost exclusively drawn from the jungles around Coodoor and Ballapully, it is taken thence north-wards to Ghooty, and south-wards to Arconum For all practical purposes it may be assumed that these are the only jungles on this line capable of meeting our requirements Hitherto they have done so, easily enough, and at reasonable rates, and there is still a large extent of forest, in a virgin state, upon which we can draw for some years, but if the land be put under cultivation as fast as it is cleared, instead of being, if not re-planted, carefully preserved, with the view of permitting the jungle to re-produce itself there can be no doubt that a time will come when the consumption of coal and coke will become unavoidable, and greatly increase our working expenses. This effect was strikingly shown in the first half of 1868, when, in consequence of the numerous fires which occurred on this line, Mr Wright ordered coal and coke to be burned instead of wood, commencing on the 18th of April. In his half-yearly Report to your address, No 38 of the 10th August 1868, he states that this caused "an addition of fifty per-cent to the expenses per mile run" As the line is opened out, the cost of working will, no doubt, exhibit even more unsatisfactory results than these if we should be driven to use only, or even chiefly, coal and coke, hauled at great expense from Madras The importance, even the necessity of planting large Fuel Reserves contiguous to this line, is, therefore, as apparent as I have shown it to be in connection with the Bangalore Branch I believe considerable tracts of land have been taken up north of Cuddapah, where the absence of wood is, and will be, most severely felt, and it is to be hoped that every exertion will be made by the Forest Department to have them planted as soon as possible

South-West Line

14. The wood used on the eastern division (between Madras and Jollarpett) is taken by the engines at Arconum, where, as shown above, it costs Rupees 2-10-6 per 1,000 lbs Its cost at Amboor has been already stated At Vaniembaddy it costs Rupees 2-6-0, and Rupees 2-2-0, (with seigniorage) for running and lighting, respectively At Mullapooram, Shervaroy Hills, and Salem, Rupees 2-2-0, and Rupees 1-14-0, (with seigniorage) for running and lighting, respectively At Coimbatore and Palghaut it is supplied entirely from private jungles, costing at the latter place, Rupees 1-6-3, and at the former, Rupees 1-12-0, including train charges from about Conjecode Erode is supplied from Coimbatore at Rupees 2-12-0

15 The wood stored at Arconum is brought exclusively from the Ballapully jungles, a distance of at least 60 miles Formerly we were able to purchase a small quantity drawn from the Zemindary of Cavetynuggar at about 23 miles from Arconum, and a larger quantity at Tripetty (also from private jungles), but we cannot do so now, as the wood merchants prefer sending all they procure from these sources to Madras for sale in the open market The jungles belonging to the Zemindary just named are extensive, and, growing mostly on land unsuitable for cultivation, they may again become available to us when the East Coast Canal is opened further north and a larger portion of the wood required for domestic purposes in Madras is thereby supplied, but at present, we must rely upon the Ballapully jungles

16 We obtain about 4,000,000 lbs and 2,000,000 lbs per annum at Vaniembaddy and Tripatore, respectively, but the supply is diminishing, and is brought in with increasing difficulty It is chiefly taken to Jollarpett and used by the engines housed at that station. About 2,000,000 lbs are yearly obtained at Mullapoorum for the supply of engines working between Jollarpett and Salem

17 The jungles between Mullapoorum and Salem have hitherto supplied our wants at the latter place, but the price is increasing, and will probably continue to increase, as the roads are bad, and the wood has to be carted a greater distance than formerly. Some reserves have been established hereabouts, which it is expected will hereafter become of service to us, but fears are expressed that the natural jungle will fail before this comes to pass.

Proceedings of the Madras Government, Public Works Department,
10th January 1870.

18 The whole of the Western Division is supplied from private jungles near Conjeeode, and there is no doubt that these will always be our chief reliance, because a large portion of the wood growing on the reserve established by the Forest Department at Walliar is of a very porous description, and quite unsuitable for use in Locomotive Engines, at least for running purposes It may, however, become firmer and more useful as it gets older.

19 The successive increases of the seigniorage during the last two years from six to ten annas, and lately to one rupee per 1,000 lbs, have affected the rates paid on this division, and besides it is evident, from circumstances which have come to my knowledge, that firewood is either becoming more Scarce, or its owners more indifferent to selling it

20. I append a statement showing the amount of seigniorage which the Company has paid directly into, or which is due at the Salem and Cuddapah Treasuries during the period which it embraces

Year	Salem Treasury			Cuddapah Treasury			
	RS	A	P	RS	A	P	
1866	1,315	14	6				
1867	8,175	0	7	11,791	6	6	
1868	11,127	6	1	13,851	8	4	
1869	8,439	5	6	32,143	0	8	Up to Oct 1869
Total ...	29,057	10	8	57,785	15	6	
Grand total .	86,843	10	2				

No. 202. ORDER THEREON, 10th January 1870, No. 105.

RAILWAY, No. 24.

ORDERED that this letter and its accompaniments be forwarded to the Government of India

2. Paragraphs 7 and 8 will be communicated to the Revenue Department, with reference to the orders in that department, dated 21st May and 19th July 1869, Nos. 1,436 and 2,093.

(True Extract)

(Signed) CHARLES A. ORR, Colonel, R E,

Secretary to Government.

No. 203. (Docket No. 106, dated 10th January 1870.)

COPY of the above forwarded to the Government of India, with reference to their letter, No. 409-F, dated 8th September 1869.

(True Extract)

Colonel, R.E,

Secretary to Government.

Exd. E. C Shunker

No. 647

4

MADRAS RAILWAY

AGENT AND MANAGER'S OFFICE

Madras, 11th November 1869.

From

R B Elwin Esqre,

Agent and Manager. of the M Rlwy

To

Major J Kelly Shaw Stewart RE

Consulting Engineer for Railways.

SIR,

In accordance with the request contained in your letter of the 21st of September, No 454, issuing out of order of Government, No 3063, dated the 20th September, I have the honor to enclose for the information of the Government of India, a copy of a report from the Acting Locomotive Superintendent furnishing information with regard to the requirements of the Bangalore Branch in wood fuel, the sources whence the supply is drawn at present, the cost of fuel at different fuel stations of the main lines and the Bangalore Branch, and the prospect of a permanent supply to meet the requirements of the railway.

227 – 10th November

2 Mr Collinson you will perceive advocates strongly the immediate formation of fuel reserves contiguous to the line of railway and as I have reason to believe that

you Concur with the Railway authorities in the expediency of such a step, will simply express a hope that the measure involving important results to the railway, will have your Countenance and support

3 You will not fail to observe that the Sergniorage paid to the Government during the ten months ended October 1869, amounted to no less a sum than Rs 40,582

I have the honor to be
Sir
Your most Obedient Servant

Agent and Manager -

MADRAS RAILWAY.

From

The Agent and Manager.

To

The Consulting Engineer

for Railways

Dated 11 November 1869.

Read 12. Ditto.

No 847.

Forwarding Copy of a) report from the Agent & Loco Superintendent with Reference to information called for regarding the requirements of the Bangalore Branch in wood fuel, the sources whence the same is drawn & supply at present obtained.

Madras Railway Company
Loco Superintendent's Office
Perambore Works 10th November 1869.

No. 227.

To

The Agent and Manager,

Dear Sir,

I have the honor to forward the following reply to the Consulting Engineer's letter No. 454 of the 21st September and to his reminder No 525 of the 21st October.

2 The letter from the Officiating Secretary to the Government of India to the Secretary to the Government of Madras P. W. D. (Railway) dated the 8th September (covered by the Consulting Engineer's first above quoted) asks for information on the following points.

1. The requirements of the Bangalore Branch in Wood Fuel.
2. The sources whence it is at present drawn.
3. Its cost at the different Fuel stations and,
4. The prospect of a permanent supply

Information is also asked on the two latter points respecting the two (S. W. & N. W.) Main Lines of this Railway.

1 The requirements of the Bangalore Branch in Wood Fuel

3. During the six months ending with August last the miles run on the Bangalore Branch were 91. 105, but the average is a little more, say 100. 000. If this be multiplied

by the average number of the aforesaid consumed per mile run over the whole Railway during the three half years ending the 30th of June last, and the product converted into Tons, it follows that 3024½ Tons of Wood Fuel are required on the Bangalore Branch for every 100,000 miles run, or 7049 Tons per annum

2. The sources of Supply

4. The Government Jungles on the South side of the Branch near Poodoor have hitherto furnished us with about 1600 Tons per annum, but the supply is uncertain, and, as the jungles on the North side of the Railway belong to the Zemindar of Congoondy, who, as yet, has declined to place them at our disposal, except upon terms to which at present it is not necessary to accede, the balance required for the Branch has been chiefly drawn from the Ambur jungles in the North Arcot Collectorate, and a small quantity from the jungles East of Tripatore.

5 The wood fuel obtained from Ambur is conveyed by Railway to Jollarpett (the Junction of the Bangalore Branch), where the greater part of it is put on the Engines for consumption, a small portion being sent on by Railway to the Fuel Depôts at Coosrum and Bangalore

3. Its cost at the different Fuel stations.

6. At Ambur it costs Rs 1.10.- per 1000 ℔ for Running wood, and Rs 1.7.- for Lighting wood, which is of a smaller size than that used for Running. The Company has not hitherto paid any seigniorage at this Depôt directly, but indirectly, to a certain extent, it has done so through the Contractors, who state that they pay the village authorities for the wood they take from Government Jungles, but this, as well as their other statement that they obtain the greater part of the wood from private jungles, is denied by the Collector of North Arcot (Mr J. D. Robinson), and he has in consequence placed an embargo upon a large quantity which they have delivered, but have not been paid for, at this Station. Wood taken from Ambur to Jollarpett by train costs Rs 38 per train of 20 vehicles, or including loading, unloading and superintendence, about 6 as per 1000 ℔, assuming each vehicle to carry 8000 ℔; so that the Ambur Running wood costs the Company at Jollarpett Rs 1 per 1000 ℔; at Coosrum Rs 2.8.-, and nearly Rs 4 delivered at Bangalore

4. The prospect of a permanent supply:

7. On the Branch there is no prospect of a permanent supply. The jungle near Poodoor is becoming exhausted, and will soon cease to afford the small quantity which it has hitherto done. A supply might be obtained for a few years from the jungles belonging to the Zemindar of Congoondy, but as already observed, he declines to accept the terms which have been offered to him.

8 The jungles which have hitherto

supplied Amboor, and thence the greater part of the wood consumed on the Branch, we, I hear, being rapidly cleared, and the land put under cultivation; and, therefore, taking a review of all the sources whence the Branch has been, or is likely to be, supplied, I am led to the conclusion that there is no prospect whatever of a permanent supply, unless very extensive reserves are planted wherever land is available contiguous to the Line and suitable for the growth of Firewood. The natural forest in the neighbourhood of Amboor and Baadoor - comparatively dry districts - does not appear to be capable of reproducing itself sufficiently fast to meet our wants, even if it were allowed to do so; but, as stated above, the land around Amboor, like that in the neighbourhood of Coodoor on the S.W. Line (to which I directed your attention in my letter to your address of the 8th ultimo) is no sooner partially cleared than it is handed over to the Ryots for cultivation.

9. The point now under consideration is, you will perceive, a most important one. It affects the future cost of working the Branch, and any extensions beyond Bangalore, to a very large extent. In fact, unless planting operations be resorted to promptly, there can be no doubt that, within a few years, we shall have no alternative but to consume Coal and Coke much more largely than we have hitherto done

10. About two years ago Mr Wright, in company with the present Deputy Conservator of Forests for Mysore and Coorg (Mr. J. D. Cameron) examined the country adjoining the Branch, North and West of the Solur Road Station, but, as there is no official record of their proceedings, I am unable, in Mr. Wright's absence, to state positively what was the result of their proceedings. I have heard that they selected about 7300 acres of suitable land in places between Solur and Mallur; but I am afraid nothing further has been done in the matter

North West Line.

11. The cost of Firewood at Baadoor, with Superintendence, is Rs 2.2 - per 1000 lbs; Train Charges to Cuddapah raise it to Rs. 2.12.6; to Candiputtanum Rs 3.6.6; to Ghooty Rs 4.

12. The cost at Bellapully and thereabouts, with Superintendence, is Rs. 1.14 - per 1000 lbs - taken Southwards by train, to Tripetty, say 20 miles, it costs Rs. 2-2-; to Arconum junction Rs 2.10.6.

13. The supplies of Wood Fuel for the Line are almost exclusively drawn from the jungles around Coodoor and Bellapully; it is taken thence Northwards to Ghooty, and Southwards to Arconum: For all practical purposes it may be assumed that these are the only jungles on this line capable of meeting our requirements. Hitherto they have done so, easily enough, and at reasonable rates, and there is still a large extent of Forest, in a virgin state, upon

which we can draw for some years, but if the land be put under cultivation as fast as it is cleared, instead of being refuse replanted, carefully preserved, with the view of permitting the jungle to reproduce itself, there can be no doubt that a time will come when the Consumption of Coal and Coke will become unavoidable, and greatly increase our Working Expenses. This effect was strikingly shown in the first half of 1868, when, in consequence of the numerous fires which occurred on the line, Mr Wright ordered Coal and Coke to be burned instead of Wood, commencing on the 18th of April. In his half-yearly Report to your address, of 38 of the 10th August 1868, he states that this caused "an addition of 50 per cent to the expenses per mile run". As the line is opened out, the cost of working will, no doubt, exhibit even more unsatisfactory results than these figures should be deemed to use only, or even chiefly, Coal and Coke, hauled at great expense from Madras. The importance, even the necessity of planting large Fuel Reserves contiguous to the line, is, therefore, as apparent as I have claimed it to be in connection with the Bangalore Branch. I believe considerable tracts of land have been taken up North of Cuddapah where the absence of Wood is, and will be, most severely felt, and it is to be hoped that every exertion will be made by the Forest Department to have them planted as soon as possible

14. The Wood used on the Eastern Division (between Madras and Tallapetta) is taken by the Engines at Arcaunum, where, as shown above, it costs Rs 2-10-6 per 1000 lbs. Its cost at Ambore has been already stated. At Vaniembaddy it costs Rs. 2-6- and Rs. 2-2- (with seigniorage) for Running and Lighting respectively; at Mullapoorum, Shevaroy Hills and Salem, Rs. 2-2- and Rs 1-14- (with Seigniorage) for Running and Lighting respectively: at Coimbatore and Palghaut it is supplied entirely from private jungles; costing at the latter place Rs. 1-6-3, and at the former Rs 1-12- including train charges from about Coyeeade Grade is supplied from Coimbatore at Rs 2-12-.

15. The Wood stored at Arcaunum is brought exclusively from the Ballapelly jungles, a distance of at least 60 miles. Formerly we were able to purchase a small quantity drawn from the Zemundary of Cauetungeur, at about 23 miles from Arcaunum, and a larger quantity at Tripetty (also from private jungles); but we cannot do so now, as the wood merchants prefer sending all they procure from these sources to Madras for sale in the open market. The jungles belonging to the Zemundars just named are extensive, and, growing mostly on land unsuitable for cultivation, they may again become available to us when the East Coast Canal is opened further North and a larger portion of the wood required for domestic purposes in Madras is thereby supplied;

but at present we must rely upon the Ballapully jungles

16. We obtain about 4,000,000 lbs and 2,000,000 lbs per annum at Vaniambaddy and Trifatore respectively; but the supply is diminishing, and is brought in with increasing difficulty. It is chiefly taken to Tellicherry and used by the Engines housed at that station. About 2,000,000 lbs are yearly obtained at Mullapooram for the supply of Engines working between Tellicherry and Salem.

17. The jungles between Mullapooram and Salem have hitherto supplied our wants at the latter place, but the price is increasing and will probably continue to increase, as the roads are bad, and the wood has to be carted a greater distance than formerly. Some Reserves have been established hereabouts, which it is expected will hereafter become of service to us; but fears are expressed that the natural jungle will fail before this comes to pass.

18. The whole of the Western Division is supplied from private jungles near Conjeeveram, and there is no doubt that these will always be our chief reliance, because a large portion of the wood growing on the Reserves established by the Forest Department at Vellore is of a very porous description and quite unsuitable for use in Locomotive Engines — at least for Running purposes. It may however become firmer and more useful as it gets older.

19. The successive increases of the Seigniorage during the last two years from six to ten Annas, and lately to one Rupee per 1000 lbs, have affected the rates paid on this Division; and besides this evident from circumstances which have come to my knowledge that firewood is either becoming more scarce or its owners more indifferent to selling it.

20. I append a statement showing the amount of Seigniorage which the Company has paid directly into, or which is due to, the Salem and Cuddapah treasuries during the period which it embraces.

Years	Salem Treasury Rs	as	p	Cuddapah Treasury Rs	as	p	
1866	1,315	14	6	"	"	"	
1867	8,175	"	7	11,791	6	6	
1868	11,127	6	1	13,857	8	4	
1869	8,439	5	6	32,143	8		up to Oct 1869.
Total	29,057	10	8	57,785	5	6	
	Grand Total						Rs 86,843-10-2

Yours faithfully
(Sd) W. J. Collinson
Ag. Loco. Supt

True Copy

Agent & Manager

Compotoom

Railway Department.

CONSULTING ENGINEER'S OFFICE,

No. 382.

From

Major J. H. M. Shaw Stewart R.E.
Consulting Engineer for Railways,

To

Colonel C. A. Orr R.E.
Secretary to Government,
Public Works Department,
Fort Saint George.

SIR,

In the order of Government dated the 20th September 1869, No. 3063, I was directed to report upon the following points with reference to the Madras Railway:—

(1) the requirements of the Bangalore Branch in respect of wood fuel;

(2) the sources whence this supply is drawn at present;

(3) the cost of fuel at the different fuel stations on the main lines and

on the Bangalore Branch; and,

(4) the prospect of a permanent supply of the quantity required for working the main lines and the Bangalore Branch. —

2. In reply to that order I have the honour to submit the accompanying letter from the Agent of the Madras Railway, giving cover to a report from the Acting Locomotive Superintendent in which the required information is embodied. × No. 647 dated 11th November 1869.

3. With reference to the first point, it will be seen that Mr. Collinson estimates the present requirements of the Bangalore Branch at 7,049 tons of firewood per annum.

4. As regards the sources of supply, it is stated that about 1600 tons are obtained annually from the jungles near Poodoor, on the south side of the Branch; and that the remainder is drawn chiefly from the Amboor jungles in North Arcot, and partly from the Trupatore jungles in Salem.

5. The present cost of firewood at the different fuel-stations on the Madras Railway is as follows, stated in round numbers:—

Names of fuel-stations.			Number of miles distant from Madras	Cost of firewood Per 1,000 lbs		Per ton	
				Rs	A	P	Rs	A	P
South-West Line:									
		Arconum	43	2	10	6	6		
Private	*	Amboor	113	1	10	3	10		
Government	*	Vaniembaddy	123	2	6	5	5		

tons

Government ※	Mullapooram	180	2 2	4	12
Government ※	Shevaroy Hills	192			
—Do— ※	Salem	207			
	Erode	243	2	12	6 3
	Coimbatore	302	1	12	3 15
Private ※	Palghaut	332	1	6	3 2
	North-West line				
	Tripetty	84	2	2	4 12
Government ※	Ballapelly	97	1	14	4 3
—Do— ※	Coodoor	109	2	2	4 12
	Cuddapah	162	2	12	6 4
	Coudepoor	210	3	6	7 10
	Gooty	258	4		9
	Bangalore Branch				
	Jollarapett	132	2		4 8
	Coopum	154	2	8	5 10
	Bangalore	217	4		9

The stations to which a cross (※) is prefixed are those to which firewood is brought direct

direct from the jungles; and the word "Government" or "Private" denotes whether the jungles from which each station is supplied are the property of the State, or of private persons.

6. The prospect of obtaining a permanent supply of firewood in quantity sufficient for working the various lines of the Madras Railway is, I regret to say, very poor. With the exception of the extensive tracts of natural forest in the neighbourhood of Conjeeode and Palghaut, from which the western section of the South-West line is supplied, the whole of the jungle in the immediate neighbourhood of the railway is fast disappearing. In most places, as Mr. Collinson remarks, no sooner is the land partially cleared than it is handed

over

over to the ryots for cultivation, so that the sources of "supply are decreased in size" year by year. In the few places where the partially cleared land is left to itself, the work of reproduction is far too slow to keep pace with the ever-increasing demand for firewood. And the natural supply of firewood has not as yet been supplemented to any sufficient extent by artificial plantations. In some districts small fuel reserves have lately been formed; but these are on a very limited scale; and from some cause or other they have hitherto been far from successful. With regard to the largest reserve, near Walliar, it will be seen that Mr. Collinson states that the greater part of the wood now growing "is of a very porous description and quite unsuitable

"unsuitable for use in locomotive engines".

On the Bangalore Branch, so far as I can learn, no attempt at artificial planting has yet been made; though I observe that Mr. Collinson states that the country adjoining the Branch was examined, two years ago, by the Loco-motive Superintendent in company with the Deputy Conservator of Forests for Mysore, and that about 1,300 acres of suitable land were selected.

7. When addressing you lately* I did myself the honour to press upon the notice of Government the im-portance which I attached to the im-mediate formation of plantations and fuel reserves upon a large scale in those parts especially of the Presidency which are, or are likely to be, traversed by

* In letter No. 117 dated 8th April 1869.

by railways. I need not again enlarge upon this subject; but it would be impossible to represent too strongly the urgent necessity, as it seems to me, for the measures. I am aware that the Conservator of Forests takes a different view, and considers that in place of attempting to form plantations equal in extent to the area of land which is now annually denuded, tramways should be constructed to reach the more distant forest tracts, and to penetrate further and further as denudation progresses. Major Beddome proposes to confine planting operations to dry timberless tracts such as that round Gooty, in which however he states they will be most expensive. I cannot say that

that this proposal commends itself to me as a provident or economic mode of meeting the difficulty.

8. Major Beddome requested me, a short time ago, to lay before the Authorities of the Madras Railway a proposal to construct a tramway from Ballapully to the foot of the adjacent hills, and another from Palghaut or Coimbatore to the foot of the Annamalle. The Agent and the Locomotive Superintendent stated in reply that they considered the proposal to be altogether premature, urging as an alternative measure the importance of replanting those tracts of natural jungle which lie near the railways, as they are cleared. This has always seemed to me a point of

of great importance; and in addition to the independent formation of large plantations I beg to suggest the advisability of some check being placed upon the cultivation of natural jungle tracts lying near the lines of railway. If not replanted, they should be conserved, and the process of reproduction assisted. I observe that in his letter to Government dated the 1st June 1869* the Conservator of Forests suggested that it would be advantageous to Government to lease certain tracts of forest, belonging to Zemindars and others. I trust that some measure of this kind will be adopted, if only with the view of bringing under some

* Vide G. O. Revenue Deptt 19th July 1869. No. 2093.

some degree of control the felling operations in those forests, in which at present the work of destruction is carried on in a reckless and improvident manner.

I have the honour to be,
Sirs,
your most obedient Servant.

Madras
19th November
1869

Major R. E.
Commr: Engineer for Railways

Pub: Works Dept:

No: 1054 R.

Proceedings of the Madras Government.
Under date the 10th September 1869.

Read the following

From the Consulting Engineer
for Railways, No: 3827/19 Novr 1869.

Ordered that this
letter and its accompani-
-ments be forwarded to
the Govt of India.

Paras 7 & 8 will be
communicated to the
Revenue Dept with reference
-rence to the orders in that
Dept dated 21st May
A. and 19th July 1869 Nos 1436
and 2093.

To The Consulting Engr for Rys
&c. Rev: Dept

Sept 17/11/69

Recd 10 Nov 1869

Copy of the
above

Pub: Works Dept: 1869 Dec 1st
Proceedings for January

RAILWAY DEPARTMENT.

No. 4 1869.

From

The Consulting Engineer
for Railways,

To

The Secretary to Government,
Public Works Department,
Fort Saint George

Dated 14th } November 1869
Received 22nd }

No. 382.

Nos 105 & 106 - Duplicate 2 Copies
Submitting a letter
from the Agent & Manager
of the S.I.R. Co'y, giving
cover to a report from
the Acting Loco: Supdt:
regarding wood fuel -

27 Novr 1869 R. 11 noon

above forwarded to the Govt of India with reference to their letter No 4097 dated 8th September 69

Desp 17/1/70.

Rec'd 27th Nov 1869 R. Hooper

Cne 4869

Govt. of {1869} Madras.

PUBLIC WORKS

To The Consulting Engineer for Railways

Dated

Read

G O 16th Jany 1870 Nos 105 & 106

Nos. 201-202 & 208.

Woodfuel &c/ Papers on the letter from the Govt furnishing certain information relative to the Requirements of the Bangalore Branch of the Madras Ry in respect of woodfuel. &c

Woodfuel a copy and Do. containing the information called for regarding the Requirements of the Bangalore Branch of the Madras Ry in respect of woodfuel, as forwarded to the Govt of India