

(1) Number of pages 42.(2) Date of repair 1-9-38.(3) Initials of the Referencer RP

MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No.	<u>466</u>	Press Mis.
Dated	<u>3-7-38</u>	<u>1858.</u>

Not to be folded or roughly handled

3RD JULY 1888, No. 467, REVENUE.

REVENUE DEPARTMENT.

LETTER—from

THE UNDER SECRETARY TO THE GOVERNMENT OF
FORT ST. GEORGE,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
HOME DEPARTMENT (JUDICIAL).

SIR,

I am directed to acknowledge the receipt of Mr. Macpherson's letter No. 180, dated 23rd April 1888, giving cover to an extract from a Despatch from the Right Honorable the Secretary of State for India, in which His Lordship draws attention to

Miscellaneous.

a statement of the Government of Bengal that Cinchona bark was produced on the Government Plantations in that Province at an expenditure of only $5\frac{1}{4}$ annas per pound, while in Madras the cost was as much as $10\frac{3}{4}$ annas.

2. I am, in reply, to point out, in the first place, that it is not clear how His Honor the Lieutenant-Governor of Bengal arrives at the rate of $5\frac{1}{4}$ annas; for, according to the Report for the year 1886-87, the cost would appear to have been 4 annas 9-4 pias per pound. This figure is obtained by dividing the sum (Rs. 67,438-13-0) which is said to represent the working expenses, by the number of pounds of bark collected during the year. The Madras rate of 10 annas 10 pias is arrived at in a similar way, but it is obvious that there may be many circumstances which render a comparison between figures so obtained altogether misleading.

3. In Madras the total working expenses include the full salaries of the Director (although he is also Government Botanist) and the Quinologist, all the expenses of the Quinologist's Department, and all sums expended by other Departments, such as that of Public Works, on account of the Plantations or the Quinologist. But in Bengal it appears to be the practice to keep the Factory accounts separate from those of the Gardens and to maintain a Capital as well as a Revenue account, and it is not clear whether the whole of the salaries of Dr. King and Mr. Gammie are included in the working expenses of the Plantations and Factory, respectively.

4. But even if uniformity as regards the items included in the expenditure upon the two sets of Plantations was found to exist, a comparison, based upon figures obtained by dividing the total expenses by the total yield of bark, would still be open to objection, for it is the alkaloidal value of the bark, and not the bark itself, which must be taken into consideration. It will be seen from the enclosed extract from a letter from Mr. Lawson, the Director of the Government Plantations in this Presidency, that the Madras bark is much richer in alkaloids than that produced on the Bengal Plantations. Although, therefore, the production of a pound of Madras bark costs more, owing both to the delicate nature of the trees and the manner of harvesting the bark, than a pound of Bengal bark, it by no means follows that the result will be in favor of Bengal in the quantity of alkaloids obtained from the two barks is considered.

5. I am in conclusion to say that, while His Excellency the Governor in Council will welcome any comparison between the cost of working the Madras and Bengal Plantations, he deprecates the publication of conclusions which are based on insufficient data and calculated to mislead.

I have the honor to be,
Sir,

Your most obedient servant,

(Signed) H. A. STUART,
Under Secretary to Government.

OOTACAMUND,
3rd July 1888.

Exd. P. L. Pereira.

30 Copies.

APPENDIX.

Extract from a letter from M. A. LAWSON, Esq., Government Botanist and Director of Government Cinchona Plantations, Nilgiris, to the Secretary to Government, Revenue Department, dated Ootacamund, 16th May 1888, No. 15 (A).

* * * * *

(1) The plantations of Bengal and Madras are worked upon entirely different plans. The trees upon the Bengal Plantations, from which most of the present bark is taken, consist mainly of *Cinchona Succirubra*, and the bark obtained from this species, though heavy, is comparatively poor in alkaloids, especially the most valuable of them, viz., Quinine. The trees on the Madras Plantations are, on the other hand, half of them at least, *Cinchona officinalis*. This is a slower growing tree, and much more slender in habit than the *Cinchona Succirubra*, and never yields, per acre, so heavy a crop; but it contains a much larger amount of alkaloids; and a corresponding larger amount of pure Quinine.

(2) The method of harvesting the bark in the two Presidencies is also quite different. In Bengal, comparatively young trees are *uprooted* and *natural* bark only is taken; while on the Madras Plantations the bark is taken from old trees by the *stripping process*; and I need hardly say that the bark taken under the former system is very inferior in alkaloidal value to that taken under the latter, though much cheaper to produce.

10. It is quite clear, therefore, that in estimating the value of the total output of bark from the Plantations of the respective Presidencies, *pound must not be weighed against pound*. The only way of arriving at a fair estimate of the value of the bark yielded by the Plantations of the two Presidencies will be, after the two factories are in full work, by taking *the total expenditure incurred by every branch in each Department, and dividing that sum by the total amount of Quinine, and other alkaloids made in the factory*.

11. If this is done, I am persuaded that the cost of producing *febrifuge* in this Presidency will prove to be not much greater than that for which it is produced in Bengal. I anticipate, however, that it will never be possible to turn out bark at *quite* so cheap a rate per pound as they are able to do in Bengal, for the following two reasons:—

(1) The area under cultivation in Bengal is double that under cultivation in Madras, while the cost of the necessary superior establishment is no greater for the management of the former than it is for the latter.

(2) I am told that the market value of labor in Bengal is also much less than that ruling on these hills.

12. Another reason which I must most strongly insist upon why the rate per pound in the Madras Presidency ought, *at present*, to come out higher than in Bengal is, that the Madras Plantations had in past years fallen into a state of so great disrepair that they are not now yielding much more than half the quantity of bark which they may be expected to do in another few years time. Further, more bark *could* have been harvested, without any detriment to the plantations, than was actually done, but owing to the storehouses being choked with the accumulations of past years, it was necessary to limit the output. Government will not, however, lose eventually, for the bark on the trees is increasing yearly in thickness, and therefore in value.

13. If comparison of this sort (the wholesomeness of which there can be no doubt, for it tends to excite emulation) is to be made, it is absolutely necessary that the Bengal Government should be requested to furnish returns of the expenditure on their Cinchona Plantations with the same minuteness of detail that is done by the Madras Government. The system of having a Capital account has been adjudged by the Madras Government to be vicious in principle, and calculated to mislead; and certainly the present case goes to substantiate the justness of their views.

14. The Madras Government is indebted to the Bengal Government for the generosity with which their officials have always given help to this Department. We are, in establishing our own new factory, at the present moment following them, step by step; and although we are not so presumptuous as to imagine that we shall ever be able to eclipse them in their work, we are determined that, with the assistance which they have given us, we will, in no long time, equal them.

1888.

HOME DEPARTMENT,
JUDICIAL.

*From the Government of
Fort St. George.*

Issued

Recd.

Encl

Letter, dated 3rd July 1888,
No. 467.

JULY.

REPLYING to letter regarding Cinchona bark produced in Bengal and Madras, and stating that while this Government will welcome any comparison between the cost of working the Madras and Bengal Plantations, they deprecate the publication of conclusions which are based on insufficient data and calculated to mislead.

3RD JULY 1888, No. 466, REVENUE.

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

READ—again the following G.O., dated 7th May 1888, Mis. No. 2730, Revenue :—

Rea.—the following letter from W. C. MACPHERSON, Esq., C.S., Officiating Under Secretary to the Government of India, Home Department (Medical), to the Chief Secretary to the Government of Madras, dated Simla, the 23rd April 1888, No. 180 :—

Despatch from Her Majesty's Secretary of State for India, No. 16 (Revenue), dated 23rd February 1888, paragraph 1. Annual Report of the Government Cinchona Plantation and Cinchona Factory in Bengal for 1886-87. Resolution by the Government of Bengal, dated 22nd November 1887.

I am directed to forward, for the information of the Government of Madras, a copy of the papers marginally noted, relating to the Government Cinchona Plantations and Cinchona Factory in Bengal.

ENCLOSURE.

Extract from a Despatch from Her Majesty's Secretary of State for India, to His Excellency the Right Honorable the Governor-General of India in Council, dated 23rd February 1888, No. 16 (Revenue).

Para. 1. In your Despatch No. 66, of the 13th December last, Public (Medical), you transmit a copy of the Annual Report on the Government Cinchona Plantations and Cinchona Factory in Bengal for the year 1886-87. As the results recorded therein have been reviewed in detail by the Lieutenant-Governor, I do not propose to do more on the present occasion than draw your attention to the circumstance on which the last mentioned authority has commented that bark which in Bengal costs Government $5\frac{1}{4}$ annas per pound is not produced in the Nilgiri Plantations for less than $10\frac{3}{4}$ annas.

Order—dated 7th May 1888, Mis. No. 2730, Revenue.

Communicated to the Director of the Government Cinchona Plantations who will report on the point noticed by the Secretary of State.

(True Extract.)

(Signed) J. F. PRICE,
Secretary to Government.

To the Government Botanist, with three enclosures,
in original, to be returned.

READ—also the following letter from M. A. LAWSON, Esq., Government Botanist and Director of Government Cinchona Plantations, Nilgiris, to the Secretary to Government, Revenue Department, dated Ootacamund, 16th May 1888, No. 15 (A) :—

With reference to G.O., No. 2730, dated the 7th May 1888, Revenue, and the enclosures marginally noted, which I return herewith, I have the honor to say that I had already seen the remark made by the Secretary to the Government of Bengal, in which he compares the cost of a pound of bark obtained from the Cinchona Plantations of Bengal with that obtained from the Plantations belonging to the Madras Presidency.

2. I read the remark in question with the greatest possible vexation, and had intended to comment freely in my next Annual Report upon the imputation which it contained, viz., that the cost of producing bark in the Madras Presidency was more than double that for which it could be produced in Bengal. I am glad, however, to have this earlier opportunity of reporting upon the subject.

3. For the purposes of comparing one thing with another, care ought always to be taken that the conditions on which the comparison is made are similar. But this care has not been taken in the present instance.

4. In the first place, for some reason or other, the rate at which a pound of bark was turned out on the Madras Plantations for the year 1886-87 has been compared with the rate at which a pound was turned out on the Bengal Plantations during the year 1885-86. It would have been better to have compared the respective rates at which the bark in the two Presidencies had been harvested during the same year; and though this is of no very great importance, I shall do so, and compare the rate given by the Madras Government in my Annual Report, with that in the Bengal Government Report for the same year, viz., 1886-87; notwithstanding, that by so doing, the figures tell still further against this department, the rate per pound being for the Bengal Government for 1886-87, 4 annas 9-3 pies, while for Madras it was 10 annas 10 pies.

5. In arriving at the cost of a pound of bark in this Presidency, the *total* expenditure incurred by the department is divided by the number of pounds of bark harvested during the year; thus the expenditure for the year 1886-87 was Rs. 84,228, while the output of bark was 124,333 lb., which gives an average cost per pound of 10 annas 10 pies.

6. But the Bengal Government in calculating the rate per pound of their bark have gone upon an entirely different principle. They have not taken the *total* expenditure for the year, but only a portion of it—thus the real expenditure for the year was Rs. 99,383, detailed thus:—

	RS.
On Ringjung	9,464
Proportion of European establishment	2,000
Upkeep of Rungbee, Mungpoo and Sittong	11,464
Charges of the factory	67,439
	20,480
Total	99,383

7. From this sum they have eliminated no less than Rs. 31,944, which they have placed, in part, to a Capital account, and in part to Factory. Their rate per pound cannot possibly, therefore, be compared with the Madras rate. The real cost of the Bengal pound for the year 1886-87 was 7 annas 0-5 pies and not 4 annas 9 pies as stated. This is taking the Bengal accounts as they have been furnished in the "Annual Report on the Government Cinchona Plantations and Factory"; but the accounts are so meagre, when compared with those furnished by this department, that I am not able to say whether or no more sums still, than what appear, should be charged to Capital, or other accounts.

For instance:—

- (1) Has Doctor King's salary, as the Head of the Cinchona Plantations, been paid out of the Rs. 99,383, or has it been met from some other source?
- (2) Has the cost of the purchase of Turbine, Disintegrator, the erection of buildings connected with the Factory, been included in this sum, or have they been wholly, or in part, met from other sources?
- (3) Has any other money, which has been expended on the Plantations, or Factory, directly, or indirectly, been paid by other Departments, such as the Public Works Department?

8. Assuming, however, that the Rs. 99,383 is the *real* total expenditure for the year, and that, therefore, 7 annas per pound is the true rate at which the Bengal Plantation turned out their bark, there still remains a difference of no less than 3 annas 10 pies between their rate and the Madras rate, and this is sufficiently enormous to call for explanation.

My explanation is as follows:—

(1) During the year 1886-87 there were certain extraordinary and extraneous expenses, the former of which either will not occur again, or very rarely.

These were—

1. Extraordinary.		RS.	RS.
Purchase and carriage of the Disintegrator and Turbine ...		4,272	
Wire for fencing		603	
Purchase of bullocks and carts		1,400	
Auction charges on account of sale of bark		2,494	
Compensation paid to merchants		3,216	
			11,985
2. Extraneous.			
Building of Herbarium and office		1,730	
Sum paid to myself for conducting the Government Botanical work of the Presidency		1,440	
			3,170
Total			15,155

9. Now, if this sum be deducted from the expenses of the year—and it seems to me that such may fairly be done, it reduces the cost at which the department was worked from Rs. 84,228 to Rs. 69,073, and this would reduce the cost of the Madras pound to 8 annas 10 pies, or 1 anna 10 pies to the bad, when compared with the 7 annas of the Bengal Plantations. But I am not willing to accept even this as a true statement of the case.

(1) The Plantations of Bengal and Madras are worked upon entirely different plans. The trees upon the Bengal Plantations, from which most of the present bark is taken, consist mainly of *Cinchona Succirubra*, and the bark obtained from this species, though heavy, is comparatively poor in alkaloids, especially the most valuable of them, viz., Quinine. The trees on the Madras Plantations are, on the other hand, half of them at least, *Cinchona officinalis*. This is a slower growing tree, and much more slender in habit than the *Cinchona Succirubra*, and never yields, per acre, so heavy a crop; but it contains a much larger amount of alkaloids; and a corresponding larger amount of pure Quinine.

(2) The method of harvesting the bark in the two Presidencies is also quite different. In Bengal, comparatively young trees are *uprooted*, and *natural* bark only is taken; while on the Madras Plantations the bark is taken from old trees by the *strip-taking process*; and I need hardly say that the bark taken under the former system is very inferior in alkaloidal value to that taken under the latter, though much cheaper to produce.

10. It is quite clear, therefore, that in estimating the value of the total output of bark from the Plantations of the respective Presidencies, *pound must not be weighed against pound*. The only way of arriving at a fair estimate of the value of the bark yielded by the Plantations of the two Presidencies will be, after the two factories are in full work, by taking *the total expenditure incurred by every branch in each department, and dividing that sum by the total amount of Quinine and other alkaloids made in the factory*.

11. If this is done, I am persuaded that the cost of producing *febrifuge* in this Presidency will prove to be not much greater than that for which it is produced in Bengal. I anticipate, however, that it will never be possible to turn out bark at *quite* so cheap a rate per pound as they are able to do in Bengal, for the following two reasons:—

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12. Another reason which I must most strongly insist upon why the rate per pound in the Madras Presidency ought, *at present*, to come out higher than in Bengal is, that the Madras Plantations had in past years fallen into a state of so great disrepair that they are not now yielding much more than half the quantity of bark which they may be expected to do in another few years time. Further, more bark *could* have been harvested, without any detriment to the plantations, than was actually done, but owing to the storehouses being choked with the accumulations of past years, it was necessary to limit the output. Government will not, however, lose eventually, for the bark on the trees is increasing yearly in thickness, and therefore in value.

13. If comparison of this sort (the wholesomeness of which there can be no doubt, for it tends to excite emulation) is to be made, it is absolutely necessary that the Bengal Government should be requested to furnish returns of the expenditure on their Cinchona Plantations with the same minuteness of detail that is done by the Madras Government. The system of having a Capital account has been adjudged by the Madras Government to be vicious in principle, and calculated to mislead; and certainly the present case goes to substantiate the justness of their views.

14. The Madras Government is indebted to the Bengal Government for the generosity with which their officials have always given help to this Department. We are, in establishing our own new factory, at the present moment following them, step by step; and although we are not so presumptuous as to imagine that we shall ever be able to eclipse them in their work, we are determined that, with the assistance which they have given us, we will, in no long time, equal them.

ORDER—dated 3rd July 1888, No. 466, Revenue.

Miscellaneous.

The Government consider that Mr. Lawson has clearly shown that the comparison made by the Bengal Government between the cost of Cinchona bark grown on the Madras Plantations and those of Bengal is based on data so dissimilar as to render it unreliable and misleading. The substance of the Director's letter will be communicated to the Government of India.

(Here enter No. 467, dated 3rd July 1888.)

(True Extract.)

(Signed) H. A. STUART,
Under Secretary to Government.

To the Government Botanist.

Exd. P. L. Pereira.

70 Copies.

Original

Govt. of (1888) Madras.

REVENUE.

Issued

Recd.

Encl.

G.O., 3rd July 1888, No. 466. - 67..

JULY.

Cinchona Bark.

Communicating to the Government of India the substance of the Director's report regarding the comparative cost of — grown on the Madras Plantations and those of Bengal.

NOTE FOR *the Madras*
Despatcher

Please do not despatch
copies of G.O. no. 466 of
3-7-88 to the Editors until
a week or come. you can
then despatch. That is
what Seshier told me.

Recd 30/7

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Publishes in the Gazette of the 7/8.
Furnished to Editors 8/8.

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NOTE FOR the U. S. 13

Prof of Geo. 466-7

Submitted for approval.

The resolution of the
Govt of Bengal on the report of
Cinchona plantations was
published in the official
Gazette.

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NOTE FOR THE UNDER SECRETARY.

Is there not a
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25/6.

Now appears the orders for the

NOTE FOR the Indian Rep.

Please look up the
 Calcutta Gazette of 1887 (in
 the Public Dept) and say whether
 the Resolution of the Bengal Govt.
 of 22nd Nov/87 ^{for 6021} on the Report
 of the Cinchona Plantations was
 placed at the disposal of the
 press.

8/24/7

B 4

Note for Mr. Seshiah

88.

The Resolution on the Annual Report of the Gouthinchona Plantation and Gouthinchona Factory in Bengal for the year 1886-87 was published (under Official Papers) in the Supplement to the Calcutta Gazette dated 30th Nov. 1887. The date of the Resolution {22nd Nov '87} is given in the Gazette but in the No. No list of papers laid on the Editor's Table as we find 2736 in our Gazette ~~was~~ published in the Calcutta Gazette - I so it appears from a perusal of the Vols for '87. But Resolutions on important subjects are published from time to time under the heading "Official Papers" in the Supplement and as this latter can be had separately on payment, it may be inferred that the "Official Papers" correspond to our list of papers laid on the Editor's table.

P.M.
6-7

Free in my name

No. 15 (h).

Director's Office

Cotacambund 16th May 1888.

From

Mr. A. Lawson Esquire

Govt. Botanist and Director

To Govt. Cinchona Plantations
Tilgiris

The Secretary to Government

Revenue Department

Cotacambund

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that obtained from the Plantations belonging
to the Madras Presidency.

I read the remark in question with
the greatest possible vexation, and had
intended to comment freely in my next
Annual

1. Extract from despatch
from the Secretary of
State

2. Bengal Government
Report on Cinchona
Plantations and
C.O. thereon.

Annual Report upon the imputation, which it contained, viz: that the cost of producing bark in the Madras Presidency was more than double that for which it could be produced in Bengal - I am glad however to have this earlier opportunity of reporting upon the subject.

For the purposes of comparing one thing with another, care ought always to be taken that the conditions, on which the comparison is made, are similar. But this care has not been taken in the present instance.

In the first place, for some reason or other, the rate at which a pound of bark was turned out on the Madras Plantations for the year 1886-87, has been compared with the rate at which a pound was turned out on the Bengal Plantations, during the year 1885-86. It would have been better to have compared the respective rates at which the bark in the two Presidencies had been harvested during the same year; and though, this is of no very great importance, I shall do so; and compare the rate given by the Madras Government in my Annual Report, with that in the Bengal Government Report, for

the same year, viz 1886-87; notwithstanding that by so doing, the figures tell still further against this department. The rate per pound being for the Bengal Government for 1886-87. 4 annas 9.3 pies. while, for Madras, it was 10 annas 10 pies.

In arriving at the cost of a pound of bark in this Presidency, the total expenditure incurred by the department is divided by the number of pounds of bark harvested during the year; thus the expenditure for the year 1886-87 was Rs 84,228, while the output of bark was 1,24,333 lbs, which gives an average cost per pound of 10 annas 10 pies.

But the Bengal Government in calculating the rate per pound of their bark have gone upon an entirely different principle. They have not taken the total expenditure for the year, but only a portion of it - thus the real expenditure for the year was Rs 99,383, detailed thus:

On Riggering	Rs 9,464
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Runghee and Sittong	67,439
Charges of the factory	20,480
	<u>99,383</u>

From this sum, they have eliminated no less than Rs 31,944, which they have placed, in part, to a Capital Account, and in part to Factory. Their rate per pound cannot possibly, therefore, be compared with the Madras rate. The real cost of the Bengal pound for the year 1886-87 was 7 annas 0.5 pices and not 4 annas 9 pices as stated - This is taking the Bengal accounts as they have been furnished in the "Annual Report on the Government Cinchona Plantations and Factory", but the accounts are so meagre, when compared with those furnished by this Department - that I am not able to say whether, or no, more sums still, than what appear, should be charged to Capital, or other accounts -

For instance:-

1. Has Doctor Knig's salary, as the Head of the Cinchona Plantations, been paid out of the Rs 99,383, or has it been met from some other source?

2. Has the cost of the purchase of Turbine, Disintegrator, the erection of buildings connected with the factory, been included in this sum,

or have

253
or have they been wholly, or in part, met from other sources?

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These were:-

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the Disintegrator and Turbine. Rs 4,272

Wire for fencing. 603
 Purchase of bullocks and carts 1400
 Auction charges on
 account of sale of bark } 2494
 Compensation paid to Merchants 3216 = 11,985

2. Extraneous

Building of Herbarium
 and office } 1730
 Sum paid to myself
 for conducting the
 Government Botanical
 work at the Presidency - 1440 = 3170
Total 15,155

Now, if this sum be deducted
 from the expenses of the year - and it
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 be done - it reduces the cost, at
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made in the Factory. 28

If this is done, I am persuaded that the cost of producing febrifuge in this Presidency will prove to be not much greater, than that for which it is produced in Bengal. I anticipate, however, that it will never be possible to turn out bark at quite so cheap a rate ^{per pound} as they are able to do in Bengal, for the following two reasons.

1. The area under cultivation in Bengal is double that under cultivation in Madras while the cost of the necessary Superior Establishment is no greater for the management of the former than it is for the latter.

2. I am told that the market value of labor in Bengal is also much less than that ruling on these hills.

Another reason, which I must

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in Bengal. is that the Madras
Plantations had in past years
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disrepair that they are not now
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half the quantity of bark which
they may be expected to do in
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with the accumulations of past
years, it was necessary to
limit the output. Government
will not, however, lose eventually,
for the bark on the trees is increasing
yearly in thickness, and therefore
in value.

in value.

R 431

If comparison of this sort;
(the wholesomeness of which there
can be no doubt - for it tends
to excite emulation - is to be
made it is absolutely necessary
that the Bengal Government
should be requested to furnish
Returns of the Expenditure on their
Cinchona Plantations with the
same minuteness of detail
that is done by the Madras
Government. The system of
having a capital account
has been adjudged by the Madras
Government to be vicious in
principle, and calculated to
mislead; and certainly the present
case goes to substantiate the
justness of their views.

The Madras Government
is indebted to the Bengal Govern-
ment for the generosity with which

12
their officials have always
given help to this department.
We are, in establishing our own
new factory, at the present moment,
following them, step by step;
and although we are not so
presumptuous as to imagine that
we shall ever be able to eclipse
them in their work, we are determined,
that, with the assistance which
they have given us, we will
in no ^{long} short time equal them.

I have the honor to be
Sir,

Your most obedient servant

M. A. Larsson

Govt Botanist & Director

20,000 units

a capital as well as a revenue account, and it is not clear whether the whole of the salaries of Mr King and Mr Gamble are included in the working of the expenses of the plantations and factory respectively.

4. But even if uniformity in the as regards the items included in the ~~the~~ expenditure upon the ~~his~~ list of ~~reasons of keeping the accounts to~~ plantations ~~was found to exist~~ ~~was found to exist~~ ~~was found to exist~~ a comparison

based upon figures obtained by dividing the total expenses by the total yield of bark would still be open to objection, for it is the alkaloidal value of the bark and not the bark itself which must be taken into consideration. It will be seen from the enclosed extract from a letter from Mr Lawson, the ^{Genl} Director of the Plantations ⁱⁿ ~~of~~ this Govt., that the Madras

* It is suggested that from the top of p 7 to the end of Mr Lawson's letter is to be sent.

It is

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read

bark is much richer in alkaloids than that produced on the Bengal plantations. Although, therefore, a pound the production of a pound of Madras bark ^{may} cost ^{more} ~~costs~~ more, owing both to the ~~more~~ delicate nature of the trees and the manner of harvesting the bark, than a pound of Bengal bark, it by no means follows that ~~the latter is really cheaper~~ ~~the cost will be in favour of Bengal~~ ~~when the quantity of alkaloids obtained from the two barks is considered.~~

(The bark will still be cheaper)

5. I am in ~~the~~ conclusion to ^{while} say that, ^{St. E.} the G in Co. will welcome any comparison between the ^{cost} ~~means~~ of working

the Madras & Bengal plan-
asking likely
tations, he depreciates the
omitted these, unless
publication of conclusions which
the data upon which they are based
are based on insufficient data
are identical in their nature
and are at once values and
misleading.

depreciates the publication
of conclusions which are
based on insufficient
data & calculated
to mislead

has
19 June
27 June

3/2

Draft for a letter to Govt of India -

Re - Comparison of cost of production
of cinchona in Madras & Bengal.

First

Govt of India & T. Co.

The cost of production

of cinchona in Madras & Bengal.

1st. 1st. 1st.

2nd. 2nd. 2nd.

3rd. 3rd. 3rd.

4th. 4th. 4th.

5th. 5th. 5th.

6th. 6th. 6th.

7th. 7th. 7th.

8th. 8th. 8th.

9th. 9th. 9th.

10th. 10th. 10th.

Q28/6.
R29/6

pounds of bark